

Публикаций ППС и научных сотрудников в международной базе Scopus

№ п/п	Автор	Название статьи	Аннотация	Ссылка	Индекс цитирования
2017 год					
1.	Adikanova, S., Malgazhdarov, Y.A., Madiyarov, M.N., Temirbekov, N.M.	Probabilistic statistical modeling of air pollution from vehicles	The aim of the work is to create a probabilistic-statistical mathematical model for the distribution of emissions from vehicles. In this article, it is proposed to use the probabilistic and statistical approach for modeling the distribution of harmful impurities in the atmosphere from vehicles using the example of the Ust-Kamenogorsk city. Using a simplified methodology of stochastic modeling, it is possible to construct effective numerical computational algorithms that significantly reduce the amount of computation without losing their accuracy	https://www.scopus.com/record/display.uri?eid=2-s2.0-85029874604&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=2aef2033641d3ddc15ac2e4802d95998&sot=aff&sdt=cl&cluster=scopubyr%2c%222017%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=0&citeCnt=2&searchTerm=	2
2.	Zhaglovskaya, A.A., Chlachula, J., Thevs, N., Myrzagalieva, A.B., Aidossova, S.S.	<u>Natural regeneration potential of the black saxaul shrubforests in semi-deserts of Central Asia-The Ili River Delta Area, SE Kazakhstan</u>	Two saxaul species-black saxaul (<i>Haloxylon aphyllum</i> Minkw.) and white saxaul (<i>Haloxylon persicum</i> Bunge)-constitute the principal arboreal cover of the cold continental deserts of Central Asia. While the latter is a rain-fed shrub distributed on sand dunes, the former is a ground-water phreatophyte mainly found on alluvial terraces. Saxaul has played an important role as a fodder plant also used as firewood by local herders. Due to over-grazing and over-exploitation for fuel during the past fifty years, the oncedominant saxaul vegetation has considerably degraded. Important growth characteristics at the present plantations (such as height, and basal trunk and crown diameters) show a direct quantitative relationship between the plants' age up to the 25-year lifetime and the total tree biomass reduced by natural degradation. Annual productivity largely depends on the overall vegetation density that reflects specific environmental conditions at particular locations. The recommended harvest rate, balancing the calculated natural regeneration capacity, should not exceed 0.82 t/ha at the density of up to 900 shrubs/ha, 1.78 t/ha at the density of 900-1500 shrubs/ha and 2.63 t/ha at the density of 1500-2000 shrubs/ha. The results from the field monitoring sites provide new insights on the natural reproductive potential of black saxaul shrubforests in undisturbed versus anthropogenically affected and exploited semidesert and parkland settings of Central Asia.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85034069780&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=2aef2033641d3ddc15ac2e4802d95998&sot=aff&sdt=cl&cluster=scopubyr%2c%222017%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=1&citeCnt=6&searchTerm=	6
3.	Fedorchuk, Y.M., Zamyatin, N.V., Smirnov,	<u>Prediction of the properties anhydrite construction</u>	The article considered the question of applying the backstop modeling mechanism from the components of anhydride mixtures in the process of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85029496343&origin=resultslist	4

	G.V., <u>Rusina, O.N., Sadenova, M.A.</u>	<u>mixtures based on neural network approach</u>	managing the technological processes of receiving construction products which based on fluoranhydrite. © Published under licence by IOP Publishing Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85034214347&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=2aef2033641d3ddc15ac2e4802d95998&sot=aff&sdt=cl&cluster=scopubyr%2c%222017%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=2&citeCnt=4&searchTerm=	
4.	<u>Baiburin, Y., Zhantassova, Z., Nugumanova, A., Syzdykpayeva, A., Bessmertny, I.</u>	<u>The case study approach to learning Text Mining</u>	In this paper we discuss the case study approach to learning Text Mining techniques. We propose a novel framework that supports case-based learning and implements the SMART-goal setting methodology.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85034214347&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=2aef2033641d3ddc15ac2e4802d95998&sot=aff&sdt=cl&cluster=scopubyr%2c%222017%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=3&citeCnt=1&searchTerm=	1
5.	<u>Kurbanbekov, S., Skakov, M., Baklanov, V., Karakozov, B.</u>	<u>Changes in mechanical properties and structure of electrolytic plasma treated X 12 CrNi 18 10 Ti stainless steel</u>	The paper addresses findings regarding the influence of electrolytic plasma treatment on the mechanical properties as well as structural and phase states of X 12 CrNi 18 10 Ti steel. Electrolytic plasma treatment is based on carburizing of stainless steel heated in electrolytes. Treatment of steel samples has been performed as follows: The samples were heated up to a temperature between 850 and 950 °C and then they were cured for 7 minutes in an electrolyte of an aqueous solution containing 10 % glycerol (C ₃ H ₈ O ₃) and 15 % sodium carbonate (Na ₂ CO ₃). It is found that, after plasma electrolytic treatment, the surface of X 12 CrNi 18 10 Ti steel had a modified structure and high hardness. Increasing wear resistance of X 12 CrNi 18 10 Ti steel has been observed after carburizing and the coefficient of friction has been reduced. X-ray analysis showed that retained austenite γ-Fe is a main phase, and there are some diffraction lines of orthorhombic Fe ₃ C phase as well as Fe ₃ O ₄ cubic phase. It has been determined, that, after plasma electrolytic treatment, a carbide phase in the modified surface layer, irrespective of the location in the steel structure has the chemical composition Fe ₃ C. High concentration of carbon atoms in a solid solution based on γ- and α-iron, a large dislocation density, presence of particles of carbide phase and retained austenite layers have been found.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85020088047&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=2aef2033641d3ddc15ac2e4802d95998&sot=aff&sdt=cl&cluster=scopubyr%2c%222017%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=4&citeCnt=1&searchTerm=	1

6.	Bazarnova, N.G., Tikhomirova, L.I., Sinitsyna, A.A., Afanasenkova, I.V.	<u>Comparative analysis of the chemical composition of plant raw material iris sibirica L.</u>	Species of the genus Iris in the scientific literature, recognized as rich sources of secondary metabolites. However, in chemical terms, Iris sibirica L. is poorly understood. The purpose of this study is a comparative analysis of the chemical composition of plant material of Iris sibirica L. to optimize the timing of collection in the conditions of Altai region. The object used samples of leaves and rhizomes and roots of I. sibirica varieties Cambridge and Sterkh variety, harvested in the vicinity of the city of Novoaltaisk. As a result of these tests the ash content from I. sibirica spring collection 1,3 times more than in autumn. The method of emission spectrometry revealed the presence of 26 elements. Of them macro - 4, microelements and ultramicroelements 8-14. Regardless of the variety of plant organs as observed the accumulation of Al. In a raw spring collection piling up Ba and Zn, and in the fall of Sr and Mn. In the studied samples I. sibirica cultivars Siberian crane Cambridge and the concentration of Cu, Pb, Cd, Cr and As exceeded the permissible level for dietary Supplements and tea on plant-based. With the aim of obtaining flavonoids plant I. sibirica better harvest in the spring, and for optimal coumarins is the autumn collection. Tannins more is accumulated in the rhizomes with roots, and triterpenoid glycosides in the grass. The yield of essential oil from I. sibirica depends on weather conditions of vegetation period, time of procurement of raw materials and on plants and can be increased by 2-3 times. The study of element distribution and synthesized biologically active substances in the process of development of I. sibirica cultivars Siberian crane and Cambridge during the vegetation period has allowed to identify the vegetative phase with maximum accumulation, and organs of plants, accumulation of these biologically active substances.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85041556756&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=2aef2033641d3ddc15ac2e4802d95998&sot=aff&sdt=cl&cluster=scopubyr%2c%222017%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=5&citeCnt=5&searchTerm=	5
7.	Alpysov A., Kireyeva A., Kadkalova T., Dautova Z., Popova M., Zhubandykova A.	On the development of mathematical competencies of students in the construction and solution of complex inequalities	In the article, the problem of the development of mathematical competencies of students in constructing and solving complex inequalities is studied. Based on the analysis of psychological and pedagogical literature, the conditions for the development of mathematical competencies of students in the construction and solution of complex inequalities are revealed. The methodical instruments contributing to the development of mathematical competencies of students in the construction and solution of complex inequalities are analyzed. The functions of constructing and solving complex inequalities in the development of mathematical competencies of students are discovered. Mathematical methods have been developed, which provide a level-by-level understanding of the educational material through enrichment of the conceptual, reflective and emotionally-evaluative experience of students. The methodology for developing the mathematical competencies of students in the construction and solution of complex inequalities is recommended when developing the training programs at a higher education institution	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85040745676&partnerID=40&md5=ac9f15d3ff1dc1ccb8d3f49eb5666809	0
8.	Golovchun A., Rakhmanov N.	The contribution of world literature's	Children are more motivated and stimulated in the foreign language classroom when authentic materials (rhymes, songs, realia) are used. Authentic materials	https://www.scopus.com/inward/record.uri?eid=2-s2.0-	1

	Abdikalyk K., Kartayeva A., Valikhanov S., Bakirova Z.	rhymes to Foreign language acquisition	increase the children's level of involvement and concentration. Exposing students to such language forms will enable them to cope with genuine interaction, whether it is inside or outside the classroom. There is an important reason is that rhymes make up a powerful means of teaching English at primary ages. With help of rhymes the lexical aspect of communication is formed. Rhymes make it possible for students to learn appropriate set of words, which later might be constructed into simple sentences. Rhymes are useful to enlarge the vocabulary background of children, to develop pupils' listening and speaking skills. Also they show many aspects of the culture of each society as they occur in all phases of our life, from birth to death. Since they play an important role in the process of learning and using our mother tongue, they are also quite important in the learning of foreign language, and especially for young learners. Along this article, we aim to describe the importance of using rhymes in the teaching of English as a foreign language at a primary level	85035072563&partnerID=40&md5=b7add2909dd4829a9e96e790b912eede	
9.	Golovchun, Aleftina; Abdikalyk, Kunimzhan; Rakhmanova, Nurzhanat; Kartayeva, Aizhan; Kaliyev, Aybek; Zulkarnayeva, Zhamila	Dualistic representations in Kazakh fairy tales	The fairy tales of Kazakh people with various structures and formats show universal properties of the dualism, which as any significant phenomenon, demonstrates the ability to construct the perception of the world. The perception is identified by universal properties of language used in Kazakh literature, by intention to keep communicative suitability and functional variability. Dualism is characterized by emergence of the new meanings, by their reversal to life, to inner world of the personality in the representation of existing spiritual and intellectual life of human beings. Dualism in Kazakh literature introduces profound and constructive schema, which is functionally active and semantically loaded. There are various types of schemas in Kazakh fairy tales. The analysis of such schemata represents a problem of this research as they actualize the attention and stimulate reader's interest. © Serials Publications.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85035126504&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=2aef2033641d3ddc15ac2e4802d95998&sot=aff&sdt=cl&cluster=scopubyr%2c%222017%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=7&citeCnt=0&searchTerm=	0
10.	Nugumanova A., Baiburin Y., Mansurova M., Alimzhanov Y.	An investigation of the educational curriculum with use of formal concept analysis	An educational curriculum is a path of learning that students should follow in their study. It consists of learning modules aimed at mastering skills and developing the necessary competencies within the qualification framework. Each module is logically completed and contains a set of related disciplines which responsible for certain group of competencies. Modularity is an attractive approach to organization of study since it provides variability and flexibility of a learning path. However, modularity significantly complicates the process of curriculum planning and developing. The goal of this work is to propose an efficient tool for planning and analysis of educational curricula, based on the mathematical apparatus of the lattice theory. We use formal lattices as a method of studying the consistency and coherence of an educational curriculum. The advantages of this method are clear algorithmization, restrictions on the inclusion of new entities and concepts, automated construction of the hierarchy of relations, analysis of collisions	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85032384524&partnerID=40&md5=dc584c9e5c28cc9d87ed573343fc97d2	0

11.	Korotkova E., Kveglis L., Akhmedzhanov B., Vershinin I.	Investigation of structure and magnetic properties of 36NiCrTiAl alloy and 12Cr18Ni10Ti steel welded joints	The comparative experimental study of the effect of various types of heat treatment on the formation of the structure and magnetic properties of welded joints 36NHTYU and 12Cr18Ni10Ti alloys was conducted. It is shown that heat treatment 36NiCrTiAl and 12Cr18Ni10Ti welded joints changes the structural and magnetic properties	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85027019469&doi=10.4028%2fwww.scientific.net%2fKEM.743.31&partnerID=40&md5=a90027ec91c7e6300218c9d71d7fab94	1
12.	Aimukhambet Z.A., Abdilmanatkyzy A., Baitanasova K., Seiputanova A., Kurmambayeva K.	The poetic interpretation of binary opposition in the structure of Myth	The article deals with the poetic nature of binary opposition in the mythology of literature. The structural method played an important role in revealing the nature of binary opposition in the structure of myth. The introduction of the article includes the theoretical significance of this method and the fact that the oppositional character of mythical worldview was the basis of dialectical development. The mythological motives and personages characterize the development of life, forming an opposition pair. The examples on the fact that oppositional pairs of mythical motives and characters constitute binary-dyadic integrity by complementing each other are represented. The controversial double forms of the dyad in mythical knowledge towards the paired phenomena and concepts is analyzed with mythical narration and concluded on the basis of scientists-mythologists' conclusions. The nature of phenomena and concepts between the dyad Chaos-Space and the opposition life-death are regarded in literary aspect and in the framework of the cultural-historical analysis. The idea about the important role of the mythical ""binary-dyadic"" structure in presenting the conflictive nature of a man in the world and national literature has been formulated. Interpretation of mythological thinking in poetics is given through motive, struggle and artistic images. Interpretation of binary opposition in poetic knowledge in the structure of myth is analyzed with references to some literary works.	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020937796&doi=10.21659%2frupkatha.v9n1.03&partnerID=40&md5=7b419dad78e23235cd79148c2cdaf416	8
13.	Assylkhanova G., Bayandin M., Dautova Z., Tantybaeva B., Shaikhova B., Baidalinova B.	Measuring the living wage in the Republic of Kazakhstan: Theoretical and methodological aspects	During the current period of formation of a new economic system, measuring the poverty line and living wage is being given added relevance in the Republic Kazakhstan. The national living wage is used to assess annually the standard of living and determine the poverty line establish specific strands of social policy and measures aimed at social support for the population set a rationale for establishing the minimum size of wages, pensions, benefit allowances, and other social disbursements. The purpose of this study is to demonstrate the way to measure the living wage in the Republic of Kazakhstan and through comparison with international practices develop practical recommendations on reducing poverty in this country. The major outcomes of the authors' research study are a set of inferences and practical recommendations on reducing poverty in the Republic of Kazakhstan - in particular, proposals on expanding the size of the living wage, reforming wages, and working out a targeted state program for	https://www.scopus.com/inward/record.uri?eid=2-s2.0-85020550136&partnerID=40&md5=f45ce884cfbf71d0ec609d86352c79ee	1

			concessional lending to the economically disadvantaged to help them start their own business		
14.	Suleimen E.M., Myrzagalieva A.B., Ibataev Z.A., Iskakova Z.B., Samarkhanov T.N., Medeubaeva B.Z.	Constituent composition and biological activity of essential oil from dracocephalum peregrinum	-	https://www.scopus.com/record/display.uri?eid=2-s2.0-85012899316&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=2aef2033641d3ddc15ac2e4802d95998&sot=aff&sdt=cl&cluster=scopubyr%2c%222017%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=13&citeCnt=2&searchTerm=	2
2018 год					
15.	<u>Rakhadilov, B.K., Kylyshkanov, M.K., Zhaparova, M.S.</u>	<u>Evolution of the structure and properties of pure aluminum under severe plastic deformation</u>	The influence of severe plastic deformation (SPD) by equal-channel angular pressing (ECAP) on the formation of the structure and the mechanical properties of pure aluminum is studied. It is established that an ultrafine-grained structure is formed with an average size of structural elements of ~ 1.5 μm. X-ray diffraction studies have shown that SPD results in a broadening of interference lines with a decrease in their intensity, which indicates an increase in the imperfection of the structure and its high dispersion. SPD also results in a significant enhancement of microhardness, yield stress and ultimate tensile strength in aluminum. © Published under licence by IOP Publishing Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85058243410&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=0&citeCnt=0&searchTerm=	0
16.	<u>Suleimen, Y.M., Kazantsev, A.V., Van Hecke, K., Ibatayev, Z.A., Akatan, K.</u>	<u>Erratum To: Crystal Structure of 1,2-Bis(Acetoxymethyl)-O-Carborane (Journal of Structural Chemistry, (2018), 59, 2, (344-346), 10.1134/S0022476618020129)</u>	The original list of authors, affiliation was not given in full. Should read. © 2018, Pleiades Publishing, Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85058439706&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=0&citeCnt=0&searchTerm=	0

				%22+60112447%29&relpos=1&citeCnt=0&searchTerm=	
17.	<u>Shomanov, A.S., Mansurova, M.E., Nugumanova, A.B.</u>	<u>Design of K-means clustering algorithm in PGAS based Mapreduce framework</u>	Clustering large volumes of data is a complicated and time-consuming task. The main goal of clustering task is to explore a given dataset and find appropriate set of cluster centers that have maximum within-cluster and minimum inter-cluster similarity. In our work we present parallel K-means clustering algorithm based on Partitioned Global Address Space implementation of Mapreduce model. The main idea of our approach is to exploit data locality of partitioned global address space model to assign threads to different cluster centers. © 2018 IEEE.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85070194890&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=2&citeCnt=1&searchTerm=	1
18.	<u>Shurentayev, A.M., Yesdauletov, A.O., Tolegen, M.A., Tursynbayeva, A.O.</u>	<u>Retrospective analysis of formation and development of legal journalism in Kazakhstan</u>	The article proves the need to search and argue modern approaches to promote the effectiveness of legal journalism as a factor in civic legal culture based on retrospective analysis of its development in the period when the Republic of Kazakhstan was being formed as an independent democratic state. Content analysis clarifies the content of legal journalism definition from the standpoint of its object, the scope of functioning and the functional use. By means of retrospective analysis, the main stages of formation and development of legal journalism have been singled out in the context of media evolution in Kazakhstan. Features of each stage of the legal journalism formation with identification of destructive and complementary development factors have been reasoned. The key feature of legal journalism functioning throughout its entire development period has been substantiated. A system of practical measures has been developed to improve the competitiveness of legal journalism in the national and international information market, to expand the geographical boundaries of its functioning and to increase the competence of journalist human capacity. © Media Watch.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85054972519&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=3&citeCnt=5&searchTerm=	5
19.	<u>Zhilcashinova, A.M., Kabdrakhmanova, S.K., Troyeglazova, A.V., Abilev, M.B.</u>	<u>Structure and Properties of Metallurgical-grade Silicon</u>	The main raw material for the production of solar-grade silicon used in the production of photovoltaic energy converters for solar cells is metallurgical silicon. When choosing any technology for the production of solar-grade silicon, special attention should be given to improving the quality of the initial MG-Si. The aim of this work was to study the structure and properties of metallurgical silicon. Samples of MG-Si were prepared in laboratory conditions. Samples, obtained by plasma-arc melting in the furnace with graphite electrodes, contained admissible impurity limits. The structure and physico-mechanical properties of MG-Si with different content of impurities were studied in a wide range. The electrical resistivity index depended on the presence of grain boundaries and the level of impurity elements content, as well as the presence of carbides and	https://www.scopus.com/record/display.uri?eid=2-s2.0-85049597818&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=3&citeCnt=5&searchTerm=	6

			silicides. At the maximum grain size of 105.58 μm , the maximum value of the electrical resistivity of 2.65 $\Omega\cdot\text{cm}$ was observed. The size and shape of the grains also had an effect on mechanical properties. Selection of the optimal composition of all components, as well as the conditions of the melting, allowed to achieve a defect-free structure. Such MG-Si samples can be used for various practical applications. © 2018, Springer Science+Business Media B.V., part of Springer Nature.	%22+60112447%29&relpos=4&citeCnt=6&searchTerm=	
20.	Zhantassova, Z., Tlebalidina, A., Nugumanova, A., Zhurtpaveva, A., Kavdarova, M.	Software development for the correction of various aspects of children's oral and written speech (based on Latin alphabet)	This paper presents the main stages of software development in different aspects of children's oral and written speech. The program enables to work with a wide range of speech units from sound to text, to solve various surdologopedic tasks: from adjusting speech breathing, voice and pronunciation to the development of the lexical and grammatical aspect of speech. The software scope of the tasks to be solved includes game moments in the process of correcting speech deficiencies, multiple playback of the necessary type of exercises and speech activities, work at different levels of complexity depending on student's abilities along with the speech therapy that develops perception, attention and memory. When creating the program, the psychological features and visual perception of children with speech deficiencies as well as the locomotive system and intellectual disorders were taken into account. The program contains an entertaining plot based on the national features. The software development is based on Adobe Flash technology, which is a powerful tool with great potential in terms of creating large and functional applications. © 2018 IEEE.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85062861550&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=5&citeCnt=0&searchTerm=	0
21.	Suleimen, Ye. M., Van Hecke K., Ibatayev, Zh. A., Iskakova, Zh. B., Akatan K., Martins C.H.G., Silva T.S.	Crystal Structure and Biological Activity of Matricaria Ester Isolated from Tripleurospermum Inodorum (L.) Sch. Bip.	For the first time the crystal structure and configuration of matricaria ester 1 are determined by X-ray crystallographic analysis. Furthermore, the cytotoxic and antioxidant activities of the matricaria ester are investigated. © 2018, Pleiades Publishing, Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85053881264&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=6&citeCnt=2&searchTerm=	2
22.	Kayukova, L.A., Uzakova, A.B., Vologzhanina, Anna V., Akatan,	Rapid Boulton-Katritzky rearrangement of 5-aryl-3-[2-(piperidin-1-	[Figure not available: see fulltext.] Chemical stability of 3-(2-aminoethyl)-5-substituted 1,2,4-oxadiazoles was studied with respect to Boulton-Katritzky rearrangement, which is known to produce planar pyrazolines and pyrazoles upon heating in DMF at 150°C or without solvent at 240°C. The reactivity of 5-aryl-3-[2-(piperidin-1-yl)ethyl]-1,2,4-oxadiazoles in one type of Boulton-Katritzky	https://www.scopus.com/record/display.uri?eid=2-s2.0-85051293165&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid	6

	Kydyrmolla, <u>Shaymardan E.</u> , Kabdrakhmanov <u>a, S.K.</u>	<u>yl)ethyl]-1,2,4-oxadiazoles upon exposure to water and HCl</u>	rearrangement was observed at room temperature in H ₂ O, DMF + H ₂ O, and in the presence of HCl. Hydrolysis of 3,5-disubstituted 1,2,4-oxadiazoles under the first two conditions gave 2-amino-1,5-diazaspiro[4.5]dec-1-en-5-ium benzoates, while the action of HCl on 3,5-disubstituted 1,2,4-oxadiazoles produced their hydrochlorides along with 2-amino-1,5-diazaspiro[4.5]dec-1-en-5-ium chloride hydrate. Thus, the reaction afforded spiropyrazoline compounds instead of products with a planar structure. © 2018, Springer Science+Business Media, LLC, part of Springer Nature.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85047530228&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=7&citeCnt=6&searchTerm=	
23.	Woszczyk, <u>M.</u> , Spychalski, <u>W.</u> , Boluspaeva, <u>L.</u>	<u>Trace metal (Cd, Cu, Pb, Zn) fractionation in urban-industrial soils of Ust-Kamenogorsk (Oskemen), Kazakhstan—implications for the assessment of environmental quality</u>	Ust-Kamenogorsk is one of the largest cities and industrial centers in Kazakhstan. Non-ferrous metallurgy (Zn–Pb smelter) has acted as a predominating industrial branch in the city since late 1940s. The industrial plants are situated directly adjacent to the residential area of the city which creates grievous ecotoxicological hazard. In the present paper, we aimed at assessing the trace metal pollution of top soils in Ust-Kamenogorsk and its potential threats to the local population. The top soils were sampled at 10 sites throughout the city center. We determined the physical and chemical properties of soils as well as the contents of Cd, Cu, Pb, and Zn. In addition, the soil samples were subjected to a five-step sequential extraction to ascertain the fractionation of trace metals. On this basis, we calculated the geoaccumulation index (I_{geo}) and pollution load index (PLI) and assessed bioavailability of the elements. From our data, it emerged that the soils displayed a strong polymetallic pollution. PLI was as high as 33.4. Throughout the city, the trace metal contents exceeded the geochemical background and allowable values for residential, recreational, and institutional areas. The I_{geo} obtained were 3.7–6.5 for Cd, 1.5–4.7 for Cu, 2.8–5.7 for Pb, and 2.6–4.6 for Zn. The soils in Ust-Kamenogorsk displayed extremely high contamination with Cd, moderate to strong contamination with Pb and Zn, and low to moderate contamination with Cu. Cd and Pb were found to be the most bioavailable elements. The mobility of trace metals in the soils changed in the order Cd > Pb > Zn > Cu. © 2018, The Author(s).	https://www.scopus.com/record/display.uri?eid=2-s2.0-85047530228&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=8&citeCnt=32&searchTerm=	32
24.	Sarsenbayeva, <u>G.B.</u> , Kozhahmetov <u>a, F.K.</u> , Saparbek, <u>Y.</u> , Zhanarbekova <u>A.B.</u> , Sagitov, <u>R.K.</u> , Sarsenbayeva <u>, G.B.</u>	<u>Phytosanitary condition of grain storages of Kazakhstan</u>	To store the prepared grain without loss and damage is an important state task related to the provision of the population with bread, animals – with feedstuff, and industry – with raw material. This article describes the main pests of grain reserves and grain products, the main contamination sources of grain storages, the results of harmfulness of the pest complex and measures of their control. The timely revealing of the ways of contamination of grain reserves and preventive and direct control measures decrease the degree of contamination and reduce the harmfulness in the storages. We also studied the role and value of the ozone and ion and ozone treatment of grain in the storage protection system against pests. The purpose of the work is to develop an improved protection system for grain storages and its derivative products from pests that allows reducing the losses and deterioration in quality by 1.5-2 times in the new conditions of economic	https://www.scopus.com/record/display.uri?eid=2-s2.0-85046373722&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=8&citeCnt=32&searchTerm=	1

			management and peculiarities of storage. The observation of the sanitary conditions in the storages preventing the intervention of pests into food reserves were observed and examined. The efficiency of the preventive measures was estimated. Insectoacaricides were tested in unloaded grain storages. The experiments were executed in unloaded grain storages; the preventive works were performed in cleaned storages after treatment with insectoacaricides. © 2018, Pharmainfo Publications. All rights reserved.	%22+60112447%29&relpos=9&citeCnt=1&searchTerm=	
25.	<u>Suleimen, E.M., Van Hecke, K., Ibatayev, Z.A., Akatan, K.</u>	<u>Crystal Structure of 1,2-Bis(Acetoxymethyl)-O-Carborane</u>	The crystal structure of 1,2-bis(acetoxymethyl)-o-carborane is determined by the X-ray crystallographic analysis. © 2018, Pleiades Publishing, Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85048148402&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=10&citeCnt=0&searchTerm=	0
26.	<u>Rakhadilov, B.K., Kurbanbekov, S.R., Kilishkhanov, M.K., Kenesbekov, A.B.</u>	<u>Changing the structure and phase states and the microhardness of the R6M5 steel surface layer after electrolytic-plasma nitriding</u>	The article examines the changes of the structural-phase states and the microhardness of the R6M5 steel surface layer after electrolytic-plasma nitriding. It is found that after electrolytic-plasma nitriding of the R6M5 steel surface, diffusion layer is formed, which is a nitrogen martensite. The phase composition of the diffusion layer varies depending on the nitriding temperature. An increase of R6M5 steel microhardness, depending on structural-phase state, is found out. The main factor, influencing the increase of microhardness of R6M5 high-speed steel with electrolytic-plasma nitriding, is the formation of nitrogen martensite with monophasic nitride Fe ₄ N (γ' - phase), as well as the formation of fine inclusions, hardening phases in the surface layers. © 2018. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102593715&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=11&citeCnt=2&searchTerm=	2
27.	<u>Sagdoldina, Z.B., Rakhadilov, B.K., Stepanova, O.A., Maulit, A.</u>	<u>Structural evolution of ceramic coatings produced by mechanical alloying technique</u>	The article researches formation of ceramic coatings of zirconium dioxide (ZrO ₂) on the X12CrNi1810Ti steel surface after mechanical alloying. Study of coatings' surface showed coalescence of defected coating's particles with created subgrains and this process is more representative due to different toughness of zirconium oxide and steel. It is suggested that adhesive bond between the coating and support structure is provided by strain welding of the powder on the support structure coating. When using X-phase analysis neither diffusive mixing of coating/support structure components or formation of new compounds and phase	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102586344&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=11&citeCnt=2&searchTerm=	1

			changes was revealed. Surface contamination of the coating with carbon was found out and it was getting less towards the border between the coating and support structure. It could be due to mechanical sorption of carbon dioxide from the environment. © 2018. All Rights Reserved.	2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzhola+East+Kazakhstan+University%22+60112447%29&relpos=12&citeCnt=1&searchTerm=	
28.	Dunets, A.N., Muhamediev A., A.G., Sycheva, I.N., Perepechkina E.G., Vakhrushev, I.B., Kulchytskiy, A.V.	<u>Spatial development of tourism based on the structure model of the territorial tourist complex</u>	The article examines the problem of spatial tourism planning. The authors note that the possibility of tourist activities in different territorial zones requires functional zoning. The study justifies the use of a territorial tourist complex concept. The authors propose using the model of functional and planning complexes as a basis for understanding the structure of the territorial tourist complex, as well in the spatial development of tourism. Spatial planning of tourism implements various approaches. However, the main problem of the territorial tourist complexes' development arises because tourist activity can be carried out in the territories of various purposes. Multi-functional zones are important for tourism as this determines their specialization and tourist flows. The study of territorial tourist complexes is related to the problem of using this concept in the practice of spatial development. Therefore, an urgent task is to develop a model that characterizes the structure of the tourist complex, which will enable moving on to an understanding of tourism development planning. 2018 © International Strategic Management Association. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85080078112&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzhola+East+Kazakhstan+University%22+60112447%29&relpos=13&citeCnt=5&searchTerm=	5
29.	Zavalko, N.A., Sakhariyeva, S.G., Sagimbayeva, G.S., Abdimaule, G.A., Mukhametzhanova, Z.A.	<u>Formation of future specialists' individual educational route in the conditions of credit system (on the example of the Republic of Kazakhstan) [La formación privada de futuros especialistas de educación bajo condiciones del sistema de crédito (Ejemplo: República de Kazajstán)]</u>	The article provides a specified definition of the concept of "student's individual educational route"; describes the peculiarities of training specialists in the context of credit system implemented in Kazakhstan universities, as well as the shortcomings of the credit system of training; presents the developed model of formation of the individual education-al route of future specialists in the conditions of credit system and the technology of forming the individual educational route of future specialists; describes and tests the pedagogical conditions that contribute to the successful formation of the individual educational route. The article details the results of the study, and also evaluates the effectiveness of the individual educational route of the student according to the criteria selected by the authors. © 2018. El artículo proporciona una definición específica del concepto de "estudiante educativas individuales de ruta"; describe las peculiaridades de la formación de especialistas en el contexto de crédito del sistema implementado en Kazajstán universidades, así como las deficiencias del sistema de crédito de la formación; se presenta el modelo desarrollado de formación de la educación individual de la ruta de los futuros especialistas en las condiciones de crédito del sistema y la tecnología de formación de la educación individual de la ruta de los futuros especialistas; describe y pruebas de las condiciones pedagógicas que contribuyan al éxito de la formación de la persona vía educativa. En el artículo se detalla los resultados del estudio, y también se evalúa la eficacia de la educación individual	https://www.scopus.com/record/display.uri?eid=2-s2.0-85064392551&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzhola+East+Kazakhstan+University%22+60112447%29&relpos=14&citeCnt=1&searchTerm=	1

			de la ruta de la estudiante de acuerdo a los criterios seleccionados por los autores. © 2018.		
30.	<u>Tikhomirova, L.I., Bazarnova, N.G., Ilicheva, T.N., Martirosian, Iu.Ts., Afanasenkov a, I.V.</u>	<u>Obtaining plant materials siberian iris (Iris Sibirica L.) by methods of biotechnology</u>	Methods of biotechnology allow to obtain high-quality medicinal plant raw materials in a short time, in large quantities without destroying natural reserves. Biotechnological approaches such as aeroponic technologies have the potential for large-scale cultivation of iris plants and production of secondary metabolites. Microclonal reproduction makes it possible to obtain a healthy planting material in the required amount, regardless of the time of year. The combination of these two technological approaches will allow to develop biotechnology of year-round production of medicinal plant raw materials of Siberian iris. The study determined the content of 6-benzylaminopurine on the stage actually micropropagation for the formation of the greatest number of adventitious shoots of optimal length. The required content of BAP in the nutrient medium for I. sibirica was 2.5-5.0 µM. The introduction of cytokinins in the nutrient medium together with auxins, L-glutamine and adenine sulfate 100 mg/1, as well as the alternation of low and high concentrations of cytokinin enhanced the regenerative effect of BAP. With year-round cultivation of regenerative plants in aeroponic conditions, the amount of biomass of plant raw materials I. sibirica for this method was about 31.2 kg/m ² of crude weight in one year. It is established that intact plants and regenerative plants I. sibirica, obtained on the basis of the developed biotechnology, had identical group composition of biologically active substances. It is revealed that the sum of flavonoids in the leaves of hydroponic iris plants exceeded the content in the leaves of intact plants by 3 times, and the content of essential oil in regenerate plants and hydroponic leaves of the Sterch variety but higher by 26% compared with the leaves of intact plants. Aqueous and alcoholic extracts of I. sibirica showed antiviral activity against herpes virus. With low toxicity, both intact plants and regenerative plants had a relatively high selectivity index. © 2018 Altai State University.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85061833692&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholyv+East+Kazakhstan+University%22+60112447%29&relpos=15&citeCnt=17&searchTerm=	17
31.	<u>Oskembay, A., Kelgembayeva, B., Yerdembekov, B.</u>	<u>Research on the Turkic peoples [Investigación sobre los pueblos Turcos]</u>	The article analyzes the work of the famous Russian scientist-orientalist of the late XIX – the first half of XX centuries, who was working in the field of Turkic studies via study of contextual features related to identity structure in the works of other authors. As a result, the Barthold was the one to make a significant contribution to the Turkic studies development. Analysis of V.V. Bartold's works on the Turkic peoples of the Central Asia allows concluding that Barthold has formed the basis for a deeper understanding of their culture, way of life and traditions. © 2018, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85060498699&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholyv+East+Kazakhstan+University	0

				%22+60112447%29&relpos=16&citeCnt=0&searchTerm=	
32.	<u>Savelveva, V.V., Zaginaiko, O.Y., Abdullina, L.I., Zaginaiko, A.A.</u>	<u>Narratology of fictional dreams in the Russian literary works</u> [Narratología de los sueños ficticios en las obras literarias rusas]	This article deals with studying fictional dreams and its representation in the world literature. The material of this study encompassed 80 fictional dreams taken from the Russian literary works. The models got the following working titles: perspective, bidirectional, dotted and the final model. Identifying the correlation of narratives gives the possibility to identify connections between the sleeping and the active consciousness of the character. Determination of narrative forms is based on identification of different viewpoints of the narrators during verbal construction of dreams. Narratives of fictional dreams can be regarded as a specific kind of psych narration. © 2018, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85059518922&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=17&citeCnt=0&searchTerm=	0
33.	<u>Turlybekuly, A., Pogrebnjak, A., Plotnikov, S., Shaymardanov, Zhasulan, Shaymardanova, Botagoz, Yerdybayeva, Nazgul, Zhanyssov, Syrym, Miakinin, Alexandre, Kimoss ov, R., Qantay, N.</u>	<u>Bio-functional composite coating of calcium apatite and ZnO on a printed porous orthopedic implant</u>	To date, a large number of different alloys based on CoCr, Ti, stainless steel, etc. are used in medicine. However, metal implants are bioinert, despite the development of biodegradable magnesium-based alloys. In addition, because of their mechanical properties, only few numbers of alloys have come close to mechanical properties of the cortical part of human bone. These superelastic alloys are usually based on the Ti-Nb-Ta, Ti-Nb-Ta-Zr systems which have a high cost. It is advisable to apply bioactive coatings that would have the best resemblance to human bone in terms of chemical composition, physical properties and biological parameters. In this paper, the physical and chemical properties of hydroxyapatite (HAP) coatings with the addition of ZnO, obtained by electrochemical deposition in an aqueous solution on a printed porous sample of 316L steel, were studied. The HAP study was carried out by the methods of analysis as: scanning electron microscopy with the energy dispersive microanalysis system, transmission electron microscopy with EDAX analysis system. The laser melting of powdered 316L steel was carried out using the Mlab cusing R machine. The SLM process parameters were: laser power 90 W, a frequency 50 kHz, a scanning speed 500 mm/s, a spot size 100 µm, the oxygen content was less than 0.1 %. A new type of materials for use in medicine was obtained and investigated. The ratio of Ca/P of the obtained coating corresponds to generally the accepted parameters. The structure of HA is characterized by a high degree of crystallinity. © 2018 TANGER Ltd., Ostrava.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85059426124&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=18&citeCnt=0&searchTerm=	0
34.	<u>Sagdoldina, Z., Stepanova, O., Tuyakbayev, B., Buitkenov, D.</u>	<u>The effect of heat treatment on the structural-phase states of Ti-Al coatings</u>	To date, a large number of different alloys based on CoCr, Ti, stainless steel, etc. are used in medicine. However, metal implants are bioinert, despite the development of biodegradable magnesium-based alloys. In addition, because of their mechanical properties, only few numbers of alloys have come close to mechanical properties of the cortical part of human bone. These superelastic	https://www.scopus.com/record/display.uri?eid=2-s2.0-85059426124&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid	1

		<u>synthesized by the method of mechanical alloying</u>	alloys are usually based on the Ti-Nb-Ta, Ti-Nb-Ta-Zr systems which have a high cost. It is advisable to apply bioactive coatings that would have the best resemblance to human bone in terms of chemical composition, physical properties and biological parameters. In this paper, the physical and chemical properties of hydroxyapatite (HAP) coatings with the addition of ZnO, obtained by electrochemical deposition in an aqueous solution on a printed porous sample of 316L steel, were studied. The HAP study was carried out by the methods of analysis as: scanning electron microscopy with the energy dispersive microanalysis system, transmission electron microscopy with EDAX analysis system. The laser melting of powdered 316L steel was carried out using the Mlab cusing R machine. The SLM process parameters were: laser power 90 W, a frequency 50 kHz, a scanning speed 500 mm/s, a spot size 100 µm, the oxygen content was less than 0.1 %. A new type of materials for use in medicine was obtained and investigated. The ratio of Ca/P of the obtained coating corresponds to generally the accepted parameters. The structure of HA is characterized by a high degree of crystallinity. © 2018 TANGER Ltd., Ostrava.	=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&clusterr=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=18&citeCnt=0&searchTerm=	
35.	<u>Rakhadilov, B., Skakov, M., Miniyzov, A., K enesbekov, A.</u>	<u>Hydrogen and deuterium storage in tungsten when irradiation with Plasma beam</u>	The paper devotes to study of hydrogen and deuterium storage and research of capturing hydrogen and deuterium in tungsten samples irradiated with plasma beam. The paper shows that some changes occur in the surface like relief propagation caused by heterogeneous surface etching after irradiation with hydrogen plasma. Ratio of change in relief and structure of irradiated samples' surface layer herewith depends on the irradiation temperature. Hydrogen and deuterium storage in tungsten have been studied while their irradiation with hydrogen and deuterium plasma. Thermo-desorption analysis of tungsten samples irradiated with hydrogen and deuterium plasma at 1000°C degrees showed that tungsten surface became saturated with deuterium and did not become saturated with hydrogen. The data obtained by emission spectrometry and thermo-desorption spectrometry verified, that the basic share of captured deuterium is accumulated at the depth of up to 7 µm. © 2018 TANGER Ltd., Ostrava.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85059379222&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&clusterr=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=20&citeCnt=5&searchTerm=	5
36.	<u>Abilgaziyeve, Z.K., Janzakova, S.I., Nurgaliyeva, S.A.</u>	<u>Speech activity among the junior students in teaching foreign languages [Actividad discursiva entre estudiantes de secundaria en la enseñanza de lenguas extranjeras]</u>	The article is devoted to the formation of speech activity among junior school students in the process of teaching foreign languages with the help of integrative learning technology through a personality-active method as the methodological basis of the integrative method. As a result, the technology of teaching foreign languages among the junior school students on an integrative basis reflects the mutual conditioning of the communicative and speech process development by the means of native and foreign language. As a conclusion, the given analysis showed inconsistency in Russian and English languages education. © 2018, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85058818691&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&clusterr=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=20&citeCnt=5&searchTerm=	3

				%22+60112447%29&relpos=21&citeCnt=3&searchTerm=	
37.	<u>Nurgaliyeva, S., Zeynolla, S., Tulenova, U., (...), Yespolova, G., Saule, Z.</u>	<u>Features of institutional autonomy of the Kazakhstan's universities</u> <u>[Características de la autonomía institucional de las universidades de Kazajstán]</u>	The article purpose is to study the development of institutional autonomy of Kazakhstan's higher education institutions. The methods of the comparative analysis, system and logical analysis, the method of information synthesis are used during this research. The research results show that the difference between an ideal form of autonomy of Kazakhstan's universities and real autonomy of the higher educational institutions is indistinct. There is no clear consensus about what level of financial and academic autonomy is desirable. Roles of key components in the field of the academic management are not clearly determined yet. © 2018, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85058809830&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=22&citeCnt=21&searchTerm=	21
38.	<u>Dakieva, K.Z., Tusupova, Z.B., Zhautikova, S.B., (...), Idrisheva, Z.K., Zhamanbaeva, M.K.</u>	<u>Studying the benefits of green workplace environment on health promotion in sympathoadrenal and Kallikrein-Kinin systems</u>	This study is performed to study the positive effects and benefits of going green and creating green physical environments of work on health promotion and stressors reduction on workers in Sympathoadrenal and Kallikrein-Kinin Systems. It also evaluates environmental conditions of work-place, as well as sympathoadrenal and kallikrein-kinin systems for early (prenosological) sings of de-adaptation to work-related stressors in workers engaged in non-ferrous metallurgy. Workplace health promotion (WHP) has been proposed as a preventive intervention for stress, possibly operating by promoting positive organizational culture or via programs promoting healthy lifestyles. In order to do this a trial experiment was done on animals (white rats). Adrenaline and noradrenaline (AD and NAD) levels in the liver, adrenal glands and hearts of rats were measured throughout 2, 4 and 12 trial weeks. Changes in sympathoadrenal system, detected in workers, who were working at the main workshops for a long time, reflect all the stages of non-specific adaptation process to work-place environment, defined as a standard activation of stress-realizing system. At the last stages of stress, the KKS, which represents a cascade, promotes body resistance to work-related stressors and negative environmental conditions. Signs of early de-adaptation were found in healthy workers to identify who of them are at risk of adaptive breakdown. Our tests were used at five times as part of health examination, and some related guidelines were published. © Foundation Environmental Protection & Research-FEPR.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85058173328&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=23&citeCnt=5&searchTerm=	5
39.	<u>Abilgaziyeva, K., J anzakova, S.I., Nurgaliyeva, S.A., Seitimbetova, S.D.</u>	<u>Formation of speech activity in teaching foreign languages to junior school students</u>	The article is devoted to the formation of speech activity among junior school students in the process of teaching foreign languages. This study follows a general methodological basis for learning, which characterizes the point of view on the subject of learning and the possibility of mastering it in the learning process. As a conclusion, prospects for the study are seen in the use of an integrative approach	https://www.scopus.com/record/display.uri?eid=2-s2.0-85057732673&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid	0

		<u>[Formación de la actividad del habla en la enseñanza de lenguas extranjeras a estudiantes de escuela primaria]</u>	during the teaching of foreign languages to the junior school students when the teacher develops a work curriculum, in training and retraining programs for primary school and foreign language teachers. © 2018, Universidad del Zulia. All rights reserved.	05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=24&citeCnt=0&searchTerm=	
40.	<u>Tursunova, R., Kabdrakhmanov a, S., Selenova, B., (...), Shaimardan, Y., Kabdrakhmanova, A.</u>	<u>Monitoring of polychlorinated biphenyls (PCBs) in environmental objects of the city Ust-Kamenogorsk in Kazakhstan</u>	This work devoted to the assessment of the current level of the contamination with polychlorinated biphenyls (PCBs) in environmental objects of the city Ust-Kamenogorsk in Kazakhstan. Particularly, the territory of former Capacitor Plant in Ust-Kamenogorsk and surrounding area were explored and samples of soil, bottom sediments, water, vegetation and fish were sampled from these places. The chemical-analytical studies of PCB contamination were carried out using gas chromatography-mass spectrometry, electrochemical impedance spectroscopy. © 2018 The Authors. Published by Elsevier Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85057397400&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=25&citeCnt=1&searchTerm=	1
41.	<u>Oskembay, A.A., Kelgembaeva, B.B., Yerdembekov, B.A.</u>	<u>The social and historical situation in the nineteenth-century Kazakhstan and the anti-colonial trend in Kazakh literature</u>	The paper features a brief review of the history of Russia's colonization of Kazakhstan in the nineteenth century. During this period, Russia was engaged in colonial activities in Asia. After conquering the Kazakh lands, Russia launched a policy of russification and started to force a new sociopolitical model upon the Kazakhs. The research investigates the status of the Kazakh population in Russia and that of the people who were forced to move to China. The research also reviews the attempts of Kazakhs to regain their independence through rebellions, which were suppressed violently by imperial armed forces. The authors analyzed the works of East Kazakhstani poets in the context of the sociocultural processes of that age. The poetic works best reflect the mood of the nation and its attitude to the new policy. The poems of Arimzhan Zhanuzakuli, Argynbek Apashbayuli, and Nogaybay Suleymenuli discover and contemplate the themes that reflect the political and social controversies of the age of economic, political, and cultural expansion into the country (the theme of disappointment with the past and fear of the future) and unite the poets into the “times of tribulation” literary trend. The works of the “times of tribulation” poets gave impetus to the national rebirth of Kazakhs and the return of independence and the possibility to choose their own policy. Due to the subjects addressed in their works, many poets were subject to purges. Nowadays, the Kazakhs have their own independent state of Kazakhstan,	https://www.scopus.com/record/display.uri?eid=2-s2.0-85056309682&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=26&citeCnt=0&searchTerm=	0

			which became possible thanks to the national idea that was formed in the works of nineteenth-century poets. © AesthetixMS 2018.		
42.	<u>Al-Maitah, M., Timchenko, L.I., Kokriatskaia, N.I., (...), Gradz, Z.M., Syzdykpayeva, A.</u>	<u>Parallel-hierarchical network as the model of neurocomputing</u>	In this paper considers methodological approach was developed for analysis of parallel processes. This approach considers influence of structural hierarchy in dynamics, in other words it tracks processes of spatial areas transformation of correlated and generation of uncorrelated in time elements of generated network, at the time of transition of the network from one stable stage to another. © COPYRIGHT SPIE. Downloading of the abstract is permitted for personal use only.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85056278881&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=27&citeCnt=4&searchTerm=	4
43.	<u>Azarov, O.D., Pavlov, S.V., Chernyak, O.I., (...), Wójcik, W., Syzdykpayeva, A.</u>	<u>Principles of fast count in modified Fibonacci numerical system</u>	The theoretical aspects of count in the modified Fibonacci numerical system are proposed in the article. It allows constructing of high-speed Fibonacci counters where the hardware costs are comparatively small and increase proportionally at code length growth. Fibonacci transformations of codes are described that play the role of carryings and borrowings at increment and reverse count. The admissible forms of codes for specifying the initial states of counters are explored. © COPYRIGHT SPIE. Downloading of the abstract is permitted for personal use only.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85056251976&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=28&citeCnt=3&searchTerm=	3
44.	<u>Mailybaeva, G.S., Nurgaliyeva, S.A., Zhexembayeva, Z.R., Zholumbayeva, R.M., Utegulov, D.E.</u>	<u>The efficiency of the education system in kazakhstan: Programme for international student assessment (PISA) [La eficiencia del sistema educativo en kazajstán: Programa de evaluación</u>	The goal of the article is to identify the real situation of the school students' readiness in Kazakhstan for international examinations and appropriate recommendations on the professional use of the obtained results. This will provide a critical understanding of traditional ideas and for new designs and further development. During the study, methods of comparative analysis, system and logical analysis, a method of generalizing information were used. As a result, the authors proposed recommendations for improving the quality of educational process in educational organizations of the Republic of Kazakhstan, taking into account the requirements of international comparative studies. © 2018, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85055336612&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=29&citeCnt=11&searchTerm=	11

		<u>internacional de alumnos (PISA)]</u>			
45.	<u>Shmelev, S.E., Sagiyeva, R.K., Kadyrkhanov a, Z.M., Chzhan, Y.Y., Shmeleva, I.A.</u>	<u>Comparative sustainability analysis of two Asian Cities: A multidimensional assessment of Taipei and Almaty</u>	The article compares economic and environmental performance of Taipei and Almaty from the point of view of "green" economy, which is able to act as a key tool to ensure sustainable development of the region. As the comparison of the parameters of ecological and economic development of the Taipei and Almaty cities shows, they are similar in population size, but demonstrate completely different trends of sustainable development. Economic performance of the Taipei city is achieved with a decrease in the consumption of natural resources and the production of pollution, while the situation in Almaty is the opposite. Almaty maintains a high level of air pollution due to the use of coal in electricity production, as well as increased traffic and density of construction, including the southern part of the city, which is a zone for the transit of mountain air flows. The article discusses the activities jointly conducted by the Government of Taiwan and non-governmental organizations on environmental issues, as well as environmental NGOs, which resulted in significant improvements in the environmental field. Measures to stimulate the development and implementation of environmental innovations applied in the field of sustainable development in the city of Taipei can be adapted for the city of Almaty, where the environmental situation deteriorates year by year. © 2018, Journal of Asian Finance, Economics and Business.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85054758736&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=30&citeCnt=11&searchTerm=	11
46.	<u>Alontseva, D.L., Borisov, Yu.S., Voinarovych, S.G., (...), Krasavin, A.L., Bektasova, G.S.</u>	<u>Development of microplasma spraying technology for applying biocompatible coatings</u>	This paper describes the equipment and technology of microplasma spraying from powder and wire materials for applying biocompatible coatings for medical implants and instruments. The authors observe the challenges and prospects of the implementation of the technology for manufacturing medical products and point out the successful application of microplasma spraying technology for applying biocompatible coatings for hip implants. © 2018, Peter the Great St. Petersburg Polytechnic University © 2018, Institute of Problems of Mechanical Engineering RAS.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85051170429&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=31&citeCnt=1&searchTerm=	1
47.	<u>Nurgaliyeva, S.A., Zeynolla, S.Z., Galiyeva, A.N., Espolova, G.K.</u>	<u>On the issue of modernization of the system of professional development of teachers of high</u>	This paper describes the equipment and technology of microplasma spraying from powder and wire materials for applying biocompatible coatings for medical implants and instruments. The authors observe the challenges and prospects of the implementation of the technology for manufacturing medical products and point out the successful application of microplasma spraying technology for applying biocompatible coatings for hip implants. © 2018, Peter the Great St. Petersburg	https://www.scopus.com/record/display.uri?eid=2-s2.0-85051170429&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopubyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=31&citeCnt=1&searchTerm=	2

		<u>schools of Kazakhstan [Sobre el problema de la modernización del sistema de desarrollo profesional de maestros de escuelas secundarias de Kazajstán]</u>	Polytechnic University © 2018, Institute of Problems of Mechanical Engineering RAS.	r=scopusbyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=31&citeCnt=1&searchTerm=	
48.	<u>Karmenova, Z.</u>	<u>The marital and fertility behaviour of young women in the urban areas of the east Kazakhstan region</u>	This paper primarily addresses nuptiality and fertility patterns among youth in the East Kazakhstan region. The data are obtained from censuses, vital statistics, and the survey 'Marital and Reproductive Behaviour of Young Women in Ust-Kamenogorsk' conducted in 2016. The aim of the paper is to study marital and reproductive behaviour in the East Kazakhstan region and in particular differentials by sex, age, nationality, place of residence, education, and living conditions.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85044146575&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopusbyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=33&citeCnt=0&searchTerm=	0
49.	<u>Suleimen, E.M., Kazantsev, A.V., Van Hecke, K., Iskakova, Z.B., Akatan, K.</u>	<u>Crystal and Molecular Structure, and Cytotoxic Activity of diethyl ether of 2-[(phenyl-(phenyl-o-carboranyl)-methyl]malonic acid</u>	The crystal and molecular structure of diethyl ether of 2-[(phenyl-(phenyl-o-carboranyl)-methyl]malonic acid is determined by single crystal X-ray diffraction and NMR spectroscopy for the first time. The cytotoxic activity of the molecule is analyzed. © 2018, Pleiades Publishing, Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85044022649&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopusbyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=34&citeCnt=0&searchTerm=	0
50.	<u>Zhensikbayeva, N.Zh., Saparov, K.T., Chlachula, J.,</u>	<u>Natural potential for tourism development in</u>	The mountain regions incorporate some of the major ecosystems of the Earth. They also include most significant mineral, natural, agricultural and tourist-recreational resources. A complex regionally-specific geographic evaluation is	https://www.scopus.com/record/display.uri?eid=2-s2.0-85043980759&origin=resultslist	14

	(...), <u>Uruzbayeva, N.A.</u> , <u>Wendt, J.A.</u>	<u>Southern Altai (Kazakhstan)</u>	prerequisite for assessment of a perspective tourism development in a particular mountain area. The Southern Altai mountain system, being a part of the East Kazakhstan administrative district, is known worldwide for its unique natural as well as cultural heritage found across all the geographic and geomorphic zones of the territory. Its unquestionable touristic-recreational attractiveness reflects the unique natural – both geomorphic and biodiversity – characteristics, including orographic, hydrological, climatic, mineral and soil cover features, and endemic plants and wildlife, respectively, completed by many prehistoric archaeological monuments. In spite of the major biotic and geosites potential the introduction of a vital and sustainable tourism to the area is impeded by the insufficient, mostly unpaved road network, insufficient local accommodation facilities as well as the special boarder-zone entry regulations. © 2018 Editura Universitatii din Oradea. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85039970487&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopusbyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=35&citeCnt=14&searchTerm=	
51.	<u>Tussupzhanov, A.</u> , <u>Yerbolatuly, D.</u> , <u>Kveglis, L.I.</u> , <u>Filarowski, A.</u>	<u>Investigation of structural-phase states and features of plastic deformation of the austenitic precipitation-hardening Co-Ni-Nb alloy</u>	This article presents the results of investigation of the influence of holding temperature during the quenching process on the microstructure and superplasticity of the Co-Ni-Nb alloy. Temperature-strain rate intervals of the deformation of the superplasticity effects are stated. The optimal regimes of the preliminary treatment by quenching and rolling as well as the routine of the superplastic deformation of the Co-Ni-Nb alloy are defined. The interval of the temperatures of the precipitation, morphology, composition, type and parameters of the lattice of the secondary phase, which appears after the annealing + rolling (to 90%) Co-Ni-Nb alloy, are determined. © 2017 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85037865126&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopusbyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=36&citeCnt=2&searchTerm=	2
52.	<u>Kabdrakhmanova, S.K.</u> , <u>Shaimardan, E.</u> , <u>Akatan, K.</u> , (...), <u>Kantai, N.</u> , <u>Abilev, M.B.</u>	<u>Synthesis, characteristics and antibacterial activity of polymeric films based on starch and polyvinyl alcohol</u>	The optimal composition based on polyvinyl alcohol (PVA) and starch in a combination with "Maxim" fungicide is developed for sunflower seeds encapsulation. It is achieved by varying the concentration and ratio of the polymers and fungicides used. The physico-mechanical characteristics of the obtained composites are identified. The laboratory and field germination, as well as the yield and infestation of sunflower seeds with fungal diseases are established.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85037865126&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=05ef3bdfc8735b189e4336513fddd4b4&sot=aff&sdt=cl&cluster=scopusbyr%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=37&citeCnt=1&searchTerm=	1
2019 год					

53.	<u>Temirbekov, N., Baigereyev, D., Temirbekov, A., Omirzhanova, B.</u>	<u>Development of an information system for storing digitized works of the Almaty Akademgorodok research institutes</u>	The present article describes the architecture of the integrated distributed information system created for storing digitized works of employees of Almaty Akademgorodok research institutes (Kazakhstan) and providing access to them using Web technology. Comparative analysis of two data storage systems for storing digitized works, Ceph and GlusterFS, is provided. The description of the software part of the information system is provided which consists of four subsystems: repository of digital objects, subsystem for managing current research information, subsystem of integration of distributed information resources, subsystem of access to distributed information resources based on Web technologies. The relation between the subsystems and their integration is described. The work defines the requirements to the repository of digital objects. The requirements for the repository of digital objects are defined; a comparative analysis of open source software used for these purposes is made. © 2019 Author(s).	https://www.scopus.com/record/display.uri?eid=2-s2.0-85076770672&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=0&citeCnt=0&searchTerm=	0
54.	<u>Tussupzhanov, A., Yerbolatuly, D., Kveglis, L.I., Žak, A., Filarowski, A.</u>	<u>Investigation of the structural-phase state under superplastic deformation of the Co-Ni-Nb alloy</u>	The formation of the Co-Ni-Nb alloy structure under superplastic deformation and phase composition is studied in the article. Investigations of the changes in the true stresses during superplastic deformation in the optimal mode of the dispersion-hardening alloy on a cobalt–nickel–niobium basis are carried out. The structure change at various degrees of deformation is studied. The features of structural transformations under superplastic deformation are analyzed. The evolution of the secondary phase and the change in the chemical and phase composition are considered as a result of the motion of the shear transformation zone. © 2019, © 2019 Informa UK Limited, trading as Taylor & Francis Group.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85075167876&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=1&citeCnt=0&searchTerm=	0
55.	<u>Rakhadilov, B.K., Satbayeva, Z.A., Bayatanova, L.B., (...), Kalibayev, K.A., Kochneva, A.K.</u>	<u>Influence of electrolyte-plasma surface hardening on the structure and properties of steel 40KhN</u>	The optimal electrolyte composition for electrolyte-plasma surface hardening of 40XH steel, which does not lead to the surface layer to erosion, oxidation and decarburization are determined in this work. It is shown that after electrolytic-plasma surface hardening a modified layer with a thickness of 1-1.2 mm is formed with high hardness and wear resistance which consisting of a hardened layer of fine-grained martensite, an intermediate layer of perlite and martensite. © 2019 IOP Publishing Ltd. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85077955447&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=1&citeCnt=0&searchTerm=	3

				%22+60112447%29&relpos=2&citeCnt=3&searchTerm=	
56.	<u>Temirbekov, N., Malgazhdarov, Y., Tokanova, S., (...), Baigereyev, D., Turarov, A.</u>	<u>Information technology for numerical simulation of convective flows of a viscous incompressible fluid in curvilinear multiply connected domains</u>	In this paper we describe a method for the numerical construction of curvilinear structured grids in doubly connected regions and numerical modeling of the convective flow of a non-uniformly heated liquid in a curvilinear coordinate system. The study is absolutely unique and conducted in accordance with modern scientific demands. Based on previous surveys and the latest findings in the study area, it brings the acute question of information technology for the numerical simulation of convective flows of a viscous incompressible fluid in curvilinear multiply connected domains to a significantly new level. The study is complex and attempts to analyze the theme thoroughly, taking into account all factors that may influence the final results. The paper presents a complete required set of multiple graphs, detailed equations and schemes in order to increase visualization of obtained results on a viscous incompressible fluid in curvilinear multiply connected domains and simplify the perception of the results for accurate scientific conclusions and further applied usage. In the numerical construction of curvilinear grids in doubly-connected domains, the implicit scheme and the method of fractional steps are used by the equidistribution method and Godunov-Thompson, and in the numerical realization of the equations of an incompressible fluid, an explicit scheme and a method of fractional steps are used. In the direction of the outer and inner boundaries, a cyclic run is used, and in the direction of the normal, a scalar run is used. Calculations were carried out for different cavity configurations, temperature regimes at the boundary. The graphs of numerical calculations of the temperature and current function are obtained. All this makes the current study an important contribution to the development of theoretical concepts and methodological approaches to the use of new information technologies in hydrodynamic studies that takes into account the specific features of the subject area, as well as the development, adaptation and approbation of tools in the process of modeling of natural and technogenic objects. © 2005 – ongoing JATIT & LLS	https://www.scopus.com/record/display.uri?eid=2-s2.0-85077370403&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=3&citeCnt=4&searchTerm=	4
57.	<u>Kadyrkhanova, Z.M., Shmelev, S.E., Sagiveva, R.K., Chzhan, Y.Y., Shmeleva, I.A.</u>	<u>Multidimensional assessment of sustainability of Taipei and Almaty (Book Chapter)</u>		https://www.scopus.com/record/display.uri?eid=2-s2.0-85109056770&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy	0

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58.	Nugumanova, A., Baiburin, Y., Apayev, K., Tlebaldinova, A., Rakhadilov, B.	Automatic synonym and quasi-synonym extraction from user reviews on mobile devices	In this paper we explore 5 similarity measures on the task of synonym extraction. We apply these measures to distributional word vectors created by word2vec model trained on a Russian-language corpus of user reviews. Through series of comprehensive experiments we have established that Cosine measure demonstrates, in general, the best performance in synonym extraction task. However, we found the way to improve Cosine measure performance correcting its value with the help of Gower distance. Our new corrective measure which we call Cosine-Gower, outperforms Cosine similarity for all meaningful parts of speech excluding verbs. © 2019 Institute of Control, Robotics and Systems - ICROS.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85079085494&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=5&citeCnt=0&searchTerm=	0
59.	Sagdoldina, Z., Rakhadilov, B., Kenesbekov, A., Stepanova, O., Buitkenov, D.	Phase-structural Condition of the Ti-Al System Treated by Irradiation with Si Ions and Heat Treatment	This work showed the study of the features of phase-structural transformations in the titanium-aluminum system during irradiation with silicon ions and heat treatment. It was determined that under the heating of treatment, aluminide phases are formed on the surface of titanium with a thin aluminum coating in accordance with the equilibrium state diagram. It was found that after annealing, a change in the grain size is observed. © 2019 IEEE.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85084583372&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=6&citeCnt=1&searchTerm=	1
60.	Nykmukanova, M.M., Mukazhanov a, Z.B., Kabdysalym, K., Eskalieva, B.K., Beyatli, A.	Flavonoids from Verbascum marschallianum and V. orientale		https://www.scopus.com/record/display.uri?eid=2-s2.0-85074000075&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-	3

				ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=7&citeCnt=3&searchTerm=	
61.	<u>Maksakova, O., Pogrebnjak, A., Beresnev, V., (...), Simoės, S., Yerbolatuly, D.</u>	<u>STUDY OF ADVANCED NANOSCALE ZRN/CRN MULTILAYER COATINGS</u>	The scientific interest in the investigation of nitride composites as protecting materials in tool and machining industries intensively increases. The good oxidation resistance of CrN single-layer films and high melting point, good chemical and thermal resistance of ZrN compound are motive factors for designing of multilayer composites composed of these metal nitrides. The suggested advantages of ZrN/CrN multilayer coatings as structural materials are the high-temperature resistance, high density and extreme hardness compared to the metal-nitride systems. Experimental ZrN/CrN multilayer coatings were deposited on AISI 321 steel substrates by using a cathodic arc evaporation device equipped with two high-purity metal Cr and Zr targets. Structural, chemical and morphological characteristics together with mechanical properties of multilayer composites were analyzed by X-ray diffraction, scanning electron microscopy, energy-dispersive X-ray spectroscopy and Vickers hardness tester. SEM analysis revealed an increase of roughness and concentration of the droplets on the surface of the coatings when negative bias potential decreased to -70 V. The results of data obtained from the X-ray analysis showed (200) and (111) plane for ZrN and Cr ₂ N phases as the most intense. The peak positions of ZrN were shifted towards lower diffraction angles comparing with bulk values and indicated a decrease of the interplanar distance and formation of compressive stresses. The calculated lattice strain values in the ZrN were higher than those of the CrN, indicated a greater presence of dislocations and defects in the lattice of ZrN. The averaged crystallite sizes in ZrN and CrN layers were 11-14 and 7-12 nm, respectively. The maximum value of the Vickers microhardness was found to be 6600HV0.01 that is 2.1 and 1.8 times greater than the corresponding values of binary CrN and ZrN coatings. © Olga Maksakova, Alexander Pogrebnjak, Vyacheslav Beresnev, Vyacheslav Stolbovoy, Sónia Simoes, Dosym Yerbolatuly, 2019.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85149358466&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=8&citeCnt=0&searchTerm=	0
62.	<u>Astashenkov, A.Y., Cheryomushkina, V.A., Myrzagaliyeva, A.B., Medeubayeva, B.Z.</u>	<u>Ontogenesis, estimation of coenopopulation state and component composition in Nepeta densiflora Kar. et Kir. (Lamiaceae) individuals of East Kazakhstan</u>	The paper presents the results of the complex study of main biological and chemical characteristics in the endemic species <i>Nepeta densiflora</i> which occupies the boundary position in the distribution of <i>Spicatae</i> (Benth.) Pojark. section of <i>Nepeta</i> genus. It has been established that the ontogenesis is complete and the individuals successively pass the morphogenesis stages: primary shoot → primary bush → clump → branching particle. Assessment of coenopopulation states has identified the studied population as normal and stable. Coenopopulation stability is determined by its seed regeneration and complex ontogenesis. Species existence under the studied ecological and coenotic conditions can be successful, provided that there is no phytocoenotic environment composed of turfed lady's mantle community. In <i>N. densiflora</i> , the main components of the essential oil	https://www.scopus.com/record/display.uri?eid=2-s2.0-85053800496&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy	5

			were found to be cis-trans-Nepetalactone (up to 70%), cis- β -Ocimene (4.8%), Germacrene D (3.1%) and β -Cyclocitral (2.4%). © 2018, © 2018 Informa UK Limited, trading as Taylor & Francis Group.	v+East+Kazakhstan+University%22+60112447%29&relpos=9&citeCnt=5&searchTerm=	
63.	<u>Kombayev, K.K., Doudkin, M.V., Kim, A.I., Mlynczak, M., Rakhadilov, B.K.</u>	<u>Surface hardening of the aluminum alloys AL3 by electrolytic-plasma treatment</u>	The article presents the research results of the effect of electrolytic-plasma processing on the structural- phase transformation of aluminum alloy samples. The discharge was ignited from the DC source. When the voltage is switched on, ionization and boiling of the electrolyte occurs. When bubble boiling occurs around the active electrode, large current pulsations are observed. Due to the formation of a gas-vapor jacket and the passage of electric current through it, a low-temperature plasma is formed, which has the characteristic blue color of the glow of the shell around the part. Electric micro-arc plasma is excited on the surface of the product, in which an intense heating of the workpiece occurs from heat generation. After microarc oxidation, the microstructure of quenching and artificial aging in the electrolyte flow is observed on the sample surface. As a result of quenching in the electrolyte stream, solid copper solution in aluminum and pinpoint fine inclusions dissolve from the microplasma temperature, the phases oxidize to form aluminum corundum. X-ray analysis of the samples after electrolytic-plasma processing revealed an increase in the intensity and broadening of the diffraction lines relative to the initial state, which indicates the residual surface stress, which during operation provides an increase in the wear resistance of the part. The average microhardness, after electrolytic-plasma treatment, is 746 MPa, which is about 2.5 times higher than that of the starting material. © National Academy of Sciences of the Republic of Kazakhstan, 2019.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85073472232&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&ss=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University%22+60112447%29&relpos=10&citeCnt=17&searchTerm=	17
64.	<u>Dunets, A., Muhamedieva, A., Sycheva, I., (...), Vakhrushev, I., Kulchytskyi, A.</u>	<u>Spatial tourism planning: Using the model of functional and planning complexes</u>	The article examines the problem of spatial tourism planning. The authors note that the possibility of tourist activities in different territorial zones requires functional zoning. The study justifies the use of a territorial tourist complex concept. The authors propose using the model of functional and planning complexes as a basis for understanding the structure of the territorial tourist complex, as well in the spatial development of tourism. Spatial planning of tourism implements various approaches. However, the main problem of the territorial tourist complexes' development arises because tourist activity can be carried out in the territories of various purposes. Multi-functional zones are important for tourism as this determines their specialization and tourist flows. The study of territorial tourist complexes is related to the problem of using this concept in the practice of spatial development. Therefore, an urgent task is to develop a model that characterizes the structure of the tourist complex, which will enable moving on to an understanding of tourism development planning. © 2019. ASERS Publishing. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85073727517&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&ss=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University%22+60112447%29&relpos=11&citeCnt=17&searchTerm=	17
65.	<u>Yumashev, A., Semenycheva,</u>	<u>Development of biocompatible coatings for dental</u>	Nitrides are nitrogen (N) compounds with other chemical elements, in particular with transition metals. For transition metal nitrides, the main ones are properties such as homogeneity of the material of nitride products, high electrical	https://www.scopus.com/record/display.uri?eid=2-s2.0-85073143719&origin=resultslist	6

	I., Rakhadilov, B., Tsymbal, A.	<u>implants based on transition metal nitrides</u>	conductivity, and high melting points, with hardness exceeding most other known materials. As experimental samples we used ready transition metals alloys from cylinders, 10 mm in diameter, and 20 mm in height. 10 cylinders for each alloy were used. Heating to the required temperatures was carried out using an induction heating furnace. Temperatures were measured with a DT model pyrometer, the measuring range of which ranges from -50 to + 110°C, with an error of one tenth of a°C. Alloys were studied using electron microscopy, and the hardness of the resulting alloy was also measured. In addition to the samples of implants with a nitride coating, samples of cast products (implants) were produced. 10 samples of each type were made. The nitride film present almost doubled the hardness indices of metals and their alloys. The smallest wear out was observed for gold and platinum samples, the largest - for zirconium, titanium and nickel, 2-3 times more ($p \geq 0.05$). The presence of even the thinnest titanium nitride film changed these indicators, as a result of which the wear out level became even lower than that of gold ($p \geq 0.05$). The present nitride film prevents the formation of an adsorption layer. Such implants wear out will be slowed down in comparison with metal ones, but without a nitride film, on which an adsorption layer is formed. Along with the preference of titanium physical and chemical properties over other metals and their alloys, the deposition of a titanium nitride film is a necessary property to improve. Titanium has several advantages over other metals, including lower thermal conductivity and resistance to corrosion changes. Titanium nitride gives maximum hardness and maximum wear resistance. Nitride film implants acquire no damage; moreover, nitride spraying can also be used with other types of implants, for example, ceramics. The nitride film gives the metal base additional stability properties, creating a protective layer. The combined use of a titanium implant with titanium nitride spraying (layer thickness no more than 0.1 mm) increases the properties of hardness and wear resistance of implants. © 2019 Journal of Global Pharma Technology. All rights reserved.	&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=12&citeCnt=6&searchTerm=	
66.	<u>Zhanbosinova, A.S., Kulshanova, A.A., Shaimerdenova, M.J.</u>	<u>Handicraft of the Kazakh people in the middle of XIXth – Early XXth centuries</u> <u>[Промыслово-ремесленные занятия казахского населения в середине XIX – начале XX веков]</u>	The article is devoted to the history of the development of handicraft of the Kazakh people in the focus of evaluation by the scientists of the XIX century, who left the richest historical heritage. The content of the article is based on a wide range of sources stored in the Central State Archives of the Republic of Kazakhstan, a rare fund in Abay National Library in Almaty. The general scientific methods of analysis, synthesis, and generalization subordinated to the main goal of the scientific subject, as well as theoretical studies on the problems of socio-economic development, economic and cultural activities of the population of Kazakhstan and the border regions were used. The economy of Kazakhstan in the second half of the XIX century underwent significant changes caused by the development of capitalism in Russia, the spread of commodity-money relations and the disintegration of natural forms of management. The	https://www.scopus.com/record/display.uri?eid=2-s2.0-85064639275&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University	0

			authors believe that the degree of involvement of the population of Kazakhstan in handicraft and, accordingly, the level of their development was different, which depended on many circumstances and factors. The nature of the development of the craft was determined by the natural-consumer activities of the nomadic area and the marginal zone. Copyright © 2019 by International Network Center for Fundamental and Applied Research.	%22+60112447%29&relpos=13&citeCnt=0&searchTerm=	
67.	Egorenkova, E.N.	“Omsk Diocesan Records” and the Christianization of the Kazakh Population of the Steppe Territory (Late 19th – Early 20th Century) [«Омские епархиальные ведомости» о христианизации казахского населения Степного края (конец XIX – начало XX века)]	Since the middle of the 19 th century, church periodicals in the form of Diocesan records occupied an important place in the social life of the Russian provinces, placing on their pages not only documents and addresses of church and official authorities, sermons and instructions, but also material of, for example journalistic, local history, historical and ethnographic nature. In light of this, the study of the process of Christianization of the Kazakh population of the Steppe Territory in the late 19 th – early 20 th century is of particular interest. The study considers materials of the “Omsk Diocesan Records”, the official periodical of the Omsk diocese, which until recently has been poorly studied in historiography. A comprehensive analysis of the source (the «Omsk Diocesan Records») showed that the Kazakh (Kyrgyz) population of the Steppe Territory and the Omsk diocese under the conditions of missionary activity of the Kyrgyz mission experienced a transformation not only in the ethno-religious, but also in the economic, social and cultural spheres. The “Omsk Diocesan Records” can be considered a full-fledged, original and versatile source about the history of the Christianization of the Kyrgyz (Kazakh) population of the Steppe Territory in the late 19 th – early 20 th century, reflecting the official position of the Russian Orthodox Church regarding missionary activity, its state, forms and methods, as well as certain aspects of the very process of Christianization of the Kirghiz (Kazakhs), such as: the socio-economic conditionality of the adoption of Orthodoxy, the process of socialization, acculturation and transformation of ethnic and religious consciousness of both the newly baptized and their recent relatives and newfound brothers in religion. © 2019 Authors. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85170407224&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=14&citeCnt=0&searchTerm=	
68.	Tabiyeva, Y.Y., Rakhadilov, B.K., Uazyrkhanov a, G.K., (...), Maulit, A., Baizhan, D.	Surface modification of steel mark 2 electrolytic-plasma exposure	This work is devoted to the research of the influence of the technological parameters of electrolytic-plasma surface hardening on the structure and tribological properties of the surface of samples of the retaining steel mark 2. In the electrolytic-plasma surface hardening was carried out in an electrolyte from an aqueous solution of 20% urea and 20% sodium carbonate. According to the result of metallographic and X-ray diffraction analysis, it was determined that the phase composition of steel mark 2 after processing varies, and fine martensite with a small amount of troostite and iron oxide is formed on the surface of the samples. Tribological experiments of samples without lubrication were carried out. These experiments have shown that all the studied samples have an increased wear resistance, which may be associated with the formation of a fine-grained martensitic structure. It was shown that from the point of view of the complex of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102826991&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=14&citeCnt=0&searchTerm=	5

			the properties obtained, the most promising is electrolytic-plasma action with a treatment time of 2 s. © 2019, Eurasian Journal of Physics and Functional Materials. All Rights Reserved.	%22+60112447%29&relpos=15&citeCnt=5&searchTerm=	
69.	Kabdrakhmanova, N.K., Mussabayeva, M.N., Atasoy, E., Zhensikbayeva, N.Zh., Kumarbekuly, S.	Landscape and recreational analysis of Yertis river upper part on the basis of basin approach (Kazakhstan)	Structural-functional relationships of geosystems in geosystem classification in the river basin are relied on through systematicity concept. As single geosystem, river basin is supercomplex, exo-regulated, impulsively-dynamic geosystem, limited by two special types of surface: threshold - vertical (for example, glacial area) and contact - horizontal (floodplain). In our opinion, in studies of geosystems of seepage flow it is needed to considerate elements of macro and micro substrate levels of geosystems, not traditional component blocks because surface flow is differentiative factor besides of lithogeneous base. Elements of macro and micro substrate levels of geosystems are parameters of water and heat balance, productivity and yield capacity of phytomass. The purpose of the present article is to study geosystems of the basin of the Yertis river upper part. We regard the geosystems of the unified inter-continental rivers formed by water discharge as paragenetic and paradynamic complexes in the context of the increasing lack of moistening due to natural and anthropogenic factors. These natural complexes develop under the influence of two mutually conditioned leading differentiation factors - a lithogenic base and a river flow. These and other physical-geographical conditions forming the river basin enable to define the region as a unified megasystem. The article identifies basic regularities of the transformation of the natural environment of the Yertis river upper part basin. The methodological approach accepted by the authors to the study of modified systems is the theoretical concept of geosystem-basin approach to the study of anthropogenically-transformed systems. Either the following research methods were used: geosystem-basinal, statistical analysis, landscape-structural analysis and maps were compiled with the use of GIS on the ArcGis software. © 2019 Editura Universitatii din Oradea. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85081653528&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=16&citeCnt=4&searchTerm=	4
70.	Akatan, K., Kabdrakhmanova, S.K., Shaimardan, E., (...), Selenova, B.S., Toktarbay, Z.	Application of X-ray diffraction method for research of copper nanoparticles obtained by using chemical method	In this work, the investigation of the size of copper nanoparticles in the catalyst, prepared by injecting on to BAU-A charcoal and reduced with sodium boron hydrate, was carried out by X-ray diffraction method. The process of indexing diffraction of the copper nanoparticles in the catalyst was done by two methods and the value of each Miller Indices (hkl) was determined. The distance between the atoms was determined and the possibility of calculating the size of the copper nanoparticles by the Debye-Scherrer formula was investigated. © 2019, Scibulcom Ltd.. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85081621868&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=16&citeCnt=4&searchTerm=	4

				%22+60112447%29&relpos=17&citeCnt=4&searchTerm=	
71.	<u>Aleksevenko, A.N., Aubakirova, Z.S., Zhanbosinova, A.S.</u>	<u>Ethno-demographic evolution and formation of the sovereign demographic system in Kazakhstan</u> <u>[Этнодемографические эволюции и становление суверенной демографической системы в Казахстане]</u>	The article analyzes the formation of demographic system on an autochthonous basis in the Republic of Kazakhstan. It shows that the algorithm of the functioning of sovereign demographic system stems from the peculiarities of the Kazakh lifestyle in the Soviet era when before the collapse of the Soviet Union more than 60 % of ethnic representatives had lived in rural areas, preserving their traditional variants of demographic behavior. The core of the urban population was made up of European peoples who moved to Kazakhstan mainly as a result of external migrations. In the 1990s, a considerable part of the European component emigrated. In the second decade of the 21 st century, the role of external migration (both emigration and immigration) has been reduced to a minimum; the population dynamics are determined by the reproduction of the Kazakh ethnos - the majority of the population in the republic (both rural and urban). Nevertheless, the heritage of the Soviet era still influences the functioning of the sovereign demographic system. First of all, it is displayed in the evolution of the Kazakh age structure affected by the demographic explosion in the middle of the 20 th century. A feature of the current demographic situation in the republic is the rapid urbanization of autochthons, mostly young people. There is a stage of “quantitative” development of urban space, when a significant part of the urban population is represented by former rural residents who transfer corresponding reproductive attitudes to their new residence. Thus, for the first time in the modern history of Kazakhstan there is a demographic system functioning on an autochthonous basis. © 2019 Saint Petersburg State University. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85080134420&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=18&citeCnt=0&searchTerm=	0
72.	<u>Buitkenov, D.B., Rakhadilov, B.K., Tuyakbaev, B.T., Sagdoldina, Z.B., Kenesbekov, A.B.</u>	<u>Structure and properties of detonation coatings based on titanium carbosilicide</u>	This work look the results of the study of the structure and properties of powder coatings based on titanium carbosilicide, obtained by the method of detonation spraying on the surface of the tool steel U9. It was determined that the phase composition of coatings changes during detonation spraying as a result of the decomposition of Ti3SiC2 powder into titanium carbide, due to the high-speed impact interaction heated to high temperatures. It was established that a coating with a higher microhardness is formed during detonation-plasma spraying of Ti3SiC2 powders. At the same time, with an increase in the thickness of the coating, its microhardness increases due to a decrease in porosity and an increase in the uniformity of coatings. © 2019 Trans Tech Publications Ltd, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85079894538&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=19&citeCnt=18&searchTerm=	18

73.	<u>Zhurerova, L., Rakhadilov, B., Tabieva, Y.</u>	<u>Plasma-electrolytic nitriding of 0.3Cr-1Mn-1Si-Fe construction steel</u>	This work is devoted to experimental research of the influence of technological parameters of plasma-electrolytic modification on the structural-phase condition, also changes in the mechanical and tribological properties of the surface layers of structural steel 0.3Cr-1Mn-1Si-Fe after plasma-electrolytic processing. Metallographic analysis methods using «NEOPHOT-21» and «AXIOPHOT-2» optical microscopes, X-ray diffraction analysis on X'PertPRO and XRD-6000 diffractometers in monochromatic CuK α radiation, as well as elemental analysis on scanning electron microscopes FEIXL-30-FEG and JSM6390-LV, mechanical testing for microhardness on the installation PMT-1M, methods for measuring wear resistance according to the “ball-disk” scheme and corrosion resistance obtained the following results: microstructure of steel 0.3Cr-1Mn-1Si-Fe after nitriding in electrolyte plasma according to mode 1 consist from α -phase and iron nitride (FeN); and mode 2: at a temperature of 700-750 °C with a treatment time of 3-7 minutes, a layer consisting of α -Fe, oxides (Fe ₂ O, FeO) and iron FeN nitride and ϵ - is formed in the electrolyte, which is characterized by ammonium chloride (NH ₄ Cl) content phases (solid solution based on iron nitride Fe ₃ N) with a thickness of 30 μ m, which is highly resistant to corrosion. It was determined that after plasma electrolytic nitriding at a temperature of 850 °C for 7 minutes, the wear rate as compared to the initial state of the 0.3Cr-1Mn-1Si-Fe steel samples decreased 4.3 times. © 2019 TANGER Ltd., Ostrava.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85079431065&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=20&citeCnt=2&searchTerm=	2
74.	<u>Rakhadilov, B., Satbayeva, Z., Baizhan, D.</u>	<u>Effect of electrolytic-plasma surface strengthening on the structure and properties of steel 40kHN</u>	The paper presents the results of electrolytic-plasma surface hardening (EPSH) of steel 40KhN. The optimal electrolyte composition for EPSH of 40KhN steel containing 10 % sodium carbonate and 15 % carbamide, which does not cause the surface layer to erosion, oxidation and decarburization, is determined. As a result of EPSH, a modified layer was obtained with increased hardness and wear resistance. We studied the changes in the microhardness of the surface layer of steel 40KhN after the EPSH, as well as the dependence of the microhardness on the duration of the effect of the electrolyte plasma. The paper presents tests for wear resistance of samples before and after electrolytic-plasma surface hardening. Tests have shown that the treated samples show a significant decrease in wear rate compared with the original sample. To clarify the structural factors affecting the wear resistance of steel, the structural-phase states of the hardened surface layers of steel 40KhN were investigated. X-ray structural analysis showed that in the initial state the α -phase and cementite (Fe ₃ C) are present in the structure of 40KhN steel. After the EPSH, diffraction patterns showed a broadening of the interference lines from the crystallographic plane (110). The broadening of the interference line (110) is associated with an increase in the density of dislocations and the formation of martensite and is determined mainly by the tetragonal nature of martensite. © 2019 TANGER Ltd., Ostrava.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85079367667&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=21&citeCnt=6&searchTerm=	6
75.	<u>Rakhadilov, B.K., Sagdoldina,</u>	<u>Impact research of electron beam</u>	In this work we studied the impact of electron irradiation with energy of 1.3 MeV on the structure and properties of PA6 polyamide. Irradiation doses ranged from	https://www.scopus.com/record/display.uri?eid=2-s2.0-	3

	<u>Zh.B., Ocheredko, I.A., Kombayev, K.K., Khasenov, A.K.</u>	<u>processing on the structure and properties of PA6 polyamide</u>	50 to 500 kGy. The results of research presented that irradiation with small doses of PA6 polymer is able to increase the mechanical characteristics, while irradiation with large doses significantly reduces them. Wear resistance decreases under irradiation conditions from 350 kGy, and the hardness of the samples varies slightly. The polymer structure was studied by X-ray diffractometry and IR spectroscopy. Electron irradiation at an energy of 1.3 MeV did not lead to a change in the crystalline form of the PA6 polymer, but caused partial crystalline damage. The peak intensity of the α -phase after electron irradiation increases compared with the unirradiated sample. It may be due to an increase in the crystallinity of the polymer. © 2019 E.A.Buketov Karaganda State University Publish House. All rights reserved.	85079004895&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&clusterr=scopubyr%2c%222019%22%2c%2c%222018%22%2c&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=22&citeCnt=3&searchTerm=	
76.	<u>Rakhadilov, B.K., Skakov, M., Tulenbergenov, T., Zhurero, L., Kurbanbekov, Sh.</u>	<u>Plasma installation for research of plasma-surface interaction</u>	This work describes some of the features of the developed plasma setup for studying surface-plasma interactions. Results of the study of the interaction of tungsten and beryllium with plasma are presented. This facility is intended for testing materials and equipment of the Kazakhstan Materials Science Tokomak and for conducting a study of plasma-surface interactions. The main elements of a plasma installation are an electron beam gun, a plasma-beam discharge chamber, a vacuum interaction chamber, a cooled target device, an electromagnetic system consisting of electromagnetic coils, a lock device for quick changing and moving diagnostic tools or irradiated samples without depressurization of the installation. Experiments to study changes in the structure of tungsten and beryllium during plasma exposure have shown that after irradiation, the surface is subjected to erosion and pores form on the surface. © 2019 E.A.Buketov Karaganda State University Publish House. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85078960586&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&clusterr=scopubyr%2c%222019%22%2c%2c%222018%22%2c&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=23&citeCnt=2&searchTerm=	2
77.	<u>Shamshedenova, S., Beisenova, R., Rakhymzhan, Z., (...), Tazitdinova, R., Khanturin, M.</u>	<u>Ecological characteristics of groundwater in rural areas of the karaganda region</u>	In this article, the purpose of the research was to study the ecological characteristics of groundwater and central water supply used for drinking and economic activity of the Kievka village. The hydrochemical indicators of the samples were determined with conventional methods, and performed on 16 indicators: pH, electrical conductivity, suspended solids, dry residue, chlorides, sulfates, phosphates, total hardness, sodium, ammonium nitrogen, nitrites, nitrates, chemical oxygen consumption (COD), anionic surfactants (APAS), total iron, and manganese. While assessing the hydrochemical state of drinking water in the village of Kievka, it can be noted the "Altyn-dan" kindergarten and the Kiev secondary school No. 3, exceed the MAC which is determined by certain indicators. As a result of microbiological studies of the water samples from the village of Kievka, it was revealed that the total microbial number is normal. It was determined that a different number of fungi and actinomycetes were present in all samples. At the initial concentration, a large concentration of fungi was	https://www.scopus.com/record/display.uri?eid=2-s2.0-85077236864&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&clusterr=scopubyr%2c%222019%22%2c%2c%222018%22%2c&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=24&citeCnt=9&searchTerm=	9

			observed in all samples. © 2019, Polish Society of Ecological Engineering (PTIE).		
78.	<u>Zhirindinova, K.R., Zhanbosinova, A.S., Atantaeva, B.Z.</u>	<u>Social adaptation of Kazakh nomads in the period of forced collectivization</u> <u>[Adaptación social de los nómadas kazajos en el período de colectivización forzada]</u>	The objective of the study is to identify and make a system analysis of adaptation practices of Kazakh nomads during forced collectivization. The methodological framework of the study is Ralph Dahrendorf's conflict theory that provides insight into the social stratification theory and social order. The present theme-focused research study shows that, in the context of forced collectivization, the authorities channeled their efforts, both at the central and regional levels, into eliminating social patrimonial communicative indicators. In conclusion, Analysis of forced collectivization methods that led to malfunctions in the political and economic systems influenced the content of Kazakh population's behavioral motives. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85076963195&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=25&citeCnt=1&searchTerm=	1
79.	<u>Klyushin, V., Vasilyeva, E., Radchenko, N., Kolpak, E., Okulova, L.</u>	<u>The research of the university as a factor increasing its competitiveness</u> <u>[La investigación de la universidad como factor de aumento de su competitividad]</u>	The aim of the study is to investigate the research of the University as a factor increasing its competitiveness via an empirical study, which consisted of a survey of bachelor students of state universities. As a result, most of the respondents agreed that the research activity had a positive impact on the life of the university but did not express a desire to take part in it. In conclusion, to solve this problem, three options were proposed: the popularization of the research activity, expansion of the research activity and cooperation with foreign universities. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85076786811&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=26&citeCnt=0&searchTerm=	0
80.	<u>Avrunin, O., Mustetsova, O., Tymchik, S., (...), Omiotek, Z., Syzdykpayeva, A.</u>	<u>Possibility of determining the cause of the snore by instrumental methods</u>	Violation of the function of breathing manifested in the form of snoring can lead to a decrease in pulmonary ventilation and a decrease in the level of oxygen in the blood. As a result, it is possible to develop a number of diseases, and even with a fatal outcome. The reasons for the appearance of snoring can be many, which complicates both the diagnosis and treatment of snoring. The creation of objective tools and methods for diagnosing snoring is possible in the case of creating an adequate physical model for air passage in the upper respiratory tract and describing the physical effects that arise in the process of breathing. The physical model of air ducts, created on the basis of the anatomical model, takes into account the influence of all structural elements influencing the passage of air. The appearance of sound during snoring is the result of the ingress of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85075797870&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo	1

	<u>M.B., Zhilkashinov a. A.M.</u>	<u>intelligent robotic system for plasma processing</u>	synthesis of hydroxyapatite powder suitable for applying biocompatible coatings onto medical implants is provided by chemical precipitation. Optimization of the synthesis parameters is carried out by the mathematical modelling method. The porosity of coatings is controlled by changing the spraying regime. The use of the intelligent robotic system for plasma processing allows movement of a robot arm along a given 3D-trajectory and accurate maintenance of plasma spraying parameters: the trajectory and travel speed of the plasma source, an angle between the sprayed surface and the plasma jet, and the distance from the plasma source to the surface of substrates. The composition and regimes of microplasma spraying of biocompatible coatings using an intelligent robotic system for plasma processing have been developed. © 2019 Polish Academy of Sciences. All rights reserved.	f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=30&citeCnt=3&searchTerm=	
84.	<u>Berebussunova, G., Kulbaev, A., Untaev, K., Turarova, G., Turarov, S.</u>	<u>Benefits of new physical education specialist education service model</u>	The republican academic education system in Kazakhstan faces many problems due to the 25-year-old reforms being still unsuccessful and by far short of the social expectations as to the education service quality and efficiency; and this is the reason why the local education agencies and establishments are still waiting for the legal and regulatory reforms with new educational provisions, standards and materials. Objective of the study was to rate benefits of a new physical education specialist education service model. The authors used an innovative concept to develop the new physical education specialist education service model that gives a special priority to the trainers' openness to the new training technologies, knowledge, responsibility, creativity, ability to effectively design and manage a respectful trainer-student communication with a special attention to every student' personality, gifts and needs. The study included a questionnaire survey of the trainers and students to rate their knowledge of the future job responsibilities and analyze the students' motivations for the service using the relevant test procedures and the sets of rating criteria offered by N.I. Stepanchenko (2017). The study data and analyses found the new physical education specialist education service model highly beneficial as verified by the academic education service quality improvements and its efficient customization to the education needs of the students. © 2019, Teoriya i praktika fizicheskoy kul'tury i sporta. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85073722023&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=31&citeCnt=0&searchTerm=	0
85.	<u>Minakhmetova, A.Z., Radchenko, N.N., Shmakova, A.P.</u>	<u>Psychological well-being of students as a precondition for their professional self-realization El bienestar psicológico de los estudiantes como condición previa</u>	The purpose of our research is to identify the relationship between the psychological well-being of students and their professional self-realization. In our research, we used the Ryff Scale to measure the following six factors: autonomy, competence, personal growth, positive relations with others, and purpose in life, self-acceptance and the overall indicator. According to the results of the multidimensional questionnaire, 43% of the respondents are characterized by a harmonious level of self-development. In conclusion, the students with a high Autonomy factor may have difficulties in finding compromises and working in a team. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85071376248&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=	1

		<u>para su autorrealización profesional]</u>		62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=32&citeCnt=1&searchTerm=https://www.scopus.com/record/display.uri?eid=2-s2.0-85071346519&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=33&citeCnt=5&searchTerm=	
86.	Zhanbossinova, A.S., Karibaev, M.S., Atantayeva, B.Z., Kulshanova, A.A., Shaimerdenova, M.D.	<u>Socio-cultural adaptation of repatriates of East Kazakhstan and migration attitudes of the Kazakhs of Mongolia</u>	The article is devoted to the issues of socio-cultural adaptation of repatriates on the territory of East Kazakhstan and the analysis of the migration attitudes of the Kazakhs of Mongolia. Since Kazakhstan gained independence on 16 December 1991, the state has been implementing a state program on the return of ethnic Kazakhs to the country; this practice has spread in many states. The repatriation of ethnic Kazakhs to their historic homeland allows solving many socio-economic, demographic problems. At the same time, relocation to a historic homeland causes a new set of problems related to the adaptation of repatriates, their employment, interaction with the local population, search and self-awareness. Integration processes and strategic social programs of Kazakhstan have become the motivation for the formation of the migration interests of ethnic Kazakhs living abroad. © 2019 Zhanbossinova et al.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85071346519&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=33&citeCnt=5&searchTerm=	5
87.	Zhanbossinova, A.S., Kazbekova, A.T.	<u>Chechen frontier in the socio-cultural space of East Kazakhstan in conditions of deportation</u>	The article covers the history of the totalitarian regime in the 40s of the 20th Century on the territory of the Soviet Union, including Kazakhstan as an integral part of the Soviet empire. The chronological framework of events is connected with the Second World War, namely with the aggression of the Third Reich against the USSR. The regime of everyday military life reinforced the repressive actions of the Soviet government, the point was directed against the peoples accused of loyalty to the German troops. Chechens who were deported to Kazakhstan, including East Kazakhstan on 23 February 1944, became one of such ethnic groups affected by the totalitarian policy. The methodological basis of the study was an interdisciplinary approach, theoretical and methodological concepts of 'collective memory' in the projection of collective-individual, 'cultural memory', and 'generational memory'. In the article, based on a wide range of sources and materials, the integration processes of Chechens and the ethnic dialogue with the Kazakh ethnic group and ethnic palette residing in East Kazakhstan in terms of production and outside its sphere are analysed. The research introduces to the scientific circulation archival and documentary sources and records of materials collected as a result of field expeditions, allowing to show the interaction of Chechens with the local population in conditions of deportation, with an attempt to improve social status by participating in socio-economic processes and preserving ethnic identity. The authors believe that the strategy of behaviour and the adaptation of the Chechen ethnos differed by their internal attitude to the status of the deported; their dispersed state and frontier	https://www.scopus.com/record/display.uri?eid=2-s2.0-85070789722&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=34&citeCnt=0&searchTerm=	0

			conditions determined the individual strategy and tactics of survival. © 2019 Zhanbossinova & Kazbekova.		
88.	<u>Zhanbossinova, A.S., Atantayeva, B.Z., Kulshanova, A.A., Shaimerdenova, M.D., Zhirindinova, K.R.</u>	<u>Fragments of oral history based on the materials of filtration and investigation</u> <u>[Fragmentos de historia oral basados en los materiales de filtración e investigación]</u>	The article reveals the issues of the history of the Turkestan Legion on the basis of regional archival materials introduced into scientific circulation for the first time via statistical, special historical and scientific methods at the intersection of interdisciplinary approaches. As a result, the inaccessibility of all archival materials does not yet allow to reveal all aspects of the activities of the participants of the Turkestan Legion. In conclusion, the content of the SMERSH protocols demonstrates the absence of ideological motifs among those who entered the Turkestan Legion, the urge to live was the impetus. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85070086964&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=35&citeCnt=0&searchTerm=	0
89.	<u>Zaykenova, R., Kozhekeyeva, B., Yerzhanova, S., Jakypbekova, M., Mukasheva, M.</u>	<u>The issues of metaphoric competence development on the basis of literary heritage</u> <u>[Las cuestiones del desarrollo de competencias metafóricas sobre la base del patrimonio literario]</u>	The aim of the study is to investigate the issues of metaphoric competence development on the basis of literary heritage via comparative qualitative research methods. As a result, a metaphor is a relationship between two concepts, one of which functions as the source and the other as the target at the conceptual level. In conclusion, in different cultures, metaphor may have different source domains that map onto the same target domain. Many complex conceptual metaphors reflect the various cultural models in that way. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85069222585&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=36&citeCnt=0&searchTerm=	
90.	<u>Danikeeva, A., Nurgaliyeva, S., Rovnyakova, I., Stebletsova, I., Shaimerdenova, Z.</u>	<u>Development of the professional potential at the teacher as a necessary condition</u> <u>[Desarrollo Del Potencial Profesional En El Docente Como Condición Necesaria]</u>	The aim of the study is to investigate the development of the professional potential at the teacher as a necessary condition for implementation of updating education via the methods of the analysis of normative documents, philosophical and psychological-pedagogical literature. As a result, ensuring continuity and integration of educational and professional activity is one of the main conditions of the development of professional and pedagogical potential. In conclusion, the professional potential of the teacher is defined by us as integrated professional and personal characteristics in which there is reflected the complex of the innovative knowledge. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85068913736&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo	0

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91.	<u>Dyachuk, M.I., Abikanov, Y.Z., Kaliakperova, E.N.</u>	<u>Problems and prospects of the mediation development in the Republic of Kazakhstan</u> [Problemas y perspectivas del desarrollo de la mediación en la República de Kazajstán]	The aim of the study is to investigate problems and prospects of the mediation development in the republic of Kazakhstan via comparative qualitative research methods. As a result, an analysis of world experience shows that the notariate, which is a body of indisputable jurisdiction, is fully capable of taking on certain functions aimed at reducing conflict in at least civil and family relations. In conclusion, the bodies of inquiry and investigation are extremely reluctant to accept agreements on settlement of a legal dispute (conflict) already existing in the case through mediation. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85068907715&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University%22+60112447%29&relpos=38&citeCnt=0&searchTerm=	0
92.	<u>Sholpanbaeva, K.Z., Apysheva, A.A., Shaihanova, N.K., (...), Saktayeva, A.A., Dusembaeva, S.K.</u>	<u>Importance of tax regulation of SME innovations in the economic management</u> [Importancia de la regulación fiscal de las innovaciones de las pymes en la gestión económica]	The purpose of this study is to identify an important role of tax regulation in relation to innovation activity. The methodological basis of the research is the fundamental provisions of modern financial science, empirical and logical constructions, methods of comparative analysis and synthesis. As a result, the reduction of interest rates by itself will not lead to the improvement of the tax system. In conclusion, small and medium-sized enterprises form a competitive environment, contribute to the filling of the market with domestic goods and services, and is a breeding ground for medium and large businesses. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85068905124&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University%22+60112447%29&relpos=39&citeCnt=5&searchTerm=	5
93.	<u>Nurgalieveva, S., Mashekenova, A., Idrisheva, Z., Yussubaliyeva, M., Muslimanova, G.</u>	<u>Features of polylingual education development in the Republic of Kazakhstan</u> [Características del desarrollo de la educación polilingüe en la]	The aim of the study is to investigate features of polylingual education development in the Republic of Kazakhstan via comparative qualitative research methods. As a result, the preparation of English-speaking teachers for secondary, technical and vocational education, higher education has become possible within the framework of the international scholarship of the President of the Republic of Kazakhstan Bolashak. In conclusion, along with the content of university training it is necessary to review the organization of the development of professional and pedagogical competencies of students. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85068875356&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-	1

		<u>República de Kazajstán]</u>		ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=40 &citeCnt=1&searchTerm=	
94.	<u>Mailybaeva, G.S., Tulegenova, G.A., Janzakova, S.I., Nurgaliyeva, S.A., Assylova, R.O.</u>	<u>Topical problems of patriotic education at younger schoolchildren in the modern conditions [Problemas de educación patriótica en escolares más pequeños en condiciones modernas]</u>	The presented work considers the problem of patriotic education at schoolchildren as one of the priority directions of Kazakhstan's social development in modern conditions via comparative qualitative research methods. As a result, the paradoxically of the modern situation consists that today's domestic education can be characterized as uncertain, unstable, internally contradictory. In conclusion, the ability to coordinate personal with the public, as one of the most important criteria of patriotic good breeding, is still insufficiently developed at younger school age. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85068857636&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=41&citeCnt=0&searchTerm=	0
95.	<u>Kaziyeu, K., Nurgaliyeva, S., Shalgynbayeva, K., Rovnyakova, I., Stebletsova, I.</u>	<u>The methods on diagnostics of the reflexive abilities at future teachers-psychologists [Los métodos de diagnóstico de las habilidades reflexivas en futuros profesores-psicólogos]</u>	The article is devoted to the research of the main methods of diagnostics of reflexive abilities at future teachers-psychologists in the training process at a higher education institution via comparative qualitative research methods. As a result, before diagnosing and developing reflexive abilities at students, it is necessary to study the level of readiness for the development of these abilities, to prepare them for reflexive activity. In conclusion, each researcher chooses which methods to use for diagnostics, depending on his views, principles, tasks and purposes. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85068846704&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=42&citeCnt=1&searchTerm=	1
96.	<u>Ladzina, N., Akazhanova, A., Zeinolla, S., Nazyrova, L., Nurgaliyeva, A.</u>	<u>Specificity of professional ego- The image of male and female leaders [Especificidad del ego profesional-la imagen de líderes masculinos y femeninos]</u>	Article deals with a comparative analysis of various methodological approaches to ego-image and ego-concept of the leader, potential diagnostic methods of ego-image analysis and creation of a personal profile are proved. As a result, the real and ideal image of male leaders is typical for independent, sociable people with acceptance of fight. In the ideal image, there are differences in the decrease of indicators of dependence and avoidance of a fight. In conclusion, the prevalence of the cooperating and altruistic styles of the interpersonal relations reflects characteristics, which correspond with femininity in society. © 2019, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85068846704&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=42&citeCnt=1&searchTerm=	0

				62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=43&citeCnt=0&searchTerm=	
97.	Zharikova, M.V., Sherstiuk, V.G., Wójcik, W., Syzdykpayeva, A., Muslimov, K.	<u>A model of destructive processes based on interval fuzzy rough soft sets [Model procesów destrukcyjnych opartych na interwałowych rozmytych zbiorach przybliżonych]</u>	This work presents a spatial model of destructive processes for the real-time GIS-based decision support systems. A dynamic fuzzy rough soft topology represents a structure of a geocotechnogenic system that contains a multitude of interacting processes, which evolve in space and time. In disaster conditions, some of the interacting processes can be destructive. Their dynamics are modeled using the spread model. The area of interest is represented as an approximation by a grid of cubic cells. This allows taking into account the peculiarities of the initial information obtained from drones using remote sensing techniques and having a significant uncertainty. The proposed model reduces the computational complexity and provides the acceptable performance of real-time DSS. © 2019, Wydawnictwo SIGMA-NOT. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85065824563&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopusbyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=44&citeCnt=1&searchTerm=	1
98.	Gursky, V.M., Kuzio, I.V., Lanets, O.S., (...), Tolegenova, A., Syzdykpayeva, A.	<u>Implementation of dual-frequency resonant vibratory machines with pulsed electromagnetic drive [Implementacja systemów rezonansowych o dwóch częstotliwościach z wieloma częstotliwościami drgań własnych]</u>	The rational method of implementation of dual-frequency resonant systems with multiple eigenfrequencies of oscillations is considered. The efficiency of implementation of such operation modes is substantiated by the use of a pulsed electromagnetic drive with oscillations frequency of 50 Hz. The analysis of the vibrating system dynamics is carried out on the basis of numerical modelling of the system of nonlinear ordinary differential equations. The influence of inertia of auxiliary oscillating mass on the indexes of acceleration of the working device, namely on its maximum value and on the fundamental harmonics ratio, is investigated. The structure of a partial module, which is a means of modernization of single-frequency resonant systems, is proposed. © 2019, Wydawnictwo SIGMA-NOT. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85065777248&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=scopusbyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=45&citeCnt=10&searchTerm=	10
99.	Yergaliyev, Y., Madiyarov, M.	<u>Implicit iterative schemes for solving stationary problems of an incompressible fluid with a large margin of stability</u>	This paper is devoted to the construction and investigation of difference schemes for equations describing the motion of a viscous incompressible fluid in natural “velocity vector - pressure” variables. Much attention is paid to the implicit difference iterative schemes developed on the basis of the idea of “weak compressibility”. Mathematical problems arising when studying the motion of a viscous incompressible fluid are of current importance both in the theoretical plan and in the study of specific models used in mechanics, physics, and other natural	https://www.scopus.com/record/display.uri?eid=2-s2.0-85062555409&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluster=	0

			sciences to describe real processes. The processes associated with the flow of a viscous incompressible fluid are successfully described by the Navier-Stokes equations. These systems of equations are nonlinear, do not belong to the evolutionary Cauchy-Kovalevskaya type. The absence of a boundary condition for the pressure on the solid walls of the region under consideration, where the values for the velocity vector components and the small parameter for the higher derivatives are given also lead to technological difficulties. These circumstances certainly complicate the search for analytical solutions of such systems of equations, and with the current state of mathematics they can be solved only by computational methods. © Springer Nature Switzerland AG 2019.	r=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=46&citeCnt=0&searchTerm=	
100.	<u>Maksakova, O.V., Kylvshkanov, M.K., Simoės, S.</u>	<u>Dsc investigations of the effect of annealing temperature on the phase transformation behaviour in (Zr–Ti–Nb)_n coatings deposited by CA-PVD</u>	Changes in thermal transformation properties due to annealing and consequent cooling within the temperature ranged from 30 to 1400 °C were studied for (Zr–Ti–Nb)N coatings by differential scanning calorimetry (DSC) measurements in an argon atmosphere. Temperature and phase transformations in investigated coatings occurred in two stages: at intermediate temperature region (>670 °C) and high-temperature region (>1100 °C). There were also noticeable changes in values of heat capacity depending on nitrogen pressure applied during a deposition process. © Springer Nature Singapore Pte Ltd. 2019.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85062456576&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=ab57f709bc09a66d9fa20f78cdccb721&sot=aff&sdt=cl&cluste r=scopubyr%2c%222019%22%2ct%2c%222018%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=47&citeCnt=0&searchTerm=	0
2020 год					
101.	<u>Averyanova, E.V., Shkolnikova, M.N., Rozhnov, E.D., (...), Batashov, E.S., Shaikhova, B.K.</u>	<u>Investigation of the biological activity of Sea buckthorn meal flavonoids using specific biotest systems [Исследование биологической активности флавоноидов облепихового шрота с применением специфических биотест-систем]</u>	The need to expand the raw material base for obtaining flavonoids is due to the wide spectrum of their biological activity. The purpose of this work is to study the biological activity of a complex of bioflavonoids, quercetin and rutin on specific enzyme biotest systems in vitro. The objects of the study were: a complex of bioflavonoids from fat-free sea buckthorn meal Hippophae rhamnoides L. and individual flavonoids rutin and quercetin isolated from it. The study was carried out by methods of detecting the biological activity of substances using specific enzyme biotest systems in vitro. It was revealed that rutin and a complex of bioflavonoids have antioxidant properties - the rate of glutathione reductase reaction increased by 64 and 51% of control, respectively, and catalase - by 15%. Quercetin exhibits antimicrobial activity and also reduces the rate of the enzymatic iNOS reaction by 24% of the control, which indicates the anti-inflammatory properties of this sample. Rutin and a complex of bioflavonoids from sea buckthorn meal increased the iNOS reaction rate by 14 and 28%, respectively, which indicates the immunostimulating properties of these samples. In the course of a microbiological study, it was found that all samples have weak	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100304244&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=4c0c1241eef86c91d2e7e7262d6a6a2b&sot=aff&sdt=cl&cluste r=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=0&citeCnt=1&searchTerm=	1

			bacteriostatic activity against gram-positive and gram-negative bacteria Staphylococcus aureus ATCC 6538 (209-P) and Pseudomonas aeruginosa ATCC 9027. Fungistatic activity was confirmed against the yeast-like fungi Candida albicans ATCC 10231 of quercetin and the complex. The results obtained make it possible to consider a complex of bioflavonoids, quercetin and rutin as promising active substances in antioxidant, antimicrobial, fungistatic and anti-inflammatory drugs. © 2020 Altai State University. All rights reserved.		
102.	<u>Kushnir, E.Yu., Shakhova, A.G., Bazarnova, N.G., Kymbatbekov a, M.K., Afanasenkov a, I.V.</u>	<u>Delignification of plant raw materials under microwave irradiation. Ir spectra and ordering indices of the cellulose [ДЕЛИГНИФИКАЦИЯ РАСТИТЕЛЬНОГО СЫРЬЯ ПОД ВОЗДЕЙСТВИЕМ МИКРОВОЛНОВОГО ИЗЛУЧЕНИЯ. ИК-СПЕКТРЫ И ИНДЕКСЫ УПОРЯДОЧЕННОСТИ ЦЕЛЛЮЛОЗЫ]</u>	The effect of plant raw materials delignification with an 18% solution of peracetic acid under microwave irradiation at a frequency of 2450 MHz on the degree of ordering of the cellulose supramolecular structure was studied. The samples of the obtained cellulose were characterized by FTIR spectroscopy. It was found that microwave heating reduces the rate of ordering of the cellulose supramolecular structure in the process of delignification of wood and straw of annual plants with peracetic acid. In general, the delignification products obtained under microwave irradiation with a treatment time of 30 min are characterized by lower values of the ordering index (0.64-0.79) compared to cellulose samples obtained using heating by thermal conductivity (water bath, 100 °C) at processing time 60 min (0.70-0.86). The IR spectra of cellulose samples obtained with the use of heat conduction heating are characterized by a slightly higher intensity of the band at 1372 cm ⁻¹ in comparison with the delignification products obtained under microwave irradiation. It has been shown that the degree of ordering of the cellulose supramolecular structure under the studied delignification conditions is determined by the peculiarities of the composition of the feedstock and the polysaccharides supramolecular organization in the native state. For cellulose obtained from wood and straw, different dependences of the values of the ordering index on the heating method and the residual content of hemicelluloses are characteristic. © 2020 Altai State University. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100236692&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=4c0c1241eef86c91d2e7e7262d6a6a2b&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=1&citeCnt=0&searchTerm=	0
103.	<u>Rakhadilov, B.K., Baizhan, D.R., Sagdoldina, Z.B., Buitkenov, D.B., Maulet, M.</u>	<u>Phase composition and structure of composite Ti/HA coatings synthesized by detonation spraying</u>	The coating based on a composite mixture of 50Ti-50HA (mass, %) was obtained by detonation spraying. The rational model of detonation spraying and the composition of the 50Ti-50HA mechanocomposite (mass, %) were determined experimentally way. The surface morphology, phase and element composition of coatings were studied by scanning electron microscopy, energy-dispersion analysis, X-ray diffractometer, and Raman spectroscopy. The results of the elemental analysis showed the formation of a composite coating with HA content with a Ca/P=1.53 ratio, close to the indicator of bone tissue. Based on the results of Raman spectroscopy and X-ray phase analysis, it can be said that HA and titanium correct the harmonious composite component. © 2020 Author(s).	https://www.scopus.com/record/display.uri?eid=2-s2.0-85098061788&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=4c0c1241eef86c91d2e7e7262d6a6a2b&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=2&citeCnt=8&searchTerm=	8

104.	<u>Stelmakh, S., Matskevich, I., Barabanova, E.</u>	<u>Results of research of mental health of teenagers in conflict with the law in East Kazakhstan region</u>	The article systematizes the results of the study of adolescent health in conflict with the law in East Kazakhstan region. Adolescent mental health is considered a basic condition for development and well-being. It takes into account international practice of working with children in conflict with the law, which updates the needs of children for special work and special assistance. Mental health as a basic basis for assessment is given a significant place. In order to reduce the risks of repeated conflicts with the law and to plan recovery programs, it is necessary to understand the basis of well-being - the state of mental health of children. The study was conducted on a sample of 511 people using the methods MAYSI-2 and STAB. On the basis of the study, activities can be planned that will help adolescents to receive assistance in the field of mental health. © The Authors, published by EDP Sciences, 2020.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85098506876&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=4c0c1241eef86c91d2e7e7262d6a6a2b&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=3&citeCnt=0&searchTerm=	0
105.	<u>Rakhadilov, B.K., Kozhanova, R.S., Popova, N.A., Nugumanova, A.B., Kassymov, A.B.</u>	<u>Structural-phase transformations in 0.34C-1Cr-1Ni-1Mo-Fe steel during plasma electrolytic hardening</u>	Structural-phase transformations in 0.34C-1Cr-1Ni-1Mo-Fe steel during plasma electrolytic hardening were investigated. Electrolytic-plasma hardening of steel samples was carried out by surface quenching with rapid concentrated heating of the surface by plasma action and subsequent rapid cooling by heat removal from the depth of the sample by electrolyte jet. Plasma electrolytic hardening was carried out in the cathode mode in an electrolyte made from an aqueous solution containing 20 % sodium carbonate and 10 % carbamide. To study the structural-phase states of the modified layer, we used the method of transmission diffraction electron microscopy on thin foils. The study of steel samples was carried out before and after the plasma electrolytic hardening. Initially, the steel was a mixture of pearlite and ferrite grains. Surface hardening of 0.34C-1Cr- 1Ni-1Mo-Fe ferrite-pearlite steel led to a change in the structural-phase state and the formation of a packet-lamellar martensite structure. It was found that PEH leads to distortion of the crystal lattice and the formation of long-range internal stresses, as well as to the release of small particles of cementite and carbide of M ₂₃ C ₆ type, uniformly distributed throughout the volume of the material. Surface hardening led to the increase in all quantitative parameters of the fine structure (ρ , $\rho_{\pm}$, χ , σ_L , σ_d). © 2020 B.K. Rakhadilov et al., published by Sciendo 2020.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85103663422&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=4c0c1241eef86c91d2e7e7262d6a6a2b&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=4&citeCnt=2&searchTerm=	2
106.	<u>Nugumanova, A., Ahmed-Zaki, D., Mansurova, M., (...), Apayev, K., Maulit, A.</u>	<u>Unsupervised keyword extraction using non-smooth NMF</u>	In this paper, we introduce a novel unsupervised method for keyword extraction, based on non-smooth nonnegative matrix factorization. We generate a document-term matrix from a given corpus and factorize it into the product of two special matrices: documents-by-topics and topics-by-terms. In our method, we choose a low degree of factorization ($k=3,4,5$) and use only topics-by-terms matrix to extract top N keywords for each of k topics. Then we merge these obtained $N*k$ keywords into a resulting keyword list excluding duplicates and assign keywords to documents. We validate our method with a large text corpora: “Introduction to information retrieval” textbook (by Manning, Raghavan and Schütze), available online. The result of our method is compared with three popular unsupervised	https://www.scopus.com/record/display.uri?eid=2-s2.0-85097674147&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo	0

			keyword extraction algorithms: TextRank, Rake and Yake. The experiments confirm that the proposed method shows the promising performance in terms of precision, recall and F-measure with respect to various number of candidate keywords. © 2020 Little Lion Scientific. All rights reserved.	v+East+Kazakhstan+University%22+60112447%29&relpos=5&citeCnt=0&searchTerm=	
107.	<u>Rakhadilov, B., Buitkenov, D., Sagdoldina, Z., (...), Maulet, M., Maulit, A.</u>	<u>Properties of Detonation Coatings after Thermal Annealing</u>	the article considers the results of research $\mathrm{T}_{\mathrm{i}}\mathrm{S}_{\mathrm{i}}\mathrm{C}_{\mathrm{2}}$ -based powder coatings obtained by detonation spraying on the surface of $\mathrm{U}_{9}\mathrm{Y}_{9}$ (equivalent to N9) tool steel. It is determined the phase composition of coatings changes during detonation spraying as a result of the decomposition of $\mathrm{T}_{\mathrm{i}}\mathrm{S}_{\mathrm{i}}\mathrm{C}_{\mathrm{2}}$ powder into TiC. The influence of thermal annealing on the phase composition and corrosion resistance of $\mathrm{T}_{\mathrm{i}}\mathrm{S}_{\mathrm{i}}\mathrm{C}_{\mathrm{2}}$ / $\mathrm{T}_{\mathrm{i}}\mathrm{C}$ multiphase coatings was studied. Vacuum thermal annealing (10^{-2} Pa) was performed in the temperature interval of 700-900°C for 1 hour. The results of corrosion tests showed that the corrosion rate of the coated steel sample after annealing 800°C is 5.5 times less than by a comparison of the uncoated steel U9. © 2020 IEEE.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100107845&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=6&citeCnt=1&searchTerm=	1
108.	<u>Meruvert, M., Rakhadilov, B., Stepanova, O., (...), Kassymov, A., Kakimzhanov, D.</u>	<u>Structure, Hardness and Wear Resistance of the NiCr-Al Detonation Coating</u>	this paper discusses the results of studies of the properties of Ni-Cr-Al wear-resistant detonation coatings obtained at different values of the volume of filling the detonation barrel with an explosive acetylene-oxygen mixture. When the barrel is filled with an explosive gas mixture of 40%, the coating is not dense enough, with noticeable boundaries between individual particles, which may be the result of insufficient heating and acceleration of the particles of the sprayed powder. Higher values of microhardness were obtained at 50% filling of the barrel. The results of tribological tests of coatings have shown that the coating applied when the volume of filling the detonation barrel with an explosive mixture is up to 60 %, has a lower wear rate than other coatings. Visible that the mass loss at 50% of the detonation barrel filling volume is less than other coatings © 2020 IEEE.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100090016&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=7&citeCnt=1&searchTerm=	1
109.	<u>Zhantassova, Z., Mukasheva, R., Rakhmetullina, Z., Seitakhmetova, Z.</u>	<u>Mathematical Model of Curriculum Development Taking into Account Individual Preferences of Students</u>	The research is aimed at improving the effectiveness of network interaction management in the implementation of educational programs of higher education institutions through the use of intelligent methods and algorithms for decision support. The obtained results allow to improve the management of network interaction between universities in the modern system of higher education through the use of intelligent decision-making support tools when building and updating of individual educational plans of students enrolled in the online learning program and determining the most optimal combination of individual	https://www.scopus.com/record/display.uri?eid=2-s2.0-85097680879&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-	1

			training plans from the standpoint of the needs of the students and performance of restrictions on resources of universities. © 2020 IEEE.	ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=8&citeCnt=1&searchTerm=https://www.scopus.com/record/display.uri?eid=2-s2.0-85094209960&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=9&citeCnt=1&searchTerm=	
110.	<u>Alimbetov, U.S., Larichkin, F.D., Krause, N.V., Ivanova, L.V., Samusenko, E.A.</u>	<u>Formation and development of digital economy in Kazakhstan</u>	The article discusses the current stage of transition to digitization, the role of information and communication technologies (ICT) in the industrial revolution, gives a brief description of technological structures in the world of technical and economic development. The natural resource-based economies of the Republic of Kazakhstan and the Russian Federation are quite similar; therefore, it is appropriate to take into consideration positive aspects of development and share of experiences between the two countries, including that in the field of forming and developing digitization. The main condition for the transformation of the national and global economy into an electronic format is the level of development of the ICT industry. In the article the level and dynamics of the basic indicators of the functioning of the ICT sector in Kazakhstan are analyzed. The analysis of the share of production and services in the ICT industry in relation to GDP in dynamics is presented. GDP dependence on production volumes and ICT services is analyzed using economic-mathematical modelling. Recommendations on using the research results for other territories, including the Russian Arctic zone are given. © Published under licence by IOP Publishing Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85094209960&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=9&citeCnt=1&searchTerm=	1
111.	<u>Urmashhev, B.A., Kunelbayev, M., Temirbekov, A.N., (...), Zhaksylykova, Z., Amenova, F.</u>	<u>Determination of the main parameters of the photovoltaic solar module</u>	This article deals with the determination of the main operating parameters of a photovoltaic solar module. In laboratory tests, the study of the dependence of current, voltage and power on time and density of solar radiation, as well as monitoring of environmental parameters: temperature and humidity of the outside air. Analysis of the test results shows that a photoelectric module with an installed capacity of 800 W and a total battery capacity of 800 Ah provides the electric power industry with a daily consumption of 2.0.. 2.2 kWh. The discharge time of the battery varies from 11.7 to 3.5 hours when the average electric load of the consumer changes from 300 to 1000 watts. © 2020 The Authors, published by EDP Sciences.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85094818712&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=10&citeCnt=0&searchTerm=	0
112.	<u>Dakieva, K.Z., Tsyganov, A.P., Egorina, A.V., (...), Sadykanova, G.E., Chursin, A.S.</u>	<u>The effect of work environment on the biochemical profile of workers operating at the Ust-Kamenogorsk Titanium and Magnesium Plant</u>	This study explored biochemical parameters of blood in workers operating in the main workshops at the Ust-Kamenogorsk Titanium and Magnesium Plant: magnesium (Mg) workshop (furnace operator, chlorinator operator, and electrolyzer operator), titanium tetrachloride workshop (mill operator and titanium (Ti) production operator), and Ti sponge workshop (reduction furnace operator, knockout operator, and crushing machine operator). The control group consisted of 112 male workers, whose duties were not related to similar occupational hazards (plumbers, electricians, janitors cleaning the administrative	https://www.scopus.com/record/display.uri?eid=2-s2.0-85092797199&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%	1

			building, security guards, and carpenters). The activity of gamma-glutamyl transferase, aspartate aminotransferase, alanine aminotransferase, creatine phosphokinase, lactate dehydrogenase, cholinesterase, alkaline phosphate, and α -amylase and the concentration of serum calcium, Mg, phosphorus, and chloride ion were measured. To clarify the nature of pathological changes that occur in the body of mammals under the influence of toxic gases and dust, this study also included 130 sexually mature, white female rats. Animals and workers were exposed to examination of the same indicators. Changes in test results of enzymes and minerals indicated a negative impact that harmful production factors may have had on the bodies of workers. Findings showed significant fluctuations in enzyme and mineral blood profiles of workers as compared to controls. In the test animals, changes in the enzyme activity and mineral blood composition were as diverse as in the workers. These findings will be useful when identifying markers of a negative impact of harmful substances in an industrial workplace and when developing measures to prevent employees from developing an occupational disease. © The Author(s) 2020.	2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=11&citeCnt=1&searchTerm=	
113.	<u>Rakhadilov, B.K., Kenesbekov, A.B., Sagdoldina, Z.B., Stepanova, O.A.</u>	<u>Tribological and Corrosion Characteristics of Coatings Based on Chromium Nitride Deposited by the Mechanochemical Method</u>	A study was conducted to evaluate the performances against wear and corrosion of Cr ₂ N thin films. The thin film was synthesized onto steel substrates SHKH15, using mechanochemical method. The experimental work was achieved using ball-on-disc configuration in dry conditions against Al ₂ O ₃ balls. The corrosion resistance was determined by potentiometric method. The main conclusions are: corrosion testing in 4 % solution of nitric acid (HNO ₃) solution indicated that Cr ₂ N is improved anticorrosion performance when compared to the steel substrate SHKH15; the Cr ₂ N coating presents the better tribological properties. Tribological tests against, that Cr ₂ N coating presents the lowest coefficient of friction relatively to the steel substrate SHKH15. © Published under licence by IOP Publishing Ltd	https://www.scopus.com/record/display.uri?eid=2-s2.0-85087929671&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopusbyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=12&citeCnt=1&searchTerm=	1
114.	<u>Sagdoldina, Z.B., Rakhadilov, B.K., Akatan, K., Kabdrakhmanova, S.K., Kurbanbekov, S.R.</u>	<u>Changes in structure of PA6 during electron irradiation</u>	The impact of electron irradiation on the structure of the PA6 polymer is researched in this article. The electron beam irradiation of samples from PA6 was carried out on an industrial pulse accelerator ILU-10 under different modes. Beam energy and radiation dose varied. The structural changes of PA6 were studied by scanning electron microscopy, X-ray phase analysis, IR Fourier spectroscopy, and the thermal characteristics of the polymer were studied by differential scanning calorimetry. It was revealed that after electron beam treatment, the melting temperature of the PA6 polymer decreases from 214 °C to 217 °C. It was found that electron beam treatment leads to a change in the surface morphology, that is, the surface becomes rough, the depth of the roughness and the structure of spherulites increase. © 2020 IOP Publishing Ltd. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85087449416&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopusbyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=12&citeCnt=1&searchTerm=	0

				%22+60112447%29&relpos=13&citeCnt=0&searchTerm=	
115.	<u>Igibaev, S.K.</u>	<u>From the history of gold mining on the territory of modern Kazakhstan: The end of the XIX - beginning of the XX centuries [Из истории золотодобычи на территории современного Казахстана: конец XIX - начало XX веков]</u>	The article deals with the origin and development of the gold industry on the territory of modern Kazakhstan. Gold mining emerged and developed as a separate branch of the mining industry based on the investment of private capital and free labor. The role of merchants and merchant companies in the development of gold placers and their gradual displacement by large joint-stock companies, foreign firms in the development of rich gold-bearing systems of the territory is shown. Besides the gold, an additional source of income for gold producers was the land allocated to them for mines and mines. On the basis of introduction of new archival and other sources into scientific circulation and their analysis, the author comes to the conclusion that the conditions of workers' employment in the gold industry were mainly capitalist; however, until the mid-90s of the XIX century there were remnants of pre-capitalist features. With the further development of capitalist relations, the deepening of property and social inequality in the village, the formation of an excess of workers, there was no need for gold miners to keep cheap labor by debt bondage. © 2020 by International Network Center for Fundamental and Applied Research Copyright © 2020 by Academic Publishing House Researcher s.r.o.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85088684228&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholyv+East+Kazakhstan+University%22+60112447%29&relpos=14&citeCnt=0&searchTerm=	0
116.	<u>Karmenova, M., Nugumanova, A., Tlebalidova, A., (...), Popova, G., Sedchenko, A.</u>	<u>Seismic Assessment of Urban Buildings Using Data Mining Methods</u>	Seismic assessment of an urban environment is a time-consuming and complicated task that also requires considerable financial resources. In this paper, we suggest an approach to the seismic evaluation of urban buildings based on data mining methods. Regarding this topic, researches have been conducted on 163 typical objects with 19 different features including various types of buildings. The k-means method was used to create clusters of similar objects, it also allowed us to determine dependencies between data. More accurate clustering models were obtained using a hierarchical algorithm. The quality of the proposed methods was evaluated to ensure the reliability of the obtained results. © 2020 ACM.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85086180747&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholyv+East+Kazakhstan+University%22+60112447%29&relpos=15&citeCnt=5&searchTerm=	5
117.	<u>Erulanova, A., Yessenbekova, G., Zhanysbayeva, K., (...), Zhantassova, Z., Zhomartkyzy, G.</u>	<u>Hardware and Software Support of Technological Processes Virtualization</u>	This paper proposes development of is to develop hardware virtualization technology for complex systems. Within the framework of the study to developed the concept of hardware virtualization of the IT infrastructure of complex systems; is developed a scenario for virtualization solutions for complex systems; is developed a methodology for the formation of hardware virtualization infrastructure. © 2020 IEEE.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85086471998&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-	2

				ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=16&citeCnt=2&searchTerm=	
118.	<u>Rakhadilov, B.K., Miniyazov, A.Z., Skakov, M.K., (...), Tulenbergenov, T.R., Sapataev, E.E.</u>	<u>Structural Modification and Erosion of Plasma-Irradiated Tungsten and Molybdenum Surfaces</u>	Abstract: Data for the structural modification and erosion of plasma-irradiated tungsten and molybdenum surfaces are reported. It has been found that the irradiated specimen surface shows a relief due to nonuniform etching. It has been shown using metallographic examination that the relief of a tungsten surface irradiated at 1000 and 1500°C is less pronounced than after irradiation at 700°C. The surface roughness of tungsten has been found to be the highest after irradiation at 1500°C, which is related to the formation of fine cracks. It should be noted that after irradiation by plasma flows simulating steady-state conditions, considerable erosion on irradiated tungsten and molybdenum surfaces is observed only at high temperatures. Also, it has been established that the crack size grows when the ion energy rises from 1.5 to 2.0 keV. It has been shown that tungsten irradiation by a stationary plasma forms 100- to 500-nm etch pits inside grains, and when tungsten is irradiated by an accelerating voltage of 1.6 keV, a large amount of fine pores (from 0.2 to 1.0 µm across) appear as a result of surface etching. © 2020, Pleiades Publishing, Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85083979370&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=17&citeCnt=4&searchTerm=	4
119.	<u>Dashkovskiy, P.K., Zhanbosinova, A.S.</u>	<u>The Muslim religiosity of the Kazakhs in the context of the imperial policy of Russia</u>	The article is devoted to the development of Islam in Kazakhstan in the Russian Empire. The authors, relying on a wide range of archival materials and publications of modern times demonstrated the evolution of Muslim views of the Kazakh population from its complete rejection to the struggle for their rights in freedom of conscience and religion. Tatar, Bukhara, Tashkent Ministers of religious cult played an important role in the spread of Islam in Kazakhstan. Among the issues covered in the article, special attention was paid to the analysis of the content of the Imperial policy towards the Kazakh population, namely Russification and Christianization, in the prohibition and closure of spiritual and educational institutions, in preventing the construction of architectural religious buildings. The government of the Russian Empire regulated the activities of Muslim clergy, as well as controlled the pilgrimage of Muslims. Such strict state control eventually led to the emergence of protest moods and the opposite transformation of the religious Outlook of the Kazakhs, who converted to Islam largely as a result of administrative islamization. Copyright © 2020 by International Network Center for Fundamental and Applied Research.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85082310290&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=18&citeCnt=0&searchTerm=	0
120.	<u>Zhaxylykova, A., Ordabayeva, M., Akhmetova, Z., Zhumagazyeva, A., Smagulova, G.</u>	<u>Management of employee's voice in the context of changing economic market relations: A case of Kazakhstan</u>	This paper addresses the key aspects of project management of organizational performance in the context of changing economic market relations and seeks for an alternative approach to fill the representation gap. Employee's voice is chosen as the case of organizational performance, as it is important in many ways. In this context, key question is whether partnership mechanism could help labor union revival and increase mutual gains outcomes. In order to address the issues, first	https://www.scopus.com/record/display.uri?eid=2-s2.0-85081376918&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016	1

			of all, the paper reviews the concept of employee's voice, the features of direct communication, and representative participation, including consultation and partnership. Next, it explores the recent evolution of industrial relations in Kazakhstan and explains why the representation gap is important. Then it looks into the real business case study of the National Railway Company Kazakhstan to understand the features of partnership. The conclusion suggests that there is a need for a mix of direct communication and representative participation to fill the representation gap effectively, and partnership could be an effective mechanism to establish the cooperative industrial relations. © 2020 LLC CPC Business Perspectives. All rights reserved.	f00445&sot=aff&sdt=cl&cluste r=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=19&citeCnt=1&searchTerm=	
121.	Kitapbaeva, A.A., Kabataeva, Z.K., Alipina, Z.B., Komekova, G.K., Tuktassinova, A.A.	The research of winter hardiness and seasonal development of some woody plants in East Kazakhstan	The article presents the results of research on the assessment of winter hardiness and seasonal development of some woody plants of East Kazakhstan flora in order to study the adaptation parameters of introducers to new soil and climatic conditions. Phenological observations made it possible to evaluate the prospects of the species and its further use in the culture of the region. The research team identified perspective tree-shrub introducers of East Kazakhstan natural flora and foreign origin for inclusion in the range of green construction. © Published under licence by IOP Publishing Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85078433794&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluste r=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=20&citeCnt=1&searchTerm=	1
122.	Rakhadilov, B.K., Kakimzhanov, D.N., Botabaeva, G., (...), Kantai, N., Bayatanova, L.B.	Changes in the structure and properties of ZrO₂detonation coatings during annealing	The article studied the effect of annealing on the structure and properties of zirconium dioxide coatings obtained by detonation spraying. Detonation spraying was realized on a computerized detonation spraying complex of the new generation CCDS2000. Determined that coatings made of zirconium dioxide are characterized by high adhesive strength of adherence to the substrate. Thermal annealing of coated samples was performed at temperatures of 900-1200 ° C. It was determined that the microhardness of zirconium dioxide coatings increases by 10-25% depending on the annealing temperature after annealing. The results of nanoindentation showed that the nanohardness of the coatings after annealing at 1000 ° C increases by 50%. It was determined that after annealing at 1000 ° C, the elastic modulus of the coatings increases, which indicates a decrease in plasticity and an increase in the strength of the coatings. X-ray diffraction analysis showed that the phase composition of coatings before and after annealing consists of t-ZrO ₂ . After annealing occurs there is an increase in the degree of t-ZrO ₂ tetragonality. Electron microscopic analysis showed that an increase in the number and size of micro-continuity in the form of thin layers after annealing. Determined that increase the hardness of zirconium dioxide after annealing at	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102844794&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluste r=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=21&citeCnt=0&searchTerm=	0

			900-1200 ° C is associated with a higher degree of tetragonality t-ZrO ₂ phase. © 2020. All Rights Reserved.		
123.	<u>Buitkenov, D.B., Rakhadilov, B.K., Sagdoldina, Z.B., Erbolatuly, D.</u>	<u>Reserach of the mechanic-tribological characteristics of Ti₃SiC₂/TiC coatings after annealing</u>	This article investigates the influence of thermal annealing on microhardness and wear resistance of the surface of steel U9/Y9 protected by a composite coating Ti ₃ SiC ₂ /TiC obtained by detonation sputtering. Thermal annealing was performed in the range of temperatures 700-900 ° C during 1 hour. Following annealing the formation of TiO ₂ and an increase in the phase content of Ti ₃ SiC ₂ are observed. Higher microhardness was obtained in coatings subjected to annealing at 800 ° C, which can be explained by an increase in the content of carbonized titanium. As the annealing temperature rises further, the thickness of the oxide layer increases, leading to a decrease in the microhardness for the coatings annealed at 900 ° C. According to the results of tribological tests, formation of the oxide increases wear resistance of Ti ₃ SiC ₂ /TiC composite surface coatings. © 2020. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102833797&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=22&citeCnt=10&searchTerm=	10
124.	<u>Rakhadilov, B.K., Tabiyeva, Y.Y., Uazyrkhanov a, G.K., Zhurerova, L.G., Baizhan, D.</u>	<u>Influence of electrolytic-plasma surface quenching on the structure and strength properties of ferritic-pearlite class wheel steel</u>	This paper examines the influence of electrolyte-plasma surface hardening on the structure and microhardness of wheel steel mark 2. In the work electrolyte-plasma surface quenching was carried out in an electrolyte made from an aqueous solution of 10% carbamide (NH ₂) ₂ CO+20% sodium carbonate Na ₂ CO ₃ . The work investigated the strength limit, fluidity and wear intensity of the wheeled steel after electrolyte-plasma surface quenching. After electrolytic-plasma surface quenching, a batch, high-temperature plate and low-temperature plate martensite is formed on the surface of the sample. Investigations have been carried out on microhardness determination on cross-section of wheel steel samples after quenching in aqueous solution of electrolyte. It is found that after electrolytic-plasma surface quenching, the microhardening values of this hardened surface layer increased on ≈ 3 times compared to the steel matrix, and the thickness of the hardened layer is 1000-1500 μm. According to the results of the scanning transmission electron microscopy, the electrolyte-plasma surface quenching caused a change in the morphological constituents of steel mark 2. In the initial state, the matrix of steel is a α -phase, the morphological components of which are fragmented ferrite, unfragmented ferrite and pearlite. © 2020. All Rights Reserved	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102829876&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=23&citeCnt=3&searchTerm=	3
125.	<u>Rakhadilov, B.K., Buytkenov, D.B., Kakimzhanov, D., Kozhanova, R.S., Bektasova, G.S.</u>	<u>The effect of detonation spraying on the phase composition and hardness of Al₂O₃ coatings</u>	The article were studied the effect of detonation spraying on the structure and properties of Al ₂ O ₃ coatings. It was determined that reducing the delay time between shots is leading to increase the hardness and elastic module of Al ₂ O ₃ coatings. It was found on the basis of X-ray diffraction analysis that the main reason for the increasing in hardness with a decreasing in the delay time between shots is associated with increasing in the volume fraction of a -Al ₂ O ₃ phase. The studies of X-ray diffraction presented that the highest content of the phase is achieved when the coatings are formed with a delay time between	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102822231&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=23&citeCnt=3&searchTerm=	6

			shots of 0.25 s. It was found that increasing in the volume fraction of the α - Al_2O_3 phase is caused by the secondary recrystallization γ a, which occurs due to the heating of particles during coating formation, i.e. due to increasing in temperature above 1100 °C in single spots of the coating when they are put each other. © 2020. All Rights Reserved.	2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=24&citeCnt=6&searchTerm=	
126.	Buitkenov, D.B., Rakhadilov, B.K., Sagdoldina, Z.B., Maulet, M.	Obtained of powder coatings by detonation spraying	In this work, consider the aspects of obtaining powder coatings that possessing certain working properties obtained by detonation spraying. Experimental research were carried on the effect of technological parameters of the detonation spraying process on the phase composition and properties of Ti-Si-C coatings. It is determined that when the volume of filling the detonation barrel with an explosive mixture increases to 70% in the detonation wave flow, the Ti_3SiC_2 powder partially decomposes into TiC consequently the high-speed shock interaction of heated to high temperatures. Installed that when filling the barrel with an explosive mixture of 50% and 60%, a low extent of decomposition of Ti_3SiC_2 powder can be achieved. It is determined that an increase in the volume content of the TiC phase in the composition of coatings bring to a decrease in the hardness of the Ti-C-Si coating. © 2020. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102819630&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=25&citeCnt=0&searchTerm=	0
127.	Rakhadilov, B.K., Satbayeva, Z.A., Kozhanova, R.S., (...), Rakhadilov, M.K., Botabayeva, G.B.	Influence of electrolytic-plasma hardening modes on structure and hardness of 0.34Cr-1Ni-Mo-Fe steel	The article presents the results of studying the process of electrolytic-plasma hardening of 0.34Cr-1Ni-Mo-Fe steel by surface hardening, as well as the results of the current-voltage characteristics of the cathodic electrolytic-plasma process depending on the composition of the electrolyte. Temperature-time and special modes of electrolytic-plasma hardening of steel 0.34Cr-1Ni-Mo-Fe were determined. The optimal composition of the electrolyte for electrolytic-plasma hardening has been determined, providing a relatively high heating rate and high hardness of the steel surface. It has been determined that after the electrolytic-plasma hardening, the microhardness of 34KhN1M steel increases 2.9 times due to the formation of fine martensite. In this case, the basis of the material does not change, it consists of a ferrite-pearlite structure. © 2020. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102797967&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=26&citeCnt=0&searchTerm=	0
128.	Maulet, M., Rakhadilov, B.K., Sagdoldina, Z.B., Kassymov, A.B., Kakimzhanov, D.N.	Influence of the detonation-spraying mode on the phase composition and properties of Ni-Cr coatings	In work considers the results of studies of the phase composition and mechanical-tribological properties of Ni-Cr detonation coatings obtained at different values of the volume of filling the detonation barrel with an explosive acetylene-oxygen mixture. Analysis of the obtained experimental results indicates that the phase composition and properties of detonation coatings strongly depend on the technological parameters of spraying. When the barrel is filled with an explosive gas mixture of 40%, the coating is not dense enough, with noticeable boundaries between individual particles, which may be the result of insufficient heating and acceleration of the particles of the sprayed powder. It is determined that when the volume of filling the detonation barrel with an explosive mixture is up to 60%,	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101561520&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo	6

			there is a widening and a decrease in the intensity of the main peaks. Higher values of microhardness were obtained at 50% filling of the barrel. The results of tribological tests of coatings showed that the coating applied when filling the detonation barrel with an explosive mixture of up to 60% has a lower coefficient of friction than other coatings. © 2020. All Rights Reserved.	v+East+Kazakhstan+University%22+60112447%29&relpos=27&citeCnt=6&searchTerm=	
129.	<u>Rakhadilov, B.K., Skakov, M.K., Miniazov, A.Z.H., (...), Khassenov, A.K., Karabekova, D.Zh.</u>	<u>Deuterium trapping in tungsten irradiated with deuterium plasma at high temperatures</u>	This work was attended to the study of the accumulation of deuterium, also to the investigation of the process of capture of deuterium in tungsten samples upon irradiation with a plasma beam. It was shown that after irradiation on the surface, a change in the surface is observed as the development of the relief as a result of nonuniform etching of the surface. The degree of change in the relief and structure of the surface layer of the irradiated samples depends on the irradiation temperature. The accumulation of deuterium tungsten under irradiation with deuterium plasma was studied. The conducted thermal desorption analysis of tungsten samples irradiated with deuterium plasma showed that the tungsten surface is saturated with deuterium. The data obtained by the method of emission spectrometry and thermal desorption spectrometry showed that the majority of the captured deuterium accumulates at a depth under the 7 µm. © 2020 E.A.Buketov Karaganda State University Publish House. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100217792&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopusbyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=28&citeCnt=0&searchTerm=	0
130.	<u>Temirbekov, N.M., Takabayev, T.M., Baigereyev, D.R., (...), Temirbekov, A.N., Omirzhanova, B.B.</u>	<u>On the use of the loud platform in the work of the scientific and educational cluster</u>	The process of designing and creating an integrated distributed information system for storing digitized works of scientists of research institutes of the Almaty academic city is analyzed. The requirements for the storage of digital objects are defined; a comparative analysis of the open source software used for these purposes is carried out. The system fully provides the necessary computing resources for ongoing research and educational processes, simplifying the prospect of its further development, and allows to build an advanced IT infrastructure for managing intellectual capital, an electronic library that is intended to store all books and scientific works of the Kazakhstan Engineering Technological University and research institutes of the Almaty academic city. © The Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0, https://creativecommons.org/licenses/by/4.0/), which permits use, distribution, and reproduction in any medium, provided that the Article is properly cited.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85097615505&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopusbyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=29&citeCnt=0&searchTerm=	0
131.	<u>Rakhadilov, B., Satbayeva, Z., Sagdoldina, Z., Kozhanova, R.</u>	<u>Influence of plasma electrolytic hardening on the structure and properties of 20Cr2ni4a steel</u>	This work presents the results of plasma electrolytic hardening of steel 20Cr2Ni4A. The optimal electrolyte composition for electrolytic-plasma hardening of steels containing 20 % sodium carbonate and 20 % urea has been determined. As a result, a modified layer was obtained on the surface of steel with increased hardness and wear resistance. In this case, the basis of the material does not change, it consists of a ferritic-pearlitic structure, i.e. the part retains its viscous core, and the surface layer contains carbide particles. The presence of carbide particles in the surface layers has a positive effect on the performance	https://www.scopus.com/record/display.uri?eid=2-s2.0-85096806095&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopusbyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=29&citeCnt=0&searchTerm=	0

			properties of the parts, since small carbides keep the products from abrasion. © 2020 TANGER Ltd., Ostrava.	ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=30 &citeCnt=0&searchTerm=	
132.	<u>Kudreeva, L.K., Kurbatov, A.P., Kamysbayev, D.K., (...), Serikbayev, B.A., Dauletbay, A.</u>	<u>Electrochemical separation of molybdenum and tungsten using aqueous-organic electrolytes</u>	Molybdenum is one of the valuable metals for the industry; its special properties make it extremely urgent to study the process of separation of molybdenum from other impurities. The article considers the optimization of electrochemical separation of molybdenum from Mo-W system. The electrochemical dissolution of molybdenum and tungsten in solutions of LiCl and NH ₄ NO ₃ in dimethylsulfoxide was studied using polarization curves and calculation of the efficiency of anodic dissolution of molybdenum in the presence of tungsten. The electrolyte with a composition of 0.5 M LiCl; 5.2 M dimethylsulfoxide; 32.2 M water was selected as an effective solution for the electrochemical separation of molybdenum in the potential range of 1.0–2.2 V. Results obtained in this study can be used for the development of selective separation method in the molybdenum production. © 2020 Eurasian Chemico-Technological Journal.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85094138398&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopusbyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=31 &citeCnt=0&searchTerm=	0
133.	<u>Aubakirova, R., Daumova, G., Seraya, N., Afanasenkova, I.</u>	<u>Sorption extraction of heavy metal ions from wastewater by natural and synthetic sorbents</u>	East Kazakhstan region is the center of non-ferrous metallurgy of the Republic of Kazakhstan. There are large metallurgical enterprises in the region that pollute ground and surface waters with heavy metals. Wastewater treatment of large enterprises, which include Ust-Kamenogorsk metallurgical complex "Kazzinc", is an urgent problem. Among the chemical and physical-chemical methods of purification, sorption is very advantageous due to the opportunity to seal and neutralize the waste. Sorbent of different nature for purification of the given metallurgical complex wastewater is used in the work: natural material - shungite, activated by chlorhydric acid and water; polymer-protected hydrogel with embedded particles of activated shungite. Polymer-protected hydrogel is a cross-linked polymer based on acrylamide and N,N'- methylene- polyacrylamide, bis-acrylamide. Preliminary tests were carried out on model solutions in order to determine the optimal contact time of the sorbent with the solution. Static conditions were chosen to obtain higher values of extraction coefficients. Studies conducted on real wastewater have shown that the most effective sorbent is a polymer-protected hydrogel with activated shungite particles. Shungite is easily introduced into the polymer in the mixing process and requires less energy consumption for distributing in the polymer. Mineral and carbon parts of shungite can be introduced nearly into all polar and nonpolar polymers that is due to the components contained in shungite (noncrystalline carbon and silicon dioxide with hydrophilous and hydrophobic properties), due to metastability of shungite carbon structure, as well as possibility to change surface characteristics during chemical modification. © 2020, AIDIC Servizi S.r.l.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85092098030&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopusbyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=32 &citeCnt=6&searchTerm=	6

134.	<u>Aubakirova, R.A., Kuashpaveva, A.N., Kabdulkarim ova, K.K., (...), Shaihova, B.K., Mukazhanova, Z.B.</u>	<u>Some features of the determination of trace amounts of arsenic in wastewater using inductively coupled plasma atomic emission spectrometry</u>	In this study, optimization of the conditions of the arsenic determination by inductively coupled plasma atomic emission spectrometry was investigated. Comparison with the results of the analysis obtained by the standardized methods of colorimetry and photometry was performed. The proposed method was found easy to use with the reduction of the sample preparation time and the cost of additional methods for wastewater treatment. © by PSP	https://www.scopus.com/record/display.uri?eid=2-s2.0-85091920185&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=33&citeCnt=0&searchTerm=	0
135.	<u>Rakhadilov, B.K., Buranich, V.V., Satbayeva, Z.A., (...), Kozhanova, R.S., Pogrebnjak, A.D.</u>	<u>The cathodic electrolytic plasma hardening of the 20Cr2Ni4A chromium-nickel steel</u>	In order to obtain the modified surface structure of the 20Cr2Ni4A steel plasma electrolytichardening (PEH) method was used. The surface hardening process was conducted in the aqueous electrolyte solution of 20% sodium carbonate and 20% urea. The sample consists of a ferritic-pearlitic structure, i.e. the part retains its viscous core, and the surface layer contains carbide particles. Hardening process induces martensite transformation and creation of carbide particles in the surface layer. The presence of carbide particles in the surface layers has a positive effect on the tribo-mechanical performance. Hardened structure 600 µm long was obtained with hardness increase up to 520 HV and 2.5 times higher wear resistance. Tribological test results showed the difference of the coefficient of friction as a function of surface roughness determined by plasma-electrolytic hardening process. © 2020 The Author(s).	https://www.scopus.com/record/display.uri?eid=2-s2.0-85091452189&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=34&citeCnt=15&searchTerm=	15
136.	<u>Tlebaldinova, A., Nugumanova, A., Baiburin, Y., (...), Karmenova, M., Ivanov, A.</u>	<u>Temporal network approach to explore bike sharing usage patterns</u>	The bike-sharing systems have been attracting increase research attention due to their great potential in developing smart and green cities. On the other hand, the mathematical aspects of their design and operation generate a lot of interesting challenges for researchers in the field of modeling, optimization and data mining. The mathematical apparatus that can be used to study bike sharing systems is not limited only to optimization methods, space-time analysis or predictive analytics. In this paper, we use temporal network methodology to identify stable trends and patterns in the operation of the bike sharing system using one of the largest bike-sharing framework CitiBike NYC as an example. © 2020 by SCITEPRESS - Science and Technology Publications, Lda. All rights reserved	https://www.scopus.com/record/display.uri?eid=2-s2.0-85090770323&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=35&citeCnt=1&searchTerm=	1
137.	<u>Sagdoldina, Z.B., Rakhadilov,</u>	<u>The study of the fine structure of ti-al</u>	The work is devoted to the study of structural-phase transformations in composite coatings (Ti-Al)+Ti during mechanical alloying. The data on the structural-phase	https://www.scopus.com/record/display.uri?eid=2-s2.0-	0

	<u>B.K., Abylkalykova, R.B., (...), Shalaev, P.O., Kozhanova, R.S.</u>	<u>coatings on the surface of ti, obtained by mechanical alloying</u>	states of (Ti-Al)-Ti coatings after mechanical alloying have been obtained, confirming the mechanism of formation of the modified layer due to deformation compaction of powder particles on the titanium surface under mechanical action. As a result of mechanochemical fusion, a TiAl_3 phase with a bcc lattice (I4/mmm structure) was detected, which corresponds to the stable state of the TiAl_3 alloy. Under conditions of mechanical alloying of the structure, I4/mmm transforms into the L1_2 structure, which corresponds to the metastable state of TiAl_3 . © Siberian Federal University. All rights reserved.	85090681688&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=36&citeCnt=0&searchTerm=	
138.	<u>Rakhadilov, B.K., Buitkenov, D.B., Wieleba, W., Kylyshkanov, M.K., Yerbolatuly, D.</u>	<u>Impact of the detonation gas spraying mode on the phase composition and adhesional strength of Ti-Si-C coatings</u>	The work considers the research results of the phase composition and strength characteristics of detonation coatings based on Ti-C-Si, which obtained for different values of the volume of filling the detonation barrel with an explosive acetylene-oxygen mixture. It was determined that with an increase in the volume of filling the detonation barrel with an explosive mixture up to 70% of the coating are mainly consist of TiC phases. Since Ti_3SiC_2 powder heated to high temperatures partially decomposes into TiC as a result of high-speed shock interaction. The results of X-ray phase analysis showed that a low degree of decomposition of Ti_3SiC_2 can be achieved under filling the barrel with an explosive mixture of 50% and 60% and the coatings mainly consist of Ti_3SiC_2 phases with a low TiC content. This is due to the fact that the heating temperature of the sprayed powder increases with increasing in the degree of filling of the detonation barrel with an explosive acetylene-oxygen mixture. It was determined that an increase in the volume content of the TiC phase in the coating composition leads to a decrease in the hardness of the Ti-C-Si coating. The results of the research of the adhesive strength of coatings showed that the effect of the volume of filling the detonation barrel with an explosive mixture on the adhesive strength is negligible. Moreover, all coatings based on Ti-C-Si, obtained by the detonation method, showed good adhesive strength. © 2020 E.A.Buketov Karaganda State University Publish House. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85090551077&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=37&citeCnt=4&searchTerm=	4
139.	<u>Zhilkashinova, A., Abilev, M., Zhilkashinova, A.</u>	<u>Microplasma-Sprayed $\text{V}_2\text{O}_5/\text{C}$ double-layer coating for the parts of mini-hydropower systems</u>	The development of novel designs for hydropower plants is of high interest nowadays. Studies have shown the negative effect of fluid flow on the turbines of mini-hydropower plants when using them in the conditions of the mountain river. To reduce the damage caused by cavitation, a microplasma coating technique has been chosen. Due to its wetting ability, low density, high thermal conductivity, high heat resistance and low chemical activity, graphite has been studied as a coating material. Vanadium pentoxide has been added as an interlayer to increase the wear resistance, corrosion resistance, and adhesion of the system. The microstructure of the system was studied using scanning electron microscopy and transmission electron microscopy. Functional properties of the system were	https://www.scopus.com/record/display.uri?eid=2-s2.0-85089514581&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo	2

			tested by microhardness tests, wear resistance tests (friction), corrosion tests, and pull-off tests. The surface of the coating was homogeneous without warping, swelling and cracking. The microstructure consisted of regular structures in the form of branches of dendrites. V2O5/C coating resulted in the increase in microhardness up to 2534 MPa. The wear resistance (volume loss) of the sample with double-layer coating was 0.14 mm ³ and the maximum adhesion strength was 17.5 MPa. Thus, the double-layer microplasma V ₂ O ₅ /C coating was applied and studied for strengthening the blades of mini-HPP. The microplasma method can find application in modifying the surface of power equipment subjected to the cavitation effect of the river water. © 2020 by the authors.	v+East+Kazakhstan+University%22+60112447%29&relpos=38&citeCnt=2&searchTerm=	
140.	Rakhadilov, B.K., Kenesbekov, A.B., Kowalevski, P., Ocheredko, Y.A., Sagdoldina, Z.B.	Development of air-plasma technology for hardening cutting tools by applying wear-resistant coatings	This work describes an air-plasma installation and a method of hardening cutting tools by applying wear-resistant coatings. There are shown the results of commissioning of an air-plasma installation and the results of calculation and evaluation of the performance of the developed plasmatron. A plasmatron was made in order to reduce the heat load and improve the quality of the sprayed layer of the plasmatron operating life, as well as this plasmatron include a cooled anode, a swirl unit, an interelectrode insert, and a cathode. There was performed thermal analysis of the plasmatron design using the SolidWorks finite element method. The analysis results showed that the elements of water and gas communications of the plasmatron withstand pressure with a nominal value of 2.5-3 atm. at a power of 25 kW. The results of a study of the structure and properties of TiN and SiC coatings are shown. The results of tribological tests showed that TiN and SiC coatings can improve the tribological properties of P6M5 high-speed steel. © 2020, National Academy of Sciences of the Republic of Kazakhstan. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85089178751&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzhola v+East+Kazakhstan+University%22+60112447%29&relpos=39&citeCnt=7&searchTerm=	7
141.	Zhanbosinova, A.S., Potapova, N.A., Savin, A.I.	“German-↔ operation in the Kazakh SSR (1937-1938). On the question of the ethnic component of great terror’ [«Немецкая» операция в Казахской ССР (1937-1938 годы): к вопросу об этнической составляющей Большого террора]	The “national” operations of the NKVD during the Great Terror remain one of the hottest debates in Soviet history. The sharp gap between the Bolsheviks' previous national policy encourages historians to advance various explanations about what happened. Some scholars believe that “national” operations were based on an ethnization of the image of the enemy, and as a result, the ethnic aspect allegedly received a priority over the social aspect in the punitive policy of Stalinism. Other historians believe the main reason for the “national” operations of the NKVD was the authorities' desire to eliminate any ties of Soviet citizens with the “hostile capitalist environment.” The article presents directives and internal statistics of the NKVD, found in the Central Archive of the FSB of the Russian Federation and previously unknown to researchers. The authors discuss the thesis of the ethnic component of the Great Terror, using the example of the “German” operation in Kazakhstan. The “national” operations were ambivalent. Under conditions of such “landscapes” as industry, transport, and the army, total terror was aimed at “nationals” with practically no selection of victims. However, in the countryside, in the “outback” of the USSR, in places of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85088360500&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzhola v+East+Kazakhstan+University%22+60112447%29&relpos=40&citeCnt=0&searchTerm=	0

			compact residences of “hostile” ethnic “contingents,” the state security bodies actively selected their victims. Thus, in the Kazakh SSR, the Germans deported to Kazakhstan in 1931-1936 and who were extremely dissatisfied with their living conditions became the main target group of the “German” operation. Germans who voluntarily moved to Kazakhstan before 1917 suffered much less. © 2020 Saint-Petersburg State University. All rights reserved.		
142.	<u>Satbayeva, Z.A., Zhurerova, L.G., Tabieva, E.E.</u>	<u>Plasma electrolytic cementation of 0.3C-1Cr-1Mn-1Si-Fe steel</u>	This work is devoted to research of the structural-phase condition and changes in the mechano-tribological properties of 0.3C-1Cr-1Mn-1Si-Fe structural steel after plasma electrolytic cementation. Using metallographic and X-ray analysis, mechano-tribological tests, it was found that 0.3C-1Cr-1Mn-1Si-Fe steel in the initial state belongs to the ferritic-pearlitic class, which contains ~ 65% of pearlite grain and 35% of ferrite grain. When samples of 30HGSA steel are saturated with carbon, a modified surface layer with a thickness of 25µm is formed on the surface of the studied samples, including α-Fe ferrite, cementite Fe ₃ C, iron Fe ₃ C ₂ carbide and an alloying element. It was established that the intensity of wear of the samples after modifying decreased by 2 times, and the surface microhardness after cementation increased 3 times, depending on the original sample. © 2020 Trans Tech Publications Ltd, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85088208776&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=41&citeCnt=1&searchTerm=	1
143.	<u>Aidar, K., Bauyrzhan, R., Rauan, K., Olga, S.</u>	<u>Structural and phase changes in tin coatings subjected to thermal treatment</u>	This work presents the experimental results of the study of the effect of heat treatment on the structural-phase state of TiN coatings on the surface of 67KH5B alloy. It is determined that thermal annealing leads to structural phase transformations at the interface between the coating and the substrate. It was established that after annealing at T=800°C, due to the redistribution of the coating elements and the substrate, a modified coating is formed consisting of the TiN, Ti ₂ N and NiTi phases. © 2020 Trans Tech Publications Ltd, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85088207312&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=42&citeCnt=0&searchTerm=	0
144.	<u>Dastan, B., Bauyrzhan, R., Dosym, E., Zhuldyz, S.</u>	<u>Influence of heat treatment on the phase composition and microhardness of coatings based on Ti₃SiC₂/TiC</u>	The paper discusses the results of studying the structure and properties of powder coatings based on Ti ₃ SiC ₂ /TiC, obtained by the method of detonation spraying on the surface of the tool steel N9. It is determined that the coating has a uniform structure, cracks and delaminations are not observed. The results of X-ray structural analysis of coatings showed that the coating before annealing consists of phases TiC and Ti ₃ SiC ₂ . After annealing, the formation of TiO ₂ phases and an increase in the intensity of the (103) and (108) reflections of the Ti ₃ SiC ₂ phases are observed. It is established that an increase in the content of the phases	https://www.scopus.com/record/display.uri?eid=2-s2.0-85088206613&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-	14

			of Ti3SiC2 in coatings leads to an increase in the microhardness of coatings. © 2020 Trans Tech Publications Ltd, Switzerland.	ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=43&citeCnt=14&searchTerm=	
145.	Erkinbekkyzy, T.E., Zhurerova, L.G, Daryn, B.	Influence of electrolyte-plasma hardening technological parameters on the structure and properties of banding steel 2	This work is devoted to the study of the influence of technological parameters of electrolytic-plasma surface quenching (EPQ) on the structure and surface properties of samples of bandage steel 2. In the electrolytic-plasma treatment, we performed the cathode mode in an electrolyte containing an aqueous solution of 20% carbamide (NH2)2CO and 20% sodium carbonate Na2CO3, on the installation of EPO with appropriate technological processing conditions. According to the electron-optical, X-ray phase studies, the phase composition of the steel after the EPQ was determined this differs from the initial one by the formation of cementite and iron oxides on the surface of the samples. It is established that the microhardness of the bandage steel 2 after the EPQ during heating for 4 seconds increases 2.4 times in comparison with the initial state. © 2020 Trans Tech Publications Ltd, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85088206538&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=44&citeCnt=5&searchTerm=	5
146.	Tlebaldinova, A., Denissova, N., Baklanova, O., Krak, I., Györök, G.	Normalization of vehicle license plate images based on analyzing of its specific features for improving the quality recognition	This paper presents technique for recognizing license plates structured characters of the Republic of Kazakhstan. This technique includes methods for converting the geometric-topological characteristics of license plates and the method for classifying alphanumeric characters by using cluster analysis. Developed modified algorithm for character recognition based on methods of contour analysis and template method with the addition of proposed transformations. © 2020, Budapest Tech Polytechnical Institution. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85087900651&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=45&citeCnt=4&searchTerm=	4
147.	Turlybekuly, A., Sagidugumar, A., Otarov, Y., (...), Kistaubayeva, A., Talipova, A.	Bacterial cellulose/hydroxyapatite printed scaffolds for bone engineering	The bone tissue recovery after serious injuries has been a goal of regenerative medicine for more than a decades. So the issue of recovering the acetabular bone deficit has not been resolved. The typical practice of “deficient areas” filling is metal porous augments using, which is a short-term solution to this issue. It should be noted that the use of augments is not entirely justified, since for 5 years and more, bone tissue lysis also occurs due to the inevitable macrophage reaction of the body to friction products (debridement). One of the solutions, competing with auto-and/or alloplastic, is the use of composite biomimetic structures obtained by 3D printing. The paper describes the method of inkjet printing of a composite material based on bacterial cellulose(BC)/hydroxyapatite (HA). Printing inks was obtained by mixing the BC nanoparticles in an aqueous solution	https://www.scopus.com/record/display.uri?eid=2-s2.0-85086521844&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=46&citeCnt=3&searchTerm=	1

			of CaCl_2 and Na_2HPO_4 with different proportions. Drying the resulting structures was carried out by freeze drying. The samples with different architecture were obtained. The samples' microstructure, functional composition were studied. It was found that obtained composite have homogeneous structure of HA particle's spreading among BC matrix. © Springer Nature Singapore Pte Ltd. 2020	%22+60112447%29&relpos=46&citeCnt=1&searchTerm=	
148.	<u>Satbayeva, Z.A., Bayatanova, L.B., Kozhanova, R.S.</u>	<u>Research of electrolyte plasma treatment impact on wear resistance and roughness of 18HN3MA-SH steel</u>	This work provides the results of research of the wear resistance of the surface of samples of low carbon structural of 18HN3MA-SH steel, subjected to electrolytic-plasma treatment by nitriding and carbonitriding. The effect of the structure on the surface wear resistance of steel is shown. Changes in abrasive wear and dry friction characteristics were studied depending on temperature and processing time. The results of studies of tribological tests show that after electrolytic-plasma nitriding, the wear resistance of steel 18HN3MA-SH increases by 1.5-2 times compared with the initial state. The observed effects can be explained by the flowing surface modification - the formation of a modified surface layer with the formation of hardening phases. The nature of changes in the surface roughness R_a of steel samples after cementation, carbonitriding and nitriding was studied. © 2020 Trans Tech Publications Ltd, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85085245438&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=47&citeCnt=1&searchTerm=	1
149.	<u>Tabieva, E.E., Zhurerova, L.G., Baizhan, D.</u>	<u>Influence of electrolyte-plasma hardening technological parameters on the structure and properties of banding steel 2</u>	This work is devoted to the study of the influence of technological parameters of electrolytic-plasma surface quenching (EPQ) on the structure and surface properties of samples of bandage steel 2. In the electrolytic-plasma treatment, we performed the cathode mode in an electrolyte containing an aqueous solution of 20% carbamide $(\text{NH}_2)_2\text{CO}$ and 20% sodium carbonate Na_2CO_3 , on the installation of EPO with appropriate technological processing conditions. According to the electron-optical, X-ray phase studies, the phase composition of the steel after the EPQ was determined. This differs from the initial one by the formation of cementite and iron oxides on the surface of the samples. It is established that the microhardness of the bandage steel 2 after the EPQ during heating for 4 seconds increases 2.4 times, in comparison with the initial state. © 2020 Trans Tech Publications Ltd, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85085241383&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=48&citeCnt=0&searchTerm=	0
150.	<u>Zhanbosinova, A.S., Zhandybayev a, S.S., Atantayeva, B.Z., Zhirindinova, K.R., Kazbekova, A.T.</u>	<u>The historical memory on modernization of the Kazakh aul in soviet narratives [La memoria histórica sobre la modernización del aul Kazajo en las</u>	The study aims to investigate the historical memory on modernization of the Kazakh aul in Soviet narratives via comparative qualitative research of theoretical concepts of modern historical science. As a result, the new Kazakh national identity largely supplanted Kazakhs' previous identification with a system of pastoral nomadism. In conclusion, the tribal-hierarchical structure did not fit into the Stalinist constitution; the traditional culture of the Kazakh people acquired a new image and a new name for the Soviet-Kazakh ethnos. © 2020, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85085044294&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-	0

		<u>narrativas soviéticas]</u>		ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=49 &citeCnt=0&searchTerm=	
151.	<u>Ashimova, M.G., Yermekbayeva, A.S., Aktanova, A.S., Kaiyrbayeva, Z.K., Kazhibayeva, G.K.</u>	<u>The nature of the intertext in flash fiction [La naturaleza del intertexto en flash fiction]</u>	The study aims to investigate the nature of the intertext in flash fiction. For this purpose, the concepts of intertext, intertextuality, reminiscence, allusion and their artistic nature, its various manifestations are analyzed in the stories of writers of the period of independence of Kazakhstan as a method. As a result, the blemish of the appearance of Bukir (Hunchback), who considered himself an incomparable artist, was reflected in his mind and feelings. In conclusion, writers criticized the character and his surroundings through death, exposing lies and truth and pursuing moral and aesthetic goals. © 2020, Universidad del Zulia. All rights reserved.	https://www.scopus.com/record/ display.uri?eid=2-s2.0- 85085007301&origin=resultslist &sort=plf- f&src=s&nlo=&nlr=&nls=&sid =42b08f2e0672aa05f5298a0016 f00445&sot=aff&sdt=cl&cluste r=scopusbyr%2c%222020%22% 2ct&sl=62&s=AF- ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=50 &citeCnt=0&searchTerm=	0
152.	<u>Saparova, D.R., Kanagatova, A.M., Zhanbosinov a, A.S., Chzhan, Y.Y.</u>	<u>Cultural/social media space of the digital generation</u>	Taking the example of Kazakhstan, this study examines the formation and analysis of the cultural media space of the digital generation. Information and communication technologies are the basis of a communicative media environment that has an internal regulated structure, which affects the socialisation of a person. The content of the cultural media space of the digital generation is formed on the basis of digital technologies and represents people's visual worldview with images, signs and symbols. The processes of transformation of society affect the young generation and the content of the media space that determines their social and ethnocultural identity. The study presents the results of working with schoolchildren and students aged 14-18 using focus groups to explore the impact of digital culture (media culture) on adolescents in Kazakhstan. Based on the interdisciplinary approach, the findings demonstrate intergenerational contradictions because of the active involvement of Kazakhstan in the global internet community. The cultural media space of Kazakhstan has been shaping the social communications of the digital generation that has grown up in a sovereign state. The theoretical concepts of P. Bourdieu, C. Mannheim and other scientists served as a methodology for this study. Based on the interdisciplinary approach, the findings demonstrate intergenerational contradictions because of the active involvement of Kazakhstan in the global internet community. The findings also unravel that the transformation of the value orientations of adolescents is influenced by the factors of geographical location and ethnicity. © 2020 Saparova et al	https://www.scopus.com/record/ display.uri?eid=2-s2.0- 85084358028&origin=resultslist &sort=plf- f&src=s&nlo=&nlr=&nls=&sid =42b08f2e0672aa05f5298a0016 f00445&sot=aff&sdt=cl&cluste r=scopusbyr%2c%222020%22% 2ct&sl=62&s=AF- ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=51 &citeCnt=1&searchTerm=	1
153.	<u>Karasayev, G.M., Nabiyeu.</u>	<u>Stalin's agricultural collectivization</u>	This scientific article describes the goals, processes and consequences of destroying the rich and middle-class people in the Kazakh Soviet Union,	https://www.scopus.com/record/ display.uri?eid=2-s2.0-	8

	<u>S.T., Yensenov, K.A., Zhumagulov, B.S., Oskembay, A.A.</u>	<u>activities in Kazakhstan (XX C. 20-30)</u> <u>[Actividades de colectividad agrícola de stalin en Kazajstán (XX C. 20-30)]</u>	including the Stalinist totalitarian authority in the 20s and 30s of the twentieth century, as well as the destruction of the rich and the middle-class in Kazakh agriculture. The villagers, completely withdrawn from their livestock and forced into collective farms, joined the armed uprising in all parts of Kazakhstan. However, such uprisings were severely suppressed. These statements are made on the basis of specific archives and historical sources, and scientific conclusions have been made. © 2020, Universidad del Zulia. All rights reserved.	85084265579&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=52&citeCnt=8&searchTerm=	
154.	<u>Li, A., Baktybayev, Z., Ospanova, G., Koishibayeva, M., Kanapiyanova, K.</u>	<u>Psychological meaning of photography in the frame of personality's life course</u>	The purpose of this study was to show that photographs have a psychological meaning, as people basically print and store the most significant photographs. And depending on the hierarchy of one's own values, a person will store the corresponding photos. People choose those photographs where there are especially significant events or especially significant people. Therefore, in this way the psychological meaning is imposed on the photo. Learning person's way of life in psychology can reveal psychological implementations, which are connecting personality with its necessities, values, and world views in general. And these psychological implications can be found in photographs of special personal importance. The most precious photos people have been keeping throughout their lives can be psychologically meaningful according to their values. This article details the experimental methods provided by the quality analysis. Since we are pre-limited by 10 pictures, we already have a psychological sense of them. The hierarchy of the selected pictures and the individual differences between the people also take an important place within the study. © 2020 Lifescience Global.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85083635292&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=53&citeCnt=0&searchTerm=	0
155.	<u>Saspugayeva, G.Y., Beisenova, R.R., Zhaznaeva, Zh.K., (...), Daribay, A.O., Tuleuova, G.K.</u>	<u>Change of hepatobiliary system under the influence of hydrazine derivatives</u>	Hydrazine derivatives are used in different spheres, in aero-space activity, medical practice, laboratory-diagnosis practice, that is why environment is polluted with hydrazines in big areas. The question about influence of hydrazine derivatives, used as the rocket fuel, on the human organism and ways of its detoxication is very actual. In connection with appeared situations, we set the goal: to study the negative influence of hydrazine derivatives-hydrazine sulphur, nitrosodimethylamine (NDMA), phenylhydrazine, isonicotinic acid hydrazide (IAH) on several biochemical features of blood and correction of functional damages of organism with "Salsocollin" preparation. © 2009-2020, JGPT. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85083267645&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=54&citeCnt=0&searchTerm=	0

156.	<u>Arkhipkina, A.S., Arkhipkin, I.V., Dyachuk, M.I.</u>	<u>New in the legislation on conciliation procedures in Russia: Judicial conciliation and mediation</u> [Новое в законодательстве о примирительных процедурах в России: судебное примирение и медиация]	The article is devoted to the analysis of the major changes in the Russian legislation on conciliation procedures that took place in 2019. The article focuses on a comparative analysis of the process and content of judicial conciliation and mediation, as well as the requirements for mediators in disputes settlement. Assessing the prospects for the development of the abovementioned conciliation procedures, the authors come to the conclusion about vivid advantages of judicial reconciliation, while noting that introduction of the concept of a “multi door courthouse”, if successfully implemented, can contribute to the development of other alternative ways of disputes settlement. © Siberian Federal University. All rights reserved	https://www.scopus.com/record/display.uri?eid=2-s2.0-85082133629&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=55&citeCnt=2&searchTerm=	2
157.	<u>Zhurerova, L.G., Rakhadilov, B.K., Popova, N.A., (...), Buranich, V.V., Pogrebnjak, A.D.</u>	<u>Effect of the PEN/C surface layer modification on the microstructure, mechanical and tribological properties of the 30CrMnSiA mild-carbon steel</u>	As result of plasma-electrolytic nitrocarburizing 30CrMnSiA carbon steel (ferrite-perlite grade), there was a change in the elemental and phase composition, as well as the surface layer microstructure (40 ÷ 45 microns thick from the surface). A formation of Me ₂₃ (CN) ₆ carbonitrides, FeN nitrides, Fe ₃ C-(Fe,Cr) ₃ C carbides and an increase in dislocation density within α-phase (tempered martensite crystallites), high-temperature lamellar martensite were observed. As a result of PEN/C exposure for 7 min. at 750 °C there is a reduction of friction coefficient and wear rate, what is connected with finely dispersed secondary phases FeN, (Fe, Cr) ₃ C, Me ₂₃ (C, N) ₆ formation. Thus there is an 2,5 ÷ 3,3 times increase in hardness of 30CrMnSiA carbon steel samples. © 2019 The Authors.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85075759786&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=56&citeCnt=14&searchTerm=	14
158.	<u>Myrzabekova, D., Dudkin, M., Młyńczak, M., Muzdybayeva, A., Muzdybayev, M.</u>	<u>Concept of Preventive Maintenance in the Operation of Mining Transportation Machines</u>	The origin of the problem arises from numerous limitations existing in the operation of wheeled mining machines including: loaders, drilling vehicles, storage vehicles, etc. It should be mentioned mainly operational and environmental limitations and requirements, such as: ensuring the efficiency and continuity of the mining process, spoil disposal, closed operation system with limited human and technical resources, difficult environmental conditions (high temperature and humidity, high dustiness or muddiness, limited space). In those difficult conditions, the maintenance according to periodic strategy seems to be inadequate as work and degradation processes are variable. The more appropriate approach is to operate according to the state, wherein monitoring of diagnostic parameters would allow setting a reasonable service time. The example of a bolt joint is one of many elements of these machines subject to ageing, for which preventive maintenance according to the state is the most appropriate. Paper	https://www.scopus.com/record/display.uri?eid=2-s2.0-85065863871&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=42b08f2e0672aa05f5298a0016f00445&sot=aff&sdt=cl&cluster=scopubyr%2c%222020%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=57&citeCnt=1&searchTerm=	1

			describes most important failures occurring in operation and propose the use of modern information systems to gather, transmit and archive diagnostic parameters. It has been assumed that data will be sent periodically, but with high intensity, e.g. every day after the end of the work shift in the machine parking space, via wireless (e.g. RFID, Bluetooth) while passing the machine through a specific gate. The data acquired for each machine as a function of time and work time will allow determining the trend line of the change of the tested parameter and predict the appropriate time of maintenance. © 2020, Springer Nature Switzerland AG.		
2021 год					
159.	<u>Pavlov, A., Sagdoldina, Z., Kassymov, A., (...), Rakhadilov, B., Kengesbekov, A.</u>	<u>Physico-mechanical properties, structure, and phase composition of (BeO + TiO₂)-ceramics containing TiO₂nanoparticles (0.1-2.0 wt.%)</u>	This research studies the effects of addition of micro- and nanoparticles of TiO ₂ and variations in the firing temperature on the physico-mechanical properties of oxide-beryllium ceramics, shows the evolution of the microstructure of such ceramics during sintering, and presents the data of X-ray phase analysis. It was shown that the addition of TiO ₂ nanoparticles leads to a higher density of the ceramic material after sintering due to the interpenetration of TiO ₂ and BeO phases, which is caused by an increase in the diffusion mobility of atoms that can in turn be attributed to an increase in the imperfection of the structure and the fraction of grain boundaries. It was found that the presence of nanoparticles contributes to an increase in the apparent density of the material, as well as a decrease in its total and closed porosity; and an increase in the sintering temperature contributes to the transformation of the crystalline structure of TiO ₂ into a more conductive Ti ₃ O ₅ with an orthorhombic structure. The presence of nanoparticles also promotes self-healing of micropores, which can be explained by the blocking of a certain fraction of the interfaces between BeO particles by nanoparticles and the creation of a diffusion barrier. © 2021 Alexandr Pavlov et al., published by Sciendo.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85130604297&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=0&citeCnt=0&searchTerm=	0
160.	<u>Sukhodub, L.F., Pogrebnjak, A.D., Sukhodub, L.B., (...), Akatan, K., Turlybekuly, A.</u>	<u>Antibacterial and physical characteristics of silver-loaded hydroxyapatite/alginate composites</u>	The influence of silver ions on the antibacterial properties and morphology of hydroxyapatite-silver (HA-Ag) and hydroxyapatite-alginate-silver (HA-Alg-Ag) nanocomposites was studied. The microstructure and phase composition of the obtained nanocomposites were investigated by scanning electron microscopy, transmission electron microscopy, x-ray diffraction and Fourier transform infrared spectroscopy, and the formation of the crystalline phase of Ag ₃ PO ₄ was proved. According to the results, silver ions were incorporated into the HA structure, partially replacing calcium ions. Assessment of the antimicrobial activity was carried out on Gram-negative (<i>Pseudomonas aeruginosa</i>) and Gram-positive (<i>Staphylococcus aureus</i>) bacterial test cultures by the co-incubation and modified agar diffusion methods. We demonstrated that the antimicrobial and adhesive properties of both Ag-HA and HA-Alg-Ag are strongly affected by the crystal lattice structure, controlled by the location of silver ions. The composite materials could be of great interest in the biomedical field, including in the design	https://www.scopus.com/record/display.uri?eid=2-s2.0-85123703892&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=1&citeCnt=2&searchTerm=	2

			of coatings that prevent or slow the development of bacterial biofilms. © 2021 The Korean Society for Composite Materials and IOP Publishing Limited		
161.	<u>Rakhadilov, B., Buitkenov, D., Sagdoldina, Z., (...), Zhamanbayeva, M., Kakimzhanov, D.</u>	<u>Preparation and characterization of NiCr/NiCr-Al₂O₃/Al₂O₃ multilayer gradient coatings by gas detonation spraying</u>	This paper investigates the influence of the technological parameters of detonation spraying on the phase composition of NiCr-and Al ₂ O ₃ -based coatings. It was determined that the phase composition of Al ₂ O ₃ coatings during detonation spraying strongly depends on the barrel filling volume with the gas mixture. The acetylene–oxygen mixture, which is the most frequently used fuel in the detonation spraying of powder materials, was used as a fuel gas. To obtain a ceramic layer based on Al ₂ O ₃ , spraying was performed at an acetylene–oxygen O ₂ /C ₂ H ₂ mixture ratio of 1.856; the volume of filling of the detonation gun barrel with an explosive gas mixture was 63%. To obtain a NiCr-based metallic layer, spraying was performed at the O ₂ /C ₂ H ₂ ratio of 1.063; the volume of filling of the detonation gun barrel with an explosive gas mixture was 54%. Based on a study of the effect of the detonation spraying mode on the phase composition of NiCr and Al ₂ O ₃ coatings, NiCr/NiCr-Al ₂ O ₃ /Al ₂ O ₃ -based multilayer coatings were obtained. Mixtures of NiCr/Al ₂ O ₃ powders with different component ratios were used to obtain multilayer gradient coatings. The structural-phase composition, mechanical and tribological properties of multilayer gradient metal–ceramic coatings in which the content of the ceramic phase changes smoothly along the depth were experimentally investigated. Three-, five- and six-layer gradient coatings were obtained by alternating metallic (NiCr) and ceramic (Al ₂ O ₃) layers. The phase composition of all coatings was found to correspond to the removal of information from a depth of 20–30 µm. It was determined that the five-layer gradient coating, consisting of the lower metal layer (NiCr), the upper ceramic layer (Al ₂ O ₃) and the transition layer of the mechanical mixture of metal and ceramics, is characterized by significantly higher hardness (15.9 GPa), wear resistance and adhesion strength. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85121658293&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopusbyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=2&citeCnt=2&searchTerm=	2
162.	<u>Rakhadilov, B., Kakimzhanov, D., Baizhan, D., (...), Pazylbek, S., Zhurero, L.</u>	<u>Comparative study of structures and properties of detonation coatings with α-Al₂O₃ and γ-Al₂O₃ main phases</u>	This study is aimed at obtaining a coating of aluminum oxide containing α-Al ₂ O ₃ as the main phase by detonation spraying, as well as a comparative study of the structural, tribological and mechanical properties of coatings with the main phases of α-Al ₂ O ₃ and γ-Al ₂ O ₃ . It was experimentally revealed for the first time that the use of propane as a combustible gas and the optimization of the technological regime of detonation spraying leads to the formation of an aluminum oxide coating containing α-Al ₂ O ₃ as the main phase. Tribological tests have shown that the coating with the main phase of α-Al ₂ O ₃ has a low value of wear volume and coefficient of friction in comparison with the coating with the main phase of γ-Al ₂ O ₃ . It was also determined that the microhardness of the coating with the main phase of α-Al ₂ O ₃ is 25% higher than that of the coatings with the main phase of γ-Al ₂ O ₃ . Erosion resistance tests have shown (evaluated by weight loss) that the coating with α-Al ₂ O ₃ phase is erosion-resistant compared	https://www.scopus.com/record/display.uri?eid=2-s2.0-85121637411&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopusbyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=3&citeCnt=3&searchTerm=	3

			to the coating with γ -Al ₂ O ₃ (seen by erosion craters). However, the coating with the main phase of γ -Al ₂ O ₃ has a high value of adhesion strength, which is 2 times higher than that of the coating with the main phase of α -Al ₂ O ₃ . As the destruction of coatings by the primary phase, α -Al ₂ O ₃ began at low loads than the coating with the main phase γ -Al ₂ O ₃ . The results obtained provide the prerequisites for the creation of wear-resistant, hard and durable layered coatings, in which the lower layer has the main phase of γ -Al ₂ O ₃ , and the upper layer has the main phase of α -Al ₂ O ₃ . © 2021 by the authors. Licensee MDPI, Basel, Switzerland.		
163.	<u>Rakhmetullina, Z., Uvaliyeva, L., Amenova, F.</u>	<u>Differential equations of motion of a material point in the perpendicular plane to the plane of the gravitating disk</u>	This paper presents an analytical solution of the differential equations of motion of a material point in the plane perpendicular to the plane of the gravitating disk. The differential equations of the problem under study and the applied Gilden's method are described in the works of A. Poincaré. Differential equations refer to nonlinear equations. The analysis of methods for solving nonlinear differential equations was carried out. The methodology of applying the Gilden method to the solution of the differential equations under consideration can be applied in studies of the problem of the motion of celestial bodies in the “disk-material point” system in perpendicular planes. To identify the various properties of the gravitating disk, an analytical review of the state of the problem of the motion of a material point in the field of a gravitating disk is carried out. Summing up the presented review on the problem under study, a conclusion is made. The substantive formulation of the problem is described, which is formulated as follows: the study of the influence of disk-shaped bodies on the motion of a material point and methods for their solution. © 2021 Institute of Advanced Engineering and Science. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85119922193&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=4&citeCnt=0&searchTerm=	0
164.	<u>Rakhadilov, B., Seitkhanova, A., Satbayeva, Z., (...), Icheva, Y., Sagdoldina, Z.</u>	<u>Investigation of the structural, mechanical and tribological properties of plasma electrolytic hardened chromium-nickel steel</u>	This paper investigates how electrolytic plasma hardening (PEH) bears upon the changes in the phase structural and tribological properties of steel 0.34C-1Cr-1Ni-1Mo-Fe, which is widely used in manufacturing highly stressed gears. The samples of steel 0.34C-1Cr-1Ni-1Mo-Fe went through the PEH in an electrolyte containing an aqua solution of 20% calcined soda (Na ₂ CO ₃) and 10% carbamide ((NH ₂) ₂ CO). The initial steel 0.34C-1Cr-1Ni-1Mo-Fe is stated to have the following structural components: a lamellar pearlite with volume share of 35%, a ferrite-carbide mixture of ~45% and a fragmented ferrite of ~20%; after the PEH it contains lath-lamellar martensite, fine particles of cementite and M ₂₃ C ₆ carbide. The durability of steel 0.34C-1Cr-1Ni-1Mo-Fe was found to rise by 3.4 times after the PEH and its microhardness increased in 2.6 times. The curve-tension of the crystal lattice was established to be like plastic ($\chi = \chi_{pl}$) and does not cause the formation of microcracks in the material. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85119085260&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=5&citeCnt=3&searchTerm=	3
165.	<u>Zhilkashinova, A., Skakov,</u>	<u>Effect of Alloying Elements on the</u>	This study examined the changes in the microstructure and phase composition of Hadfield steel depending on the content of the main elements Mn and C and the alloying elements Cr and V. Phase composition and fine structure of manganese	https://www.scopus.com/record/display.uri?eid=2-s2.0-85114962237&origin=resultslist	1

	<u>M., Abilev, M., Yerbolatuly, D.</u>	<u>Structural Phase State of Hadfield Steel</u>	steels were studied using X-ray diffraction analysis and electron diffraction using transmission electron microscopy. Samples of steel were undoped and were alloyed with Cr and V at a content of 0.4% and 1% by weight C and 6%-18% by weight Mn. The main phase of the steels, regardless of the Mn content, remained completely austenitic, and the introduction of Cr and V led to the expansion of the γ region. The average scalar density depended on the concentration of Mn, whereas Cr and V shifted the region of the ϵ phase toward a lower concentration of Mn and increased the content of the α phase. © 2021 American Society of Civil Engineers.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85115017819&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=6&citeCnt=1&searchTerm=	
166.	<u>Sharifi-Rad, J., Quispe, C., Mukazhanova, Z., (...), Kamal, R.M., Szopa, A.</u>	<u>Resveratrol-Based Nanoformulations as an Emerging Therapeutic Strategy for Cancer</u>	Resveratrol is a polyphenolic stilbene derivative widely present in grapes and red wine. Broadly known for its antioxidant effects, numerous studies have also indicated that it exerts anti-inflammatory and antiaging abilities and a great potential in cancer therapy. Regrettably, the oral administration of resveratrol has pharmacokinetic and physicochemical limitations such as hampering its effects so that effective administration methods are demanding to ensure its efficiency. Thus, the present review explores the published data on the application of resveratrol nanoformulations in cancer therapy, with the use of different types of nanodelivery systems. Mechanisms of action with a potential use in cancer therapy, negative effects, and the influence of resveratrol nanoformulations in different types of cancer are also highlighted. Finally, the toxicological features of nanoresveratrol are also discussed. © Copyright © 2021 Sharifi-Rad, Quispe, Mukazhanova, Knut, Turgumbayeva, Kipchakbayeva, Seitimova, Mahomoodally, Lobine, Koay, Wang, Sheridan, Leyva-Gómez, Prado-Audelo, Cortes, Rescigno, Zucca, Sytar, Imran, Rodrigues, Cruz-Martins, Ekiert, Kumar, Abdull Razis, Sunusi, Kamal and Szopa.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85114723199&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=7&citeCnt=24&searchTerm=	24
167.	<u>Baigereyev, D., Alimbekova, N., Berdyshev, A., Madiyarov, M.</u>	<u>Convergence analysis of a numerical method for a fractional model of fluid flow in fractured porous media</u>	The present paper is devoted to the construction and study of numerical methods for solving an initial boundary value problem for a differential equation containing several terms with fractional time derivatives in the sense of Caputo. This equation is suitable for describing the process of fluid flow in fractured porous media under some physical assumptions, and has an important applied significance in petroleum engineering. Two different approaches to constructing numerical schemes depending on orders of the fractional derivatives are proposed. The semi-discrete and fully discrete numerical schemes for solving the problem are analyzed. The construction of a fully discrete scheme is based on applying the finite difference approximation to time derivatives and the finite element method in the spatial direction. The approximation of the fractional derivatives in the sense of Caputo is carried out using the L1-method. The convergence of both numerical schemes is rigorously proved. The results of numerical tests conducted for model problems are provided to confirm the theoretical analysis. In addition, the proposed computational method is applied to	https://www.scopus.com/record/display.uri?eid=2-s2.0-85114723199&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=8&citeCnt=6&searchTerm=	6

			study the flow of oil in a fractured porous medium within the framework of the considered model. Based on the results of the numerical tests, it was concluded that the model reproduces the characteristic features of the fluid flow process in the medium under consideration. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.		
168.	Rakhadilov, B., Buitkenov, D., Idrisheva, Z., (...), Pazylbek, S., Baizhan, D.	<u>Effect of pulsed-plasma treatment on the structural-phase composition and tribological properties of detonation coatings based on Ti–Si–C</u>	The structural-phase state and tribological characteristics of detonation coatings based on Ti–Si–C before and after pulsed-plasma exposure have been experimentally investigated. The authors of the research used a detonation set-up of CCDS2000 to obtain coatings. The modification of coating surfaces was carried out by a pulsed-plasma flow using the “Impulse-6” installation. The results of the research have shown that the modification of coatings surface by a pulsed-plasma effect causes an increase in the microhardness of the surface layer and in its wear resistance. It was determined that after such type of treatment, there is an increase in the content of the Ti_3SiC_2 phase. According to the results of XRD analysis, the improvement in the mechano-tribological properties of detonation spraying coatings of the Ti–Si–C system as a result of pulsed-plasma treatment is associated with an increase in the content of Ti_3SiC_2 phases in the coatings, as well as the formation of carbide and oxide phases on the surface layer. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85110370548&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=9&citeCnt=8&searchTerm=	8
169.	Kantay, N., Rakhadilov, B., Kurbanbekov, S., (...), Yerbolatova, G., Apsezhanova, A.	<u>Influence of detonation-spraying parameters on the phase composition and tribological properties of Al_2O_3 coatings</u>	Al_2O_3 coatings were applied on the surface of 12Ch18N10T steel by the detonation method at different degrees of filling of the detonation gun. The aim was to study the influence of technological parameters on the formation of the coating's structure, phase composition and tribological characteristics. The degree of filling the gun with a gas mixture (C_2H_2/O_2) varied from 53% to 68%. X-ray diffraction study showed that the content of $\alpha-Al_2O_3$ increases depending on the degree of filling. The results showed that the hardness increases with an increase in the $\alpha-Al_2O_3$ phase. When the gun is 53% filled with gas, the Al_2O_3 -based coating has the hardness of 20.56 GPa compared to 58%, 63% and 68% fillings. Tribology tests have shown that the wear rate and friction coefficient of the coating is highly dependent on the degree of filling of the gun. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85109856759&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=10&citeCnt=8&searchTerm=	8
170.	Ramazanov, R.A., Mamychenk, S.V., Seraya, N.V., (...), Aubakirova, R.A., Bagasharova, Z.T.	<u>Research of kinetics of zinc leaching with sulfuric acid from smithsonite</u>	The study investigates the kinetics of zinc leaching from smithsonite with sulfuric acid in order to expand the zinc production feedstocks. The recovery rate of zinc from smithsonite into water-soluble zinc sulfate was found at different leaching time and temperature. Sulfuric acid concentration, its consumption and smithsonite particles size selected in this work for leaching of zinc from this mineral using the indicated solution allowed to determine the magnitude of “apparent” activation energy of the smithsonite reaction with the indicated acid, equal to 2,633 kJ / mol. The calculated value of E, shows that the process	https://www.scopus.com/record/display.uri?eid=2-s2.0-85105361427&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-	4

			investigated is accompanied by diffusion phenomena. © 2021, Faculty of Metallurgy. All rights reserved.	ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=11&citeCnt=4&searchTerm=	
171.	Sagikyzy, A., Ryakova, Y., Savchuk, Y., (...), Sadykova, T., Gappassova, A.	Ideologeme "traditional culture" in understanding the social process and environmental problems	The article contents analysis of the ideologeme of "traditional culture" and evaluation of its possibility for the understanding of social process. The authors turn to the history of philosophy in understanding the socially significant context of the formation of traditions. Further, the authors show the socio-cultural foundations of the ideologeme of "traditional culture" and shows the causes of methodological "dead ends" of the authors who use it to explain modern social life. The article emphasizes the importance of traditions in the life of society. Authors notes that human development is impossible without the ability to reproduce and preserve the experience. At the same time, authors shows that certain forms of behavior-communication-activities which fixed by customs, rituals can appear and die. The authors of the article have come to the conclusion that the term of "traditional culture" is an ideologeme which testifying to the splitting of the social process. It fills with content depending on the goals of interests groups and serves as a tool for speculative worldview constructions. © The Authors, published by EDP Sciences, 2021.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85107314431&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=12&citeCnt=0&searchTerm=	0
172.	Rakhadilov, B., Kantay, N., Sagdoldina, Z., (...), Bektasova, G., Paszkowski, M.	Experimental investigations of Al₂O₃- And ZrO₂-based coatings deposited by detonation spraying	This paper presents the results of experimental investigations of the physical and mechanical properties, structure and surface morphology of Al ₂ O ₃ - and ZrO ₂ -based coatings deposited by detonation spraying. The coatings were sprayed onto titanium-alloyed steel 12Ch18N10T (GOST 4986-79). The thickness of the coatings ranged from 250 to 1100 µm. After the deposition of the coatings the mechanical properties of the steel's surface layer significantly improved. Its microhardness increased threefold, reaching the maximum value of over 11 GPa. Also the tribological properties of the material detonation sprayed onto the steel were tested. A significant decrease in the kinetic friction coefficient was observed. For the steel with the ZrO ₂ coating the friction coefficient decreased by nearly half, reaching the value of 0.330. An increase in abrasive wear resistance was noted. Moreover, the results of electron microscopy, energy-dispersive X-ray spectroscopy and X-ray diffraction examinations evaluating the structural properties and surface morphology of the coatings are presented. © 2021 The Author(s). Published by IOP Publishing Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85106330785&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=13&citeCnt=2&searchTerm=	2
173.	Alimbekova, N., Berdyshev, A., Baigereyev, D.	Parallel Implementation of the Algorithm for Solving a Partial Differential Equation with a Fractional	The paper is devoted to the numerical solution of a two-dimensional partial differential equation with a fractional derivative in the sense of Riemann-Liouville. This equation is of great applied importance and underlies many multiphysical simulators for modeling the distribution of pollutants in the atmosphere, fluid motion in a fractured porous medium with fractal fracture geometry, and many others. A two-step implicit computational algorithm for solving the problem is proposed, which leads to the need to solve a large number	https://www.scopus.com/record/display.uri?eid=2-s2.0-85113868449&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=14&citeCnt=3&searchTerm=	5

		<u>Derivative in the Sense of Riemann-Liouville</u>	of systems of linear algebraic equations with dense matrices. To solve the latter, three iterative Krylov subspace algorithms are considered, namely, generalized method of minimal residuals with restarts, quasiminimal residual method, and induced dimension reduction method. A method for organizing parallel computations using CPU threads is proposed. The proposed method is tested on a two-dimensional model problem for an equation with fractional derivatives. An equation of this type typically arises when considering non-Darcian fluid flow in a fractured porous medium with a fractal geometry of fractures. The results of calculations for different values of the fractional derivative exponent and mesh configurations are presented. It is shown that this approach is able to increase the performance of the algorithm by more than 3.6 times. © 2021 IEEE.	er=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholtv+East+Kazakhstan+University%22+60112447%29&relpos=14&citeCnt=5&searchTerm=	
174.	<u>Maulit, A., Baiburin, Y., Rakhymbek, M., Sadykova, G., Nugumanova, A.</u>	<u>Statistical and Network Analysis of Shared Bikes - In the Case of Almaty Bike</u>	In this paper we analyze bike riding patterns in Almaty by employing the annual data from Almaty Bike system. The main contribution of the paper is explaining the factors effecting bike sharing usage in Almaty. To our knowledge this is the first (albeit preliminary) study to investigate behaviors of bike-sharing users in Kazakhstan using statistical and network analysis methods. The analysis shows that mostly bikes are used no more than 20 minutes, for the most part during the daytime, although the peak use is between 7 and 9 pm, and there is no consistent difference between bike use on weekends and weekdays. © 2021 IEEE.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85113831514&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholtv+East+Kazakhstan+University%22+60112447%29&relpos=15&citeCnt=1&searchTerm=	1
175.	<u>Rakhadilov, B., Satbayeva, Z., Ramankulov, S., (...), Uazyrkhanova, G., Sagdoldina, Z.</u>	<u>Change of 0.34Cr-1Ni-Mo-Fe steel dislocation structure in plasma electrolyte hardening</u>	This work deals with the study of changes in the dislocation structure and quantitative characteristics, as well as morphological components, of 0.34Cr-1Ni-Mo-Fe steel before and after plasma electrolytic hardening. According to the electron microscopic studies of the fine structure of 0.34Cr-1Ni-Mo-Fe steel before and after plasma electrolytic hardening, 0.34Cr-1Ni-Mo-Fe steel is a multiphase material containing an α -phase, a γ -phase (retained austenite), and a cementite and carbide phase. It was revealed that, morphologically, the α -phase in the initial state, generally, is present in the form of: lamellar pearlite with a volume fraction of 35%, a ferritocarbide mixture with a volume fraction of 45%, and fragmented ferrite with a volume fraction of 20% of the material. After surface hardening, the morphological components of the structure changed: packet-lamellar martensite with volume fractions of 60% and 40%, 5% and 7% of γ -phase as residual austenite in the crystals of packet-lamellar martensite, 0.6% and 1.5% of cementite in crystals of packet-lamellar martensite, and 0.15% and 0.35% of complex carbide M ₂₃ C ₆ in crystals of packet-lamellar martensite, respectively, were observed. The quantitative characteristics of the dislocation structure were estimated by the following calculated indices of packet and	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104666588&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholtv+East+Kazakhstan+University%22+60112447%29&relpos=16&citeCnt=3&searchTerm=	3

			lamellar martensite: scalar (ρ) and excess ($\rho\pm$) density of dislocations, the value of the curvature-torsion of the crystal lattice (χ), the amplitude of long-range internal stresses (σd), and the amplitude of shear stresses (σL), according to which the plastic nature of the bending-torsion of the crystal lattice was confirmed ($\sigma L > \sigma d$). © 2021 by the authors. Licensee MDPI, Basel, Switzerland.		
176.	Zhumash, Z., Zhumabaeva, A., Nurgaliyeva, S., (...), Lebedeva, L.A., Zhoraeva, S.B.	<u>Professional teaching competence in preservice primary school teachers: Structure, criteria and levels</u>	Competency beliefs are beliefs about individuals' ability to perform significantly regarding events that may affect their lives. People with higher levels of teaching competency beliefs do not escape from the experiences they have just encountered and have the determination to complete their actions successfully. Having general competencies of teachers and teacher candidates is of key importance in terms of creating more efficient and improving educational processes. Therefore, this study aimed to provide a systematic review on structure, criteria, and levels of professional teaching competence levels of preservice primary school teachers based on a comprehensive literature review. The study employs qualitative research methodology including document analysis and related content analysis. Various results were obtained from this study and the results were discussed with relevant literature and future implications are provided. © 2021 Birlesik Dunya Yenilik Arastirma ve Yayıncılık Merkezi. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85106027724&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=17&citeCnt=17&searchTerm=	17
177.	Kozhambekov, D.R., Tolegen, M.A., Bitemirov, K.T., (...), Zhalburov, Y.T., Bekbosynov, Y.	<u>Main Principles And Features Of Consideration Legal Characteristics Of Secular State</u>	Modern society rather closely relates religion with affairs of the management of society. Considering society as a cell of structural subdivision of the state territorial unit, it is possible to designate that in compliance with a pyramid of needs of each individual, the religion, to be exact -the freedom of worship is rather significant component in the functioning mechanism in vital activity of each citizen. Limiting or forbidding something which is connected with religious religion, the state automatically breaks balance of the democratic system at the level of internal policy of the state that is fraught with extremely negative consequences which can be reflected in social, economic and even demographic environment of society. © 2021, Journal of Legal, Ethical and Regulatory Issues. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85105823196&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=18&citeCnt=0&searchTerm=	0
178.	Chlachula, J., Zhensikbayeva, N.Z., Yegorina, A.V., (...), Czerniawska, J., Kumarbekuly, S.	<u>Territorial assessment of the east kazakhstan geo/ecotourism: Sustainable travel prospects in the southern altai area</u>	In spite of picturesque landscapes, natural beauties and authentic traditional lifestyles to be seen in East Kazakhstan, tourism is far from being developed. The Kazakh Altai (called the Kazakh Switzerland) is one the most colourful parts of the country and, indeed, all Central Asia. The attractiveness of this geographically isolated region (formerly a part of the Imperial Russia), consisting of rocky semi-deserts, vast parkland-steppes, and rugged mountain terrains, is reflected in its distinctive geological and geomorphological character, its pristine nature, and its extraordinary geodiversity and biodiversity. This study presents a roster of geotourism and ecotourism loci for the broader Altai area within a framework of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104109326&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-	7

			sustainable development. The modelled assessment of the tourism and recreation potential is based upon multi-proxy analyses of GIS, DEM, and cartographic data. It integrates the most appealing natural (biotic and abiotic) site-specific natural features across all physiographic zones within a broad region. The most significant and representative geosites fall within three geographic sectors suitable for geo- and ecotourism. Prospects for travel to these places are enhanced by the presence of numerous prehistoric archaeological sites and historical monuments, which document the rich, multi-ethnic background of Kazakhstan and the ancient Silk Road that traverses it. These geological, environmental and cultural resources, and the regional geoheritage and environmental conservation concepts have been figured into strategies for economic growth of rural Kazakhstan. Visitors travelling to this most appealing region are constrained by climate of pronounced continentality, seasonality, geographic accessibility, the international border-zone regulations and a lack of services of an international standard. © 2021 by the authors.	ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University%22+60112447%29&relpos=19&citeCnt=7&searchTerm=	
179.	Kveglis, L.I., Noskov, F.M., Volochaev, M.N., Nyavro, A.V., Filarowski, A.	Magnetic properties of nickel-titanium alloy during martensitic transformations under plastic and elastic deformation	This paper focuses on the processes of the occurrence of magnetization during structure formation in samples of Ni ₅₁ Ti ₄₉ alloy under deformation conditions. The possibility of the existence of a phase with an FCC (face-centered cubic) lattice in titanium nickelide has been demonstrated by electron microscopy and electron diffraction. It has been discovered that the interplanar distances of BCC ₁₁₀ (body-centered cubic), FCC ₁₁₁ , and HCP ₀₀₂ (hexagonal close packed) in the alloy under study have similar values, which indicates the possibility of their mutual polymorphic transformation. Based on the modular self-organization, a scheme of martensitic transformations in titanium nickelide from the B2 structure (BCC lattice) to the B19' structure (HCP lattice) through an intermediate phase with an FCC lattice is proposed. It is shown that lenticular crystals appear in the Ni ₅₁ Ti ₄₉ alloy under tensile deformation until rupture, which is accompanied by the onset of ferromagnetism. The effect of magnetization in Ni ₅₁ Ti ₄₉ samples when immersed in liquid nitrogen has been also discovered. In this case, the reason for the appearance and disappearance of magnetization can be associated with microdeformation processes caused by direct and reverse martensitic transitions that occur during cooling and heating of the samples. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104104100&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University%22+60112447%29&relpos=20&citeCnt=4&searchTerm=	4
180.	Nikolaeva, V.N., Zharkova, S.V., Gefke, I.V., Dolanbayeva, G.T.	Seed-potatoes production using biotechnology methods under the conditions of East Kazakhstan	The production of potato varieties for a long period of time largely contributes to a decrease in the initial productivity and quality indicators of potato tubers, this is the result of a progressive accumulation of viral, viroid, fungal and bacterial pathogens during plant reproduction. The system of virus-free seed production, based on the improvement of varieties and accelerated multiplication of the original seed material in conditions that exclude reinfection, successfully solves many problems of potato seed production. Biotechnological methods play a key role in this process. Micropropagation method allows for the rapid propagation	https://www.scopus.com/record/display.uri?eid=2-s2.0-85103242955&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University%22+60112447%29&relpos=20&citeCnt=4&searchTerm=	2

			of healthy seed material. We in 2016-2019. Investigations were carried out to obtain seed material of potato varieties of different ripeness groups using the in vitro method in the conditions of East Kazakhstan. After analyzing the conditions for the selection of seed production schemes, data on soil and climatic conditions, phytopathogenic conditions in the zone of potato production, we have selected a four-year seed production scheme in the methodology of original and elite seed production introduced in Ulan Zhemis LLP. Adaptation to production conditions was carried out in 2018-2019. All varieties by the method of accelerated in vitro reproduction were cloned by microcutting in four repetitions in the offspring in the laboratory of plant biology and biotechnology of the V. S. Amanzholova. All tested varieties, cut and adapted to soil and climatic conditions, were planted in a closed area from May 15 to June 1. As a result, the most productive varieties using the in vitro method were identified: Gulliver (Russia), Juvel (Germany), Colomba (Holland), Queen Anna (Germany), Rodrigo (Germany), Riviera (Holland), Darenka (Russia), Luck (Russia), Artemis (Holland), Red Lady (Germany). © 2021 Institute of Physics Publishing. All rights reserved.	%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=21&citeCnt=2&searchTerm=	
181.	Rahadilov, B.K., Zhurerova, L.G., Sagdoldina, Z.B., Kenesbekov, A.B., Bayatanova, L.B.	Morphological Changes in the Dislocation Structure of Structural Steel 20GL after Electrolytic-Plasma Hardening of the Surface	Abstract: The work is devoted to the study of the features of the formation of modified surface layers in the electrolytic-plasma coating of the surface of 20GL steel used for the manufacture of parts of a railroad train. The results of the investigation of the effect of the electrolytic-plasma coating on the morphology and the structural-phase state of the surface, the dislocation structure of 20GL steel before and after treatment are presented. It has been established that in the initial state 20GL steel has a ferrite-pearlite structure, and after the electrolytic-plasma coating of the surface, a lamellar structure of perlite and ferrite is observed. It is found that in the initial state 20GL steel has the following average parameters of the fine structure: $\langle \rho \rangle = 2.41 \times 10^{10} \text{ cm}^{-2}$, $\langle \rho_{\pm} \rangle = 2.23 \times 10^{10} \text{ cm}^{-2}$, $\langle \chi \rangle = \langle \chi_{lp} \rangle + \langle \chi_{elas} \rangle = 560 + 25 = 585 \text{ MPa}$, $\langle \sigma_1 \rangle = 310 \text{ MPa}$, $\langle d \rangle = \langle d_{pl} \rangle + \langle d \rangle = 300 + 35 = 335 \text{ MPa}$; and after processing, the average parameters of the fine structure changed as follows: $\langle \rho \rangle = 1.03 \times 10^{10} \text{ cm}^{-2}$, $\langle \rho_{\pm} \rangle = 0.82 \times 10^{10} \text{ cm}^{-2}$, $\langle \chi \rangle = \langle \chi_{pl} \rangle = 205 \text{ MPa}$, $\langle \sigma_1 \rangle = 200 \text{ MPa}$, $\langle d \rangle = \langle d \rangle = 175 \text{ MPa}$. © 2021, Pleiades Publishing, Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104627186&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=22&citeCnt=7&searchTerm=	7
182.	Gnecchi-Ruscone, G.A., Khussainova, E., Kahbatkyzy, N., (...), Jeong, C., Krause, J.	Ancient genomic time transect from the Central Asian Steppe unravels the history of the Scythians	The Scythians were a multitude of horse-warrior nomad cultures dwelling in the Eurasian steppe during the first millennium BCE. Because of the lack of first-hand written records, little is known about the origins and relations among the different cultures. To address these questions, we produced genome-wide data for 111 ancient individuals retrieved from 39 archaeological sites from the first millennia BCE and CE across the Central Asian Steppe. We uncovered major admixture events in the Late Bronze Age forming the genetic substratum for two main Iron Age gene-pools emerging around the Altai and the Urals respectively. Their demise was mirrored by new genetic turnovers, linked to the spread of the	https://www.scopus.com/record/display.uri?eid=2-s2.0-85103532922&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=22&citeCnt=7&searchTerm=	27

			eastern nomad empires in the first centuries CE. Compared to the high genetic heterogeneity of the past, the homogenization of the present-day Kazakhs gene pool is notable, likely a result of 400 years of strict exogamous social rules. Copyright © 2021 The Authors, some rights reserved.	ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=23 &citeCnt=27&searchTerm=	
183.	<u>Zhilkashinova, A., Abilev, M., Pavlov, A., (...), Gradoboev, A., Zhilkashinova, A.</u>	<u>Ion-plasma spraying and electron-beam treatment of composite cr-al-co-zro₂-y₂ o₃ coating on the surface of ni-cr alloy</u>	The blades of modern gas turbine engines are complex structures made of heat-resistant nickel alloys with a complex system of internal cavities. The article describes a method of strengthening samples of a heat-resistant Ni-Cr alloy by applying a composite coating (Cr-Al-Co + ZrO ₂ -Y ₂ O ₃). The alloy prototypes were fabricated by vacuum melting. An ion-plasma technology of a two-layer coating with an inner metal and an outer ceramic layer on the prepared surface of the heat-resistant alloy matrix was developed. The morphology and structure of the alloy prototypes and the investigated composite coating were studied by scanning electron spectroscopy. The total thickness of the two-layer wear-resistant coating was 17–18 µm. The thickness of the inner layer (Cr/Al/Co) is 10–11 µm and the thickness of the outer ceramic coating (ZrO ₂ -Y ₂ O ₃) is 6–7 µm. To improve the operational characteristics of the material, an electron-beam surface treatment was proposed. The research results showed a sevenfold increase in surface resistance compared with the initial state. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85103057358&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=24 &citeCnt=3&searchTerm=	3
184.	<u>Temirbekov, A., Baigereyev, D., Temirbekov, N., Urmashiev, B., Amantayeva, A.</u>	<u>Parallel CUDA implementation of a numerical algorithm for solving the Navier-Stokes equations using the pressure uniqueness condition</u>	In this paper, we study numerical methods for solving the Navier-Stokes equations in doubly connected domains. Two methods for solving the problem are considered. The first method is based on constructing a difference problem in variables of the stream function and the vortex of velocity using the uniqueness condition for pressure. The numerical solution of the elliptic equation for stream functions is found as the sum of the solutions of two simple problems of an elliptic type. One problem is with homogeneous boundary conditions, and the other is with a homogeneous equation. An alternative approach to solving the problem is the fictitious domain method with the continuation of the least coefficient. This method does not require satisfying the pressure uniqueness condition, and is simple to implement. An important direction in the development of numerical simulation methods is the study of approximate methods for solving problems of mathematical physics in complex multidimensional areas. To solve many applied problems in irregular areas, the fictitious domain method is widely used, which is characterized by a high degree of automation of programming. The main idea of the fictitious domain method is that the problem is solved not in the original complex domain, but in some other, simpler domain. This allows to create software immediately for a fairly wide class of problems with arbitrary computational domains. The possibilities of applying the fictitious domain method to the problems of hydrodynamics in the variables "stream function, vortex of velocity" are considered in many works. In this paper, we study a numerical method for solving the Navier-Stokes equations in doubly connected	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101660041&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=25 &citeCnt=3&searchTerm=	3

			domains. A computational finite difference algorithm for solving an auxiliary problem of the fictitious domain method has been developed. The results of numerical modeling of the two-dimensional Navier-Stokes equations by the fictitious domain method with continuation by the lowest coefficient are presented. For this problem, a parallel algorithm was developed using the CUDA architecture, which was tested on various grid dimensions. © 2021 Author(s).		
185.	<u>Zhaksylykova, Z., Temirbekov, N., Malgazhdarov, Y.</u>	<u>The fictitious domain method for the Navier-Stokes equations in natural variables</u>	In this paper, we consider a variant of the fictitious domain method associated with the modification of nonlinear terms in a fictitious subdomain. The model problem shows the effectiveness of using this modification. The proposed version of the method is used to solve the problem of an arbitrary region and to set a boundary condition for pressure. A numerical solution is implemented and the results of numerical results are given. © 2021 Author(s).	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101603223&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=26&citeCnt=2&searchTerm=	2
186.	<u>Alimbekova, N., Berdyshev, A., Baigereyev, D.</u>	<u>Study of initial boundary value problem for two-dimensional differential equation with fractional time derivative in the sense of Caputo</u>	In this paper, we study an initial boundary value problem for a two-dimensional differential equation with a fractional time derivative in the sense of Caputo. This equation is of great applied importance in modeling flow processes and anomalous dispersion. The uniqueness and continuous dependence of the solution on the input data in differential form is proved. A computationally effective implicit scheme with weights is proposed. A priori estimates are obtained for the solution of the problem under the assumption that a solution exists in the class of sufficiently smooth functions. These estimates imply the uniqueness of the solution and the stability of the scheme with respect to the initial data and the right-hand side of the equation. The convergence of the approximate solution to the solution of the differential problem with the second order both in time and space variables is proved. The results of computational experiments confirming the reliability of theoretical analysis are presented. © 2021 Author(s).	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101596606&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=27&citeCnt=0&searchTerm=	0
187.	<u>Kayukova, L., Vologzhanina, A., Praliyev, K., (...), Chingissova, L., Akatan, K.</u>	<u>Boulton-katritzky rearrangement of 5-substituted phenyl-3-[2-(Morpholin-1-yl)ethyl]-1,2,4-oxadiazoles as a synthetic path to spiropyrazoline benzoates and</u>	The analysis of stability of biologically active compounds requires an accurate determination of their structure. We have found that 5-aryl-3-(2-aminoethyl)-1,2,4-oxadiazoles are generally unstable in the presence of acids and bases and are rearranged into the salts of spiropyrazolinium compounds. Hence, there is a significant probability that it is the rearranged products that should be attributed to biological activity and not the primarily screened 5-aryl-3-(2-aminoethyl)-1,2,4-oxadiazoles. A series of the 2-amino-8-oxa-1,5-diazaspiro[4.5]dec-1-en-5-ium (spiropyrazoline) benzoates and chloride was synthesized by Boulton-Katritzky rearrangement of 5-substituted phenyl-3-[2-(morpholin-1-yl)ethyl]-	https://www.scopus.com/record/display.uri?eid=2-s2.0-85102605149&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-	6

		<u>chloride with antitubercular properties</u>	1,2,4-oxadiazoles and characterized using FT-IR and NMR spectroscopy and X-ray diffraction. Spiropyrazolylammonium chloride demonstrates in vitro antitubercular activity on DS (drug-sensitive) and MDR (multidrug-resistant) of MTB (M. tuberculosis) strains (1 and 2 µg/mL, accordingly) equal to the activity of the basic antitubercular drug rifampicin; spiropyrazoline benzoates exhibit an average antitubercular activity of 10-100 µg/mL on MTB strains. Molecular docking studies revealed a series of M. tuberculosis receptors with the energies of ligand-receptor complexes (–35.8–42.8 kcal/mol) close to the value of intermolecular pairwise interactions of the same cation in the crystal of spiropyrazolylammonium chloride (–35.3 kcal/mol). However, only in complex with transcriptional repressor EthR2, both stereoisomers of the cation realize similar intermolecular interactions. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.	ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=28 &citeCnt=6&searchTerm=	
188.	<u>Rakhadilov, B., Maulet, M., Abilev, M., Sagdoldina, Z., Kozhanova, R.</u>	<u>Structure and tribological properties of Ni-Cr-Al-based gradient coating prepared by detonation spraying</u>	In this paper, Ni-Cr-Al coatings were deposited using the detonation spraying method. The aim was to investigate how technological parameters influence coating structure formation, phase composition and tribological performances. We observed that the degree to which the barrel is filled with an O ₂ /C ₂ H ₂ gas mixture strongly influences the chemical composition of manufactured coatings. High degrees of barrel filling led to a decrease in aluminum content in the coating. Filling degrees of 40% and 50% produced sprayed coatings in which only Ni-Cr phases could be found. When the filling degree was reduced up to 25%, Ni-Al phases began to form in the sprayed coatings. Gradient Ni-Cr-Al coatings were produced by gradually reducing the filling degree from 50% to 25%. These coatings are characterized by Ni-Cr near the substrate level with Ni-Cr and Ni-Al phases at higher levels. The results obtained confirm that gradient Ni-Cr-Al coatings exhibit high hardness as well as good wear resistance. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101537404&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=29 &citeCnt=16&searchTerm=	16
189.	<u>Sagdoldina, Z., Rakhadilov, B., Kurbanbekov, S., Kozhanova, R., Kengesbekov, A.</u>	<u>Effect of irradiation with Si⁺ ions on phase transformations in Ti–Al system during thermal annealing</u>	The article deals with the effect of irradiation with Si ⁺ ions on phase transformations in the Ti–Al system during thermal annealing. An aluminum film with a thickness of 500 nm was deposited on VT1-00 titanium samples by magnetron sputtering, followed by ion implantation. Samples before and after irradiation with Si ions were annealed in a vacuum of 10 ^{–4} Pa in the temperature range 600–1000 °C. It was established that ion implantation reduces the dissolution of Al in α-Ti with the formation of titanium silicides (TiSi ₂ , Ti ₅ Si ₃) and stabilizes aluminide phases Ti ₃ Al rich in aluminum. As a result, a composite structure based on titanium silicide/aluminide was obtained on the surface of the sample synthesized by complex treatment: deposition, irradiation with Si ⁺ , and thermal annealing at the near-surface layers. The formation of the phase-structural state of the implanted layers is associated with the displacement of atoms of the crystal lattice, a result that is reflected in an increase in the size of the crystal lattice and a decrease in microdistortion of the lattice. The opposite	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100931614&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=30&citeCnt=5&searchTerm=	5

			effect is observed with increasing temperature. This fact is explained by the relaxation of unstable large grains with an excess of internal energies. At the annealing temperature of 900–1000 °C, a significant increase in microhardness was observed due to silicide phases. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.		
190.	Rakhadilov, B., Kengesbekov, A., Zhurero, L., Kozhanova, R., Sagdoldina, Z.	<u>Impact of electronic radiation on the morphology of the fine structure of the surface layer of R6M5 steel</u>	In recent decades, great efforts have been made to significantly improve the performance characteristics of high-speed steel using various surface hardening techniques. Electron beam modification is engaging because it has an exceptionally high thermal efficiency and can significantly improve steels' physical and mechanical properties. This work is devoted to researching the fine structure and changing the structural phase state of the surface layer of R6M5 high-speed steel after exposure to an electron beam. Electron beam treatment of steel R6M5 was carried out on a vacuum installation. The structure and phase composition of P6M5 steel samples were studied by transmission electron microscopy. Determined that after electron irradiation, the steel structure as in the initial state consists of martensite, carbides and residual austenite. After electron irradiation, an increase in the volume fraction of lamellar martensite is observed: The fraction of lamellar martensite in the initial state is 80%, and after irradiation, it is ~90% of the total fraction of α' -martensite. The action of the electron beam led to an increase in internal stresses in α' -martensite. Revealed, the value of the scalar dislocation density in R6M5 steel after exposure to an electron beam is higher than in the initial state. A cardinal difference in the state of the material after exposure to an electron beam is the presence of bending extinction contours in all M6C carbide particles. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100812557&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=31&citeCnt=2&searchTerm=	2
191.	Rakhadilov, B., Buitkenov, D., Sagdoldina, Z., (...), Kurbanbekov, S., Adilkanova, M.	<u>Structural features and tribological properties of detonation gun sprayed ti-si-c coating</u>	The paper considers the research results of structural-phase state and tribological characteristics of detonation coatings based on Ti–Si–C, obtained at different filling volumes of the explosive gas mixture barrel of a detonation gun. The results analysis indicates that the phase composition and properties of detonation coatings strongly depend on the technological parameters of spraying. With an increase of the explosive mixture in the filling volume of the detonation barrel up to 70% of the coatings consist mainly of the TiC phase, because high temperature leads to a strong decomposition of Ti ₃ SiC ₂ powders. Thus, the XRD results confirm that at 70% of the explosive gas mixture's filling volume, partial decomposition and disintegration of the powders occurs after detonation spraying. We established that detonation coatings based on titanium carbosilicide obtained at the explosive gas mixture's filling volume at 60% are characterized by high wear resistance and adhesive strength. Thermal annealing was performed after spraying in the temperature range of 700–900°C for 1 h to reduce microstructural defects and improve the Ti–Si–C coating characteristics. As a result of the heat treatment in the Ti–Si–C system at 800°C, we observed that an	https://www.scopus.com/results/results.uri?cc=10&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=15&s=AF-ID%2860112447%29&ss=plf-f&ps=r-f&editSaveSearch=&origin=resultslist&zone=resultslist	14

			increase in the volume fraction of the Ti_3SiC_2 and TiO_2 phases led to a 2-fold increase in microhardness. This means that the after-heat-treatment can provide a sufficient reaction time for the incomplete reaction of the Ti–Si–C (TSC) coating during the detonation gun spraying. Thus, annealing can provide an equal distribution of elements in the coatings. © 2021 by the authors. Licensee MDPI, Basel, Switzerland.		
192.	<u>Rakhadilov, B., Tyurin, Y., Kakimzhanov, D., (...), Kolisnichenko, O., Zhurerova, L.</u>	<u>DEPOSITION OF DUPLEX Cr_3C_2-NiCr COATINGS ON STEEL USING A COMBINED TECHNIQUE OF GAS DETONATION SPRAYING AND PULSE-PLASMA TREATMENT</u>	Sintered chromium carbide–nickel-chromium alloys are widely used to protect machine parts operated in extreme conditions. In this research, a duplex technology was studied, which includes the deposition of Cr_3C_2 -NiCr coatings using a multichambered detonation device and subsequent pulse-plasma treatment (PPT). It was determined that PPT promotes a decrease in the surface roughness and friction coefficient of the coating (approximately two times), an increase in the microhardness of the Cr_3C_2 -NiCr coating material from 12 GPa (initial) to ~ 16.2 GPa, and an increase in wear resistance by two times compared to an untreated coating. It was also revealed that after the pulse-plasma treatment, the resistance of Cr_3C_2 -NiCr coatings to abrasive wear and erosion increases. The proposed duplex technology ensures the formation of high-quality coatings from a cermet material of the Cr_3C_2 -NiCr system with a complex heterogeneous structural-phase state, where a layered structure of regions of carbide particles and matrix metal was found in the immediate vicinity of the carbide-matrix interface with precipitates in the matrix of dispersed secondary carbides. © 2021 by Begell House, Inc.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85129948758&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzhola v+East+Kazakhstan+University%22+60112447%29&relpos=33&citeCnt=4&searchTerm=	4
193.	<u>Rakhadilov, B.K., Pogrebniak, A.D., Maksakova, O.V., (...), Kvyshkanov, M.K., Bagdasaryan, A.A.</u>	<u>Microstructure and Properties Development During Thermal Treatments of $\text{Ti}_3\text{SiC}_2/\text{TiC}$ Coating Produced by Denotation Spraying onto Carbon Steel Grade U9</u>	It is known that Ti_3SiC_2 is the only stable ternary compound in the Ti–Si–C system that demonstrates a good microstructure-properties relationship. The production of Ti–C–Si by detonation spraying technique results in the formation of multilayer $\text{Ti}_3\text{SiC}_2/\text{TiC}$ coating. This transformation is due to the deintercalation of Si from Ti_3SiC_2 that enlarges after heat treatment. This article provides investigations on the effect of middle-temperature annealing on the structural-phase state, mechanical and tribological properties of $\text{Ti}_3\text{SiC}_2/\text{TiC}$ coatings obtained by the detonation spraying method. After annealing, the formation of [110], [211] and [301] reflections of TiO_2 phases and an increase in the intensity of [103] and [108] reflections of Ti_3SiC_2 phases are observed. The maximum hardness of 1400 HV obtained for the coating annealed to 800 °C. A similar tendency observed during adhesion tests. An increase in annealing temperature to 800°C, improves the adhesion strength of the coating to 13.2 N. Meanwhile the value of COF remains stable for as-deposited and annealed coating. The property improvements are due to the formation of denser structure and oxide TiO_2 films. ©2021 IEEE	https://www.scopus.com/record/display.uri?eid=2-s2.0-85126594861&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzhola v+East+Kazakhstan+University%22+60112447%29&relpos=34&citeCnt=1&searchTerm=	1
194.	<u>Nugumanova, A., Bondarovich, A., Tlebalidnova,</u>	<u>Spatial interpolation of humidity values in the fields of East</u>	Soil moisture has a major impact on the growth and development of grain crops. With a change in moisture, most of the physical or chemical properties of the soil change, which determines the need for systematic control of soil moisture in the	https://www.scopus.com/record/display.uri?eid=2-s2.0-85124958515&origin=resultslist	1

	<u>A., (...), Rakhymbek, K., Maulit, A.</u>	<u>Kazakhstan agricultural experimental station</u>	practice of agriculture. However, soil moisture is highly variable in space and time, which makes it difficult to measure it on a field-wide scale. Spatial moisture interpolation allows to solve this problem by continuously displaying moisture indicators throughout the landscape. In this paper, we compare two methods of interpolation Nearest neighbor interpolation and Inverse distance weighted for moisture indicators obtained at the soil surface and at a depth of 1 m. Both methods showed results easy to interpret, each at its own level of detailing. © 2021 IEEE.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85124236264&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=35&citeCnt=1&searchTerm=	
195.	<u>Nugumanova, A., Baiburin, Y.</u>	<u>Evaluation metrics for automatically constructed concept maps</u>	Concept maps are knowledge visualization tools that allow representing the text or domain at a conceptual level. They reflect the systemic relations between the key concepts of the text and thereby contribute to a deeper understanding of its ideas, save time spent on reading and analysis. However, the very process of creating concept maps is laborious and time-consuming. At the same time, with the rapid growth of digital reading services, the automatic construction of concept maps attracts an increasing intensive research. Against that background, comparison and evaluation of methods for automatic construction of concept maps are of great importance. In this paper, we discuss popular evaluation metrics for automatically created concept maps and propose our new metric based on network centrality analysis. We test all the considered metrics by comparing an automatic concept map with a reference concept map developed manually by experts. Experiments show that our proposed metric complements existing metrics by providing information about significance degrees of concepts and relations. © 2021 ICROS.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85123828164&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=36&citeCnt=0&searchTerm=	0
196.	<u>Temirbekov, N.M., Los, V.L., Baigereyev, D.R., Temirbekova, L.N.</u>	<u>MODULE OF THE GEOINFORMATI ON SYSTEM FOR ANALYSIS OF GEOCHEMICAL FIELDS BASED ON MATHEMATICAL MODELING AND DIGITAL PREDICTION METHODS</u>	This paper describes the software module of the geographic information system, developed in the framework of research on methods for intelligent detection of anomalies for deep exploration of deposits. The module is based on the use of a mathematical model for determining the distribution field of a chemical element at a given depth given by the Fredholm integral equation with a Poisson kernel. The software module contains the implementation of algorithms for solving the indicated inverse problem for predictive calculations of the concentration of chemical elements based on measurement data on the day surface, as well as a number of auxiliary capabilities. The algorithm is implemented using the M. Lavrentiev regularization method and the Landweber iteration method. The results of predictive calculations are displayed on the map of the QGIS geoinformation system. The paper describes the structure of the software module and the process of its development, as well as the algorithm of QGIS user actions for interacting with the functions of the module. Implemented module is able to import the initial data obtained as a result of field and laboratory research into the database automatically. The geographic information system database contains	https://www.scopus.com/record/display.uri?eid=2-s2.0-85123828164&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=37&citeCnt=1&searchTerm=	1

			data on 29 chemical elements at 3920 points of material sampling in the Novo-Khairuzovsky area of southern Altai, located on the territory of Kazakhstan. The approbation of the mathematical model was carried out by comparing the calculated data with empirical data for gold. On the basis of the comparative analysis, it was concluded that the mathematical model makes it possible to recover the distribution field of chemical elements at a given depth of occurrence with an acceptable accuracy. © 2021, National Academy of Sciences of the Republic of Kazakhstan. All rights reserved.		
197.	<u>Rakhadilov, B.K., Satbayeva, Z.A., Wieleba, W., Kylvshkanov, M.K., Baizhan, D.R.</u>	<u>CHANGES IN STRUCTURE AND PROPERTIES OF STRUCTURAL CHROMONICKEL STEELS AFTER PLASMA ELECTROLYTE HARDENING</u>	this work presents the research results of the impact of plasma electrolyte hardening (PEH) on the structure and properties of structural 40HN and 20H2N4A steels. Thermal surface hardening of steel parts is one of the most effective and efficient ways to increase the service life of loaded elements of machines and mechanisms, also to reduce their material consumption. In this case, only the most loaded working surface of the part is strengthened, leaving the core intact. The PEH process was carried out in an electrolyte from an aqueous solution containing 20% sodium carbonate and 10% urea. It has been established that a modified layer after PEH is formed with a thickness of 0.5-0.7 mm which consist of a hardened layer of fine-grained martensite and an intermediate layer of perlite and martensite. Microhardness increases by 2 times, wear resistance increases by 3 times after PEH. The conducted research showed the promise and feasibility of using the developed method to improve the operational properties of parts operating under friction and wear. This method, which consists in heating the part for 2 s, is recommended for hardening gears made of 40HN and 20H2N4A steels without additional heat treatment. PEH ensures the achievement of a technical and economic effect due to the use of simple equipment, not expensive aqueous solutions, reduction of processing time, and also as a result of increased wear resistance and microhardness of steels. © 2021, National Academy of Sciences of the Republic of Kazakhstan. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85123705049&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=38&citeCnt=2&searchTerm=	2
198.	<u>Sholpanbaeva, K.G., Apysheva, A.A., Shaikhanova, N.K., Alimbetov, U.S., Egenberdieva, S.K.</u>	<u>Globalization of the economy and its impact on the financial policy of Kazakhstan [ekonomikos globalizacija ir jos poveikis Kazachstano finansu politikai]</u>	This paper is aimed at studying the impact of economic globalization on the financial policy of Kazakhstan. The relevance of this study is conditioned by the problems of implementing financial policy for the modern economy of Kazakhstan, the underdevelopment of the financial and banking systems, and the low level of monetization (45%, with a threshold for food security at 75%). This study uses the methods of analysis, synthesis, and analogy, which allow for a comprehensive study of the models of financial market regulation. Using the comparative research method, the regulation of the research object in the national system of Kazakhstan, in other countries of the region, and at the international level is compared. This paper presents the main trends in the functioning of financial systems at the international, regional, and national levels. The integration of the banking sector is classified according to the degree of development of integration processes in the financial sphere. These processes	https://www.scopus.com/record/display.uri?eid=2-s2.0-85122194687&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=39&citeCnt=0&searchTerm=	0

			include: offensive credit integration; protective financial integration; preparatory (pre-integration); and disintegration. This study reveals that Kazakhstan is making attempts to introduce the conceptual provisions of Asian neo-industrial countries both to modernize the national economy and the financial sphere and to actively engage in regional and world financial markets and flows. It is determined that a consolidated (integrated) model of financial market regulation functions in Kazakhstan, and its advantages and disadvantages are noted. The study of the features of the financial market regulation models in other countries under the influence of globalization trends makes it possible to determine measures to improve the financial market regulation of Kazakhstan. © 2021 Mykolas Riomeris University. All rights reserved.		
199.	<u>Aleksevenko Alexandr, N., Aubakirova Zhanna, S., Stolyarova Eleonora, O., Omyrzak Tamerlan, Ye.</u>	<u>Urban Population of Modern Kazakhstan: Features of Formation and Development</u>	The article deals with the process of forming the modern urban population of Kazakhstan on an autochthonous basis. Conventional stages of development of the phenomenon are designated. In the 1930s and 1970s, as a result of the migration inflow, an ethnically differentiated settlement system developed in the Republic. The majority of the urban population were the Russians, meanwhile the majority of the Kazakhs lived in rural area. In the 1970s and 1980s, the process of urbanization of Kazakhs became more active, losing the foundations of ethnic culture in the Russified city. The formation of Kazakhstan's statehood actualizes the problem of creating an urban Kazakh nation capable of solving the problems of modernization development. Currently, the urban population majority of the Republic are Kazakhs. It is important that the generation born and socialized in the post-Soviet time gradually enters the socially active age. It is this generation that will form various options for the further development of Kazakhstan's urban space. © 2021, Rossiiskaya Akademiya Nauk, Institut Istorii (Russian Academy of Sciences, Institute of General Hist). All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85121101347&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relopos=40&citeCnt=1&searchTerm=	1
200.	<u>Tolegen, M., Utegenova, B., Baymuhambetova, B., (...), Balgabaeva, G., Baizhanova, S.</u>	<u>Factor analysis of suicidal risk and protective mechanisms of pedagogical students in Kazakhstan</u>	Background: The study aims to identify the underlying causes, risks and protection factors in the field of suicidal behavior among pedagogical students to understand and reduce the prevalence of victimization and suicide in the education system. Subject and methods: The analysis of suicidal risk factors and protective mechanisms among pedagogical students is carried out based on the results of psychological testing, correlation and factor analysis. Results: Results of the study show that the following two factors greatly influence suicidal behavior among pedagogical students. Firstly, there is "Psychological (personal) risk factor of suicidal behavior", which combines indicators of destructive personality of students, leading to suicidal behavior. Secondly, there is "Conflict socio-environmental risk factor of suicidal behavior" that combines indicators of disharmonious upbringing and disharmonious relationships with the immediate environment. Moreover, in stressful situations, most future teachers from the "risk group "use non-constructive strategies of the protective mechanisms "projection "and "regression "and have a high level of an overall tension index of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85120382251&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relopos=41&citeCnt=2&searchTerm=	2

			these mechanisms. Conclusions: It is found that the suicidal factors, characteristic for pedagogical students, do not differ from the suicidal factors characteristic for students from other specialties. These factors affect a large number of pedagogical students (41.5%). There might be several risk factors at once, which increases the likelihood of suicidal thoughts and actions. The results of the study can be used to predict and prevent suicidal behavior among pedagogical students and increase the effectiveness of the psychological services of universities. © Medicinska naklada - Zagreb, Croatia.		
201.	<u>Zhanbosinova, A.S., Zhandybayeva, S.S., Kazbekova, A.T.</u>	<u>Ego-documents of the History of Political Terror in Kazakhstan [Эго-документы истории политического террора в Казахстане]</u>	Interdisciplinary approaches have expanded the research space of the history of political repression of 1920–1950s. The surge of interest in documents of personal origin in the historiography of the post-Soviet space led to an appeal to ego-documents — personal letters from victims of political repression. The study is based on archival and investigative materials of the Special State Archive of the Ministry of Internal Affairs of the Republic of Kazakhstan. Introduction of narrative sources into the scholarship enables to hear the history of political repression “from inside”, “from below”, to feel the psychology of terror. Letters to the authorities touched upon a complex of problems related to the violation of socialist legality in the field, especially in the period of political repression. The main message of the letters sent to the first leaders of the Soviet state was the monstrosity of the accusation of Article 58 of the Criminal Code of the RSFSR, the ridiculous mistake made by Soviet justice. The purpose of the article is to reveal the cognitive potential of ego documents in articulating the history of political repression. Based on the theoretical concepts of a linguistic, narrative turn, the historical past of political repressions, represented by ego documents of victims of political terror is constructed. A discursive assessment of the letter suggests its interpretation as a reconstruction of the sociocultural memory of the tragic past that left a cultural trauma in the family frame of memory. Each letter has its own power of power, the inner ‘I’ voices the daily practices of political terror. © 2021 Saint Petersburg State University. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85120179576&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=42&citeCnt=0&searchTerm=	0
202.	<u>Zhabykbayeva, D., Sanay, G., Bekish, A., Zhylkybekova, G., Kasymbekov, Z.</u>	<u>Teachers' views on the level of cultural heritage knowledge that can be improved through innovative technologies</u>	The purpose of this research is to determine primary school students' perceptions of cultural heritage and to evaluate student and teacher views on the level of cultural heritage knowledge that can be improved through innovative technologies. The research was carried out with 20 primary school students and 10 primary school teachers who were educated in the city of Almaty, Kazakhstan in the 2020-2021 academic year. The research was designed in the case study pattern, which is one of the qualitative research methods. The data collection tools of the research were developed by the researcher. Semi-structured student interview form and semi-structured teacher interview form were used to collect data in the research. The analysis of the data was carried out using the content analysis method. The results of the research reveal that the students have a good grasp of some concepts related to the definition of cultural heritage and they	https://www.scopus.com/record/display.uri?eid=2-s2.0-85118958409&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=42&citeCnt=0&searchTerm=	1

			partially know the tangible cultural heritage and intangible cultural heritage items. While the teachers did not find the cultural heritage education sufficient, they stated that an education through innovative technologies would increase the level of student knowledge and made suggestions regarding this. Research findings reveal the necessity of using innovative technologies in cultural heritage education and accordingly the need for new regulations in education programs. ©2021 Birlesik Dunya Yenilik Arastirma ve Yayincilik Merkezi. All rights reserved.	%22+60112447%29&relpos=43&citeCnt=1&searchTerm=	
203.	<u>Rakhadilov, B.K., Sagdoldina, Zh.B., Baizhan, D.R., (...), Kalitova, A.A., Smaiylola, M.</u>	<u>Obtaining of Hydroxyapatite Coatings on A Titanium Substrate by Detonation-Gas Spraying</u>	The article considers research results of the formation process of a hydroxyapatite coating on a titanium substrate during detonation spraying. Powders for sputtering and obtained coatings of hydroxyapatite were studied by Raman spectroscopy and X-ray structural analysis. It was determined that the appearance of α -tricalcium phosphate phase is characteristic of a pure hydroxyapatite coating obtained by detonation spraying. Still, the hydroxyapatite phase is retained in the coating composition. Results obtained by Raman spectroscopy indicate that hydroxyapatite is the main phase in coatings. The morphology of the sprayed coatings was characterized using scanning electron microscopy, and the coatings elemental composition analysis was obtained using an energy-dispersive spectrometer detector. Energy-dispersive spectrometer analysis showed that the elemental composition of the obtained coatings is similar to the elemental composition of the initial powder, which is very important for preserving the coatings services life. © 2021 E.A.Buketov Karaganda State University Publish House. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85118388737&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzhola v+East+Kazakhstan+University %22+60112447%29&relpos=44&citeCnt=3&searchTerm=	3
204.	<u>Rakhadilov, B.K., Kozhanova, R.S., Baizhan, D., (...), Kalitova, A.A., Zhanuzakova, L.N.</u>	<u>Influence of plasma electrolytic hardening modes on the structure and properties of 65G steel</u>	This work presented a study of the structure, hardness and wear resistance of 65G steel treated with electrolyte-plasma hardening under different conditions. The electrolyte-plasma hardening technology and a laboratory installation for the realisation of electrolyte-plasma hardening are also described. After electrolyte-plasma hardening, we have established that a modified layer consists of the α -phase (martensite) and M3C cementite. The study results showed that electrolyte-plasma hardening makes it possible to obtain layers on the 65G steel surface that provides an increase in microhardness by 2.6 times, wear resistance by two times, resistance to abrasive wear by 1.7 times compared to the original samples. In addition, local hardening ensures the achievement of technical and economic effects due to the absence of the need to isolate an unwanted site of parts, processing only the areas requiring hardening. © 2021. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85118124392&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzhola v+East+Kazakhstan+University %22+60112447%29&relpos=45&citeCnt=2&searchTerm=	2
205.	<u>Nugumanova, A., Maulit, A., Mansurova, M., Baiburin, Y.</u>	<u>Understanding Bike Sharing Stations Usage with Chi-Square Statistics</u>	Bike sharing systems have both great potential and great challenge for the development of smart and green urban environment. Many problems, arising from design and operation of bike sharing systems, have no easy solutions and call for complex mathematical models. Nowadays, there are a lot of sophisticated methods for understanding and administration of bike sharing systems, based on	https://www.scopus.com/record/display.uri?eid=2-s2.0-85116880431&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=	0

			Data mining techniques, graph computations, temporal networks models, etc. At the same time, as the digitalization is accelerating, easy and affordable old-school methods are often overlooked. This paper presents a simple but efficient Chi-square test for analyzing bike sharing stations usage in mornings and evenings. The proposed method determines stations that keep the same usage patterns over time. Experiments conducted on CitiBike trip data for New York City's bike sharing service, have shown promising performance of the proposed method. © 2021, Springer Nature Switzerland AG.	=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=46&citeCnt=0&searchTerm=	
206.	Karassayev, G.M., Yensenov, K.A., Naimanbayev, B.R., Oskembay, A.A., Ermukhanova, H.K.	History of regional relations in foreign political activity of the republic of kazakhstan (1991-2014)	Lately legal framework of Kazakhstan's relations with other countries has been formed, the confidence and respect of the world community for the country has increased. This research article examines the regional partnerships of the East Kazakhstan and North Kazakhstan regions of the Republic of Kazakhstan from 1991 to 2014 on the basis of archival data, documents in collections and analysis of scientific papers. The multifaceted partnerships of the regions of the Republic of Kazakhstan with the regions, districts, border areas of the Republic of Kazakhstan distinguished by their importance and effectiveness are studied. Experience in this area shows that such a partnership in foreign policy allows for the full realization of relations, especially in the economic and social spheres. Through such cooperation, it will be possible to deepen interstate relations on the basis of mutual benefit. It will be possible to identify the specifics and bilateral needs of the regions, and further establish contacts on a regular basis. Thus, the purpose of all agreements with foreign countries concluded since the beginning of the 90s of the XX century in economic, cultural, health, education, science and other areas was to involve all regions of Kazakhstan in this relationship. Such activities take into account the provision of cooperation and exchange of experience with countries that have developed through high technical development. © 2021, National Academy of Legal Sciences of Ukraine. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85116873100&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=47&citeCnt=2&searchTerm=	2
207.	Buranich, V.V., Tsyganok, P.S., Pogrebnjak, A.D., (...), Lytovchenko, S.V., Rakhadilov, B.K.	Effect of composition and growth mechanism on the structure formation and functional properties of tialsyn/mon nanolayer-thick coating	Hard and wear-resistant protective coatings based on metal nitrides have been used for decades as support for the stable functioning of mechanical instrumentation: cutting tools, gears, and drills. Combining multielement nanocomposite (TiAlSiYN) and nanodimensional multilayer (MoN) concepts of coatings deposition, in turn, ensure the way to tune promising properties and performance. In this paper, the coating was synthesized by the reactive cathodic arc deposition at intensive nitrogen pressure and was studied in the internal structure and composition manner. X-ray diffraction and scanning/transmission electron microscopy analyses have revealed the mechanism of coherent growth of fcc TiAlN on fcc γ -Mo ₂ N along (200) plane. Surface and lateral section contained microdroplet fractions of Mo and Ti-Si-N, respectively, whose formation was attributed to the deposition features and elemental segregation within a coating. The study has unveiled the processes corresponding to	https://www.scopus.com/record/display.uri?eid=2-s2.0-85114947617&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=48&citeCnt=1&searchTerm=	1

			nanostructure formation in the nanocomposite and template layers. It was shown that Al bonds prevail in the upper TiAlSiYN layer recognized as an influential factor of the enhanced hardness (33.2 GPa) due to the formation of TiAlN solid solution. The vacancy exchange mechanism in MoN layers was proposed as a source for structural stability. Yet, the tribological tests pointed out the deficiency of lubricating particles in the TiAlSiYN matrix. Additional studies regarding the optimization of composition are required. © 2021 by Begell House, Inc. www.begellhouse.com.		
208.	<u>Rakhadilov, B.K., Buitkenov, D.B., Kowalewski, P., Stepanova, O.A., Kakimzhanov, D.</u>	<u>Modification of coatings based on Al₂O₃ with concentrated energy flows</u>	This paper presents the study results of structural-phase composition and mechano-tribological properties of Al ₂ O ₃ coatings after exposure of concentrated energy flows. Revealed that the treated coatings are generally characterized by high microhardness compared to the initial coating. Determined that after treatment with detonation and air-plasma action is observed an increase in the intensity of α -Al ₂ O ₃ reflexes. Established that the increasing hardness of detonation coatings is associated with an increasing density of the material and the recovery of the α -phase Al ₂ O ₃ in the composition of the protective layer under the influence of thermal activation of the surface. Determined that after treatment with detonation and plasma exposure is observed an increase in the intensity of reflexes α -Al ₂ O ₃ . Established that the treatment with detonation and air-plasma action leads to a decrease in the friction coefficient. The obtained data indicate that the tribological characteristics of coating based on aluminium oxide can be improved by exposure to concentrated energy flows. Established that coatings treated with plasma action showed high tribological properties. © 2021, National Academy of Sciences of the Republic of Kazakhstan. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85112208441&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relopos=49&citeCnt=1&searchTerm=	1
209.	<u>Kuanyshebekov, T.K., Akatan, K., Kabdrakhmanova, S.K., (...), Imasheva, A., Kairatuly, E.</u>	<u>Synthesis of graphene oxide from graphite by the hummers method</u>	This paper presents the results on the synthesis of graphene oxide (GO) from graphite using the Hummers method in which the graphite surface is modified with such strong acids as H ₂ SO ₄ , HNO ₃ , KMnO ₄ promoted the formation of hydroxyl and epoxy groups on the main plane, as well as carbonyl and carboxyl groups at the edges. Obtained results of the synthesis of GO with the oxidation of bulk graphite with strong oxidants, then with subsequent separation into few-layer graphene sheets, contributes to the production of graphene, graphene-like materials in large quantities, with a low cost, a fairly simple synthesis method and the possibility of converting it into graphene. The elemental composition of the obtained GO were studied by the energy dispersive X-ray spectroscopy (EDX) analysis and the structural characteristics were investigated by the Raman spectroscopy. The thermal stability and chemical functionalisation of GO were determined by the thermogravimetric analysis. The structural and crystal features of the obtained GO from graphite were studied using an X-ray diffractometer (XRD). © 2021, Scibulcom Ltd.. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85111322167&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relopos=50&citeCnt=4&searchTerm=	4

210.	Gavrilova, Y., Bogdanova, Y., Orsayeva, R., Khimmataliev, D., Rezanovich, I.	<u>Peculiarities of training engineering students with disabilities</u>	In this day and age, there are increasing discussions and calls for shifting towards inclusive education. In view of this, the present study intended to identify the most severe challenges disabled engineering students face according to their own view and find possible ways to solve them. For this particular aim, a survey of 555 students from five universities of Russia, Kazakhstan, and Uzbekistan was performed. These were the Bauman Moscow State Technical University, Northern Trans-Ural State Agricultural University, Sarsen Amanzholov East Kazakhstan State University, Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, and South Ural State University. The survey was carried out in two stages. The first focused on identifying the main problems of disabled students (physical environment, staff skills and knowledge, theory-practice relationship, assessment peculiarities, and bias). The second intended to define the most critical of them (unadapted physical environment and reduced abilities to apply theoretical knowledge in practice). To resolve these issues, the authors propose the following recommendations to be adopted. These include adapted laboratories and equipment; programs that allow performing practical tasks; engineering tutors able to assist in performing practical tasks; an adapted assessment system with reference to health condition; psychological support to integrate disabled students into an inclusive team and eliminate prejudices. The obtained research findings can be used by other universities to promote a comprehensive integration of students with special needs into the educational process. © 2021 Kassel University Press GmbH. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85111179625&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=51&citeCnt=2&searchTerm=	2
211.	Rakhadilov, B.K., Akatan, K., Maulet, M., Kabdrakhmanova, S.K., Magazov, N.M.	<u>Study on the influence of electron beam on the physicochemical properties of polyamide 6</u>	In this research work has been studied the effect of electron irradiation on the properties and structure of PA6 polyamide. The treatment was carried out with an industrial pulse accelerator in air with an irradiation dose in the range of 100-400 kGy. The processed polymer was also studied by Fourier-transform infrared spectroscopy, scanning electron microscopy, X-ray phase analysis and differential scanning calorimetry. According to the results of the study was known that electron beam treatment affects the crystal structure of polyamide-PA6, reducing its size. Also, it was found that the radiation dose of 200 kGy is optimal for preserving the crystal structure in comparison with 100, 300 and 400 kGy. © 2021 E.A.Buketov Karaganda State University Publish House. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85111158294&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=52&citeCnt=0&searchTerm=	0
212.	Kakimzhanov, D.N., Rakhadilov, B.K., Buitkenov, D.B., (...), Rakhadilov.	<u>Obtaining multilayer coatings by the detonation spraying method</u>	This work were studied the effect of technological parameters of detonation spraying on the phase composition and tribological characteristics on the bases of NiCr and Al ₂ O ₃ coatings. As well as there was obtained and investigated multilayer coating on the bases of NiCr/NiCr-Al ₂ O ₃ / Al ₂ O ₃ . It was determined that during detonation spraying the phase composition of Al ₂ O ₃ coatings strongly depends on the degree of filling the borehole with a gas mixture. The α -Al ₂ O ₃ -	https://www.scopus.com/record/display.uri?eid=2-s2.0-85109172900&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171	0

	<u>M.K., Yeskermesso v., D.K.</u>		phase content in the coatings increases when the degree of filling is 63% and 54%. Only one CrNi ₃ phase is observed on the diffractograms and only increase of reflex intensity (020) at barrel filling by 58% is observed by sputtering on the bases of NiCr coatings in different degrees of barrel filling. The results of the coating nanohardness study showed that the hardness of the Al ₂ O ₃ coating increases depending on the content of α -Al ₂ O ₃ in it. Al ₂ O ₃ coating has the maximum nanohardness values and is 16.42 GPa at the borehole is filled to 63%. The nanohardness of NiCr coating has the maximum values at barrel filling by 58% and consisting of 8.02 GPa. © 2021	a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=53&citeCnt=0&searchTerm=	
213.	<u>Kengesbekov, A.B., Rakhadilov, B.K., Tyurin, Y.N., (...), Kylyshkanov, M.K., Sagdoldina, Z.B.</u>	<u>The influence of pulse-plasma treatment on the phase composition and hardness of Fe-TiB₂-CrB₂ coatings</u>	This work are presented the research results of pulse plasma treatment influence on the phase composition, hardness, roughness and element composition of coatings on the bases of Fe-TiB ₂ -CrB ₂ . The Fe-TiB ₂ -CrB ₂ coating was deposited by detonation method. The following pulse-plasma treatment was used to modify the structure and properties of the surface layers of the sprayed coating. The results of mechanical experiments showed that the hardness of Fe-TiB ₂ -CrB ₂ coating increased after the treatment. On the basis of the X-ray analysis, it has been established that the increase of coating hardness is connected with phase transformations in a surface layer, in particular, with formation of oxide phases and increase of carbide particles quantity. © 2021. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85109146981&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=54&citeCnt=0&searchTerm=	0
214.	<u>Akatan, K., Kabdrakhmanova, S.K., Abilev, M.B., (...), Bukunova, A.S., Imasheva, A.A.</u>	<u>Effect of the mechanical treatment on structural features of cellulose obtained from Cannabis ruderalis Janisch</u>	The research described in this paper aimed to examine the effect of mechanical activation in a ball mill on the structural features of cellulose obtained by the method of organic solvent oxidation from the stems of hemp (Cannabis ruderalis Janisch.), a common annual plant in the Eastern region of the Republic of Kazakhstan. According to the results obtained by infrared spectroscopy and X-ray diffractometry, the crystal structure of the cellulose changed according to certain patterns with increasing speed and time of mechanical activation. IR spectroscopy showed that as the activation rate increased, the value of the absorption spectrum, which characterises the C–O bond signal characteristic of the original cellulose, decreased and disappeared completely at 400 rpm. As a result, the amount of cellulose crystallites decreased and amorphous particles increased. This pattern was also observed by the method of X-ray diffractometry: at 400 rpm, the crystallinity index decreased by 12.2 nm units leading to the excessive destruction of the crystal structure of the cellulose. The surface morphology of the cellulose was maximised with increasing machining speed, and the crystallites were minimised. © 2021, Scibulcom Ltd.. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85107791948&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=55&citeCnt=0&searchTerm=	0
215.	<u>Aimukhambet, Z.A., Zhumagazina, A., Dalelbekkyzy,</u>	<u>Mythical symbolism in</u>	The relevance of the study is due to the fact that the myth was accepted for the object of study by several fields of science. In general, the human sciences system built a huge system of assumptions and conclusions about the myth, conducted a	https://www.scopus.com/record/display.uri?eid=2-s2.0-85107032435&origin=resultslist	7

	<u>A., Aituganova, S.Sh., Seiputanova, A.K.</u>	<u>structure of meta-text</u>	multi-faceted study in the field of philology, including folklore and literature. The leading approach to the study of this problem is the descriptive method that has afforded revealing peculiarities of myth and its influence on the structure of meta-text. The materials of the paper imply the practical significance for the university teachers of the philological specializations. © 2021 Transilvanian Association for the Literature and Culture of Romanian People (ASTRA). All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85107025490&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=56&citeCnt=7&searchTerm=	
216.	<u>Seitova, S.B., Satanova, S.K., Kassymova, A.A., (...), Akhmetova, G., Doskeyeva, S.A.</u>	<u>Linguo-cultural peculiarities in geographic names of Ayagoz region</u>	The article aims to study geographic names of Ayagoz region. Toponymy of Ayagoz region is tightly connected to the past of the nation. In the article we classify the formation of toponyms into four large groups. Based on this classification we distinguished in four lexical groups: (1) ancient Turkic layer; (2) Cuman layer; (3) entry layer and (4) basic linguistic layer. The statements are proved by some examples on the onomasiology of the Ayagoz region. Moreover, toponymy is further divided into individual and complex toponyms. We claim that geographic names, i.e. typonymy, describe physical and geographical features of the region in the past. By studying geographic names of Ayagoz region in close relationship with the history of the nation, its economy (farmery or agriculture), culture, faith and beliefs, we can come to many scientific findings and make conclusions. © 2021 Transilvanian Association for the Literature and Culture of Romanian People (ASTRA). All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85106747999&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=57&citeCnt=0&searchTerm=	0
217.	<u>Wojcik, W., Karmenova, M., Smailova, S., Tlebaldinova, A., Belbeubaev, A.</u>	<u>Development of data-mining technique for seismic vulnerability assessment</u>	Assessment of seismic vulnerability of urban infrastructure is an actual problem, since the damage caused by earthquakes is quite significant. Despite the complexity of such tasks, today's machine learning methods allow the use of "fast" methods for assessing seismic vulnerability. The article proposes a methodology for assessing the characteristics of typical urban objects that affect their seismic resistance; using classification and clustering methods. For the analysis, we use kmeans and hkmeans clustering methods, where the Euclidean distance is used as a measure of proximity. The optimal number of clusters is determined using the Elbow method. A decision-making model on the seismic resistance of an urban object is presented, also the most important variables that have the greatest impact on the seismic resistance of an urban object are identified. The study shows that the results of clustering coincide with expert estimates, and the characteristic of typical urban objects can be determined as a result of data modeling using clustering algorithms. © 2021 Polish Academy of Sciences. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85105403418&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=58&citeCnt=2&searchTerm=	2
218.	<u>Zhanzhaxina, A., Suleimen, Y., Metwaly, A.M.,</u>	<u>In Vitro and in Silico Cytotoxic and Antibacterial</u>	A biologically guided isolation of secondary metabolites from Cousinia alata Schrenk wild plant growing in Akmola region, Kazakhstan, led to the isolation of the bioactive diterpene grindelic acid (1). Six flavonoids were also isolated and	https://www.scopus.com/record/display.uri?eid=2-s2.0-85105403418&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=58&citeCnt=2&searchTerm=	23

	(...), Akatan, K., Luyten, W.	<u>Activities of a Diterpene from Cousinia alata Schrenk</u>	identified as retusine (2), pachipodol (3), jaranol (4), penduletin (5), casticin (6), and 5, 7, 3'-trihydroxy-3, 4'-dimethoxyflavone (7). Penduletin (5) showed moderate cytotoxic activity assay. Grindelic acid exhibited promising cytotoxic activity against the Artemia salina nauplii and antibacterial activity against Staphylococcus aureus, Bacillus cereus, and Salmonella enteritidis. The presence of the essential pharmacophoric features of histone deacetylase (HDAC) inhibitors in the structure of grindelic acid encouraged us to run a molecular docking study against the HDAC enzyme to understand its mechanism of action on a molecular level. Grindelic acid showed a binding mode of interaction similar to that of the cocrystallized ligand and exhibited good binding affinity against HDAC with the binding free energy of -18.70 kcal/mol. The structures of isolated compounds were determined by MS, 1D, and 2D NMR spectroscopy methods. Compounds (1-7) were isolated for the first time from Cousinia genus. © 2021 Almira Zhanzhaxina et al.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104265845&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=59&citeCnt=23&searchTerm=	
219.	<u>Rakhadilov, B.K., Buitkenov, D.B., Kabdykenova, E., Sagdoldina, Z.B., Zhurerova, L.G.</u>	<u>Effect of the detonation-spraying mode on the tribological properties of NiCr-Al₂O₃ coatings</u>	The article presents the study results of detonation spraying parameters on the phase composition and tribological properties of NiCr-Al ₂ O ₃ powder coatings. The spraying was carried out at a ratio of the acetylene-oxygen mixture O ₂ /C ₂ H ₂ = 1.856. The detonation barrel filling volume with an explosive gas mixture varied from 30% to 68%. It is determined that the phase composition of the NiCr-Al ₂ O ₃ coatings varies depending on the degree of detonation barrel filling. With an increase in the detonation barrel's filling volume, the intensity of the NiCr diffraction peaks is decreased, and the intensity of the α-Al ₂ O ₃ reflexes is increased, which indicates an increase in the content of the Al ₂ O ₃ phase. When low filling volume, there is determined a low coating density and uneven roughness. The tribological test results showed that with an increase in the detonation barrel filling volume, there is a decrease in the wear volume, which confirms the increase in the coatings wear resistance. Determined that the lowest friction coefficient was recorded in the sample obtained at the barrel filling volume 68%. The coatings' high wear resistance is associated with an increase in the alpha phase volume fraction of α-Al ₂ O ₃ and coatings density. © 2021. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104265845&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=60&citeCnt=1&searchTerm=	1
220.	<u>Kakimzhanov, D.N., Rakhadilov, B.K., Tyurin, Y.N., (...), Zhurerova, L.G., Dautbekov, M.K.</u>	<u>Influence of pulsed plasma treatment on phase composition and hardness of Cr₃C₂-NiCr coatings</u>	In this study, the research results of the influence of pulsed plasma treatment on phase composition, hardness, and roughness of Cr ₃ C ₂ -NiCr coatings are presented. The Cr ₃ C ₂ -NiCr coating was applied to substrate 12Kh18N10T stainless steel by detonation spraying method. To change the physical and mechanical properties of sprayed coating's surface layers, subsequent pulse-plasma treatment was used. The pulse-plasma treatment leads to changing the roughness of Cr ₃ C ₂ -NiCr coating. The results of mechanical tests showed that after pulsed plasma treatment, the hardness of Cr ₃ C ₂ -NiCr coating is increased. Based on X-ray diffraction analysis, it was found that the hardness increasing of coating is associated with phase transformations on the surface layer, in	https://www.scopus.com/record/display.uri?eid=2-s2.0-85104255449&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluser=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=60&citeCnt=1&searchTerm=	7

			particular, the formation of the oxide phase and an increase in the number of carbide particles. © 2021. All Rights Reserved.	v+East+Kazakhstan+University %22+60112447%29&relpos=61&citeCnt=7&searchTerm=	
221.	<u>Akatan, K., Kabdrakhmanova, S., Rakhadilov, B., Abilev, M.</u>	<u>Effect of Electron Beam on Physico-Chemical Properties of PA6 Polyamide</u>	Due to the technical features polyamide-PA6 is widely used in the industry. In this work, polyamide-PA6 was exposed to the radiation dose ranging from 100 kGy to 400 kGy using pulse accelerator. The treated polymer was studied by FT-IR, SEM, XRD, DSC methods. It was established that electron beam processing affects the crystalline structure of polyamide-PA6 and reduces its size. Compared to 100 kGy, 300 kGy and 400 kGy, crystalline structure remains without changes at 200 kGy. © 2021. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85103510749&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=62&citeCnt=0&searchTerm=	0
222.	<u>Pavlov, A.V., Kveglis, L.I., Saprykin, D.N., (...), Nemtsev, I.V., Kantai, N.</u>	<u>Emergence of Ferromagnetism in Nanoparticles of BeTiO₃ Ceramic with the Perovskite Structure</u>	Abstract: Emergence of ferromagnetism and an increase in the electrical conductance of BeTiO ₃ beryllium ceramic with the perovskite structure were discovered experimentally. To explain the reason for appearance of the metallic properties, models are proposed, and calculations of the electronic structure of nanoclusters with different short-range order are performed. © 2021, Pleiades Publishing, Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85101506564&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=63&citeCnt=0&searchTerm=	0
223.	<u>Yensenov, K.A., Saurykova, Z.S., Naimanbayev, B.R., Bakhtorazov, S.U., Nurbekova, R.K.</u>	<u>HISTORY of PERSECUTION of the INTELLECTUAL CLASS in KAZAKHSTAN during STALIN'S REPRESSION</u>	The end of the 1930s was marked by a new wave of political repression, which took on a massive character. Strengthening the cult of Stalin's personality and impatience of all kinds of dissent, attempts to declare all the difficulties of the country's development as the result of the activities of "enemies of the people" led to the physical elimination of almost all influential leaders who could oppose the regime. Documents and data in this area were collected and used to conduct this study. In 1937-1938, many statesmen of Kazakhstan, as well as representatives of the intelligentsia, were accused of "national-fascism" and espionage. The number of those arrested in 1937 across Kazakhstan reached 105 thousand, of which 22 thousand were shot. The executions of the intelligentsia were called the highest measure of social protection, and the concentration camps that filled the country were places of social prevention. The works of intellectuals	https://www.scopus.com/record/display.uri?eid=2-s2.0-85100712614&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=63&citeCnt=0&searchTerm=	0

			were confiscated and banned. These were, in fact, the crimes of totalitarianism that violated and trampled on human rights. The authors used new research data from the state archives of Kazakhstan. In addition, foreign and Kazakh research works on repression in Kazakhstan were analyzed. It was found that despite several attempts, only after the proclamation of independence by Kazakhstan, the victims of the repressions were rehabilitated, and the scientists gained access to archival data and were able to study this period. However, there are still many pressing issues related to repression that need to be explored. © 2020 Editura Universitaria Craiova. All rights reserved.	%22+60112447%29&relpos=64&citeCnt=0&searchTerm=	
224.	<u>Ramazanova, R.A., Samoilov, V.I., Seraya, N.V., (...), Azbanbayev, E.M., Aubakirova, R.A.</u>	<u>Investigation of the kinetics of sulphuric acid leaching of zinc from calamine</u>	This article aims at the research of kinetics of the sulphuric acid leaching of zinc from calamine (hemimorphite) of Shaimerden deposits. The ratio of zinc extraction from calamine to water-soluble zinc sulphate was determined at various leaching durations and its temperatures. The concentration of the sulfuric acid solution, the flow rate of this solution and the size of the calamine particles, selected in the course of this work for leaching zinc from this mineral with the specified solution, made it possible to establish the value of the “apparent” activation energy of the reaction of calamine with sulfuric acid, amounting to 3,075 kJ / mol. © 2021, Faculty of Metallurgy. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85096193670&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=b99020d8868b2ce43764cb171a1206c3&sot=aff&sdt=cl&cluster=scopubyr%2c%222021%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=65&citeCnt=4&searchTerm=	4
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225.	<u>Nurekenova, E.S., Sholpanbayeva, K.Zh., Apysheva, A.A., Rakhimberdinova, M.U., Shaikhanova, N.K.</u>	<u>ASSESSMENT OF THE ECONOMIC EFFICIENCY OF INDUSTRIAL ENTERPRISE MANAGEMENT DURING THE KAZAKHSTAN INTEGRATION INTO THE EAEU OCENA EFEKTYWNOŚCI EKONOMICZNEJ ZARZĄDZANIA PRZEDSIĘBIORSTWEM PRZEMYSŁOWY</u>	The purpose of this study is to examine the effectiveness of the measures taken and to identify areas for further integration cooperation. The originality of the study is determined by the fact that the formalisation of Kazakhstan integration into the Eurasian Economic Union (EAEU) structures allows expanding the possibilities of building cooperative ties. This requires greater involvement of enterprises in the integration and the development of a unified state system to assess the effectiveness of integration associations. The authors show that, in general, the integration of Kazakhstan and the EAEU can be assessed based on a common methodology for the economic efficiency of individual enterprises. The authors suggest the adapted methodology of the balanced scorecard system since it is appropriate in this case. The practical significance of the study is determined by the need to clarify the structural features of integration and calculate efficiency in general based on the results of the cooperation of Kazakh enterprises with external partners. The development of such an assessment system can also be implemented taking into account the need to counter the global economic crisis. © 2022, Czestochowa University of Technology. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85144922466&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=0&citeCnt=0&searchTerm=	0

		<u>M W CZASIE INTEGRACJI KAZACHSTANU Z EUG]</u>			
226.	Kaliuzhnyi, S., Alontseva, D., Voinarovych, S., (...), Faizrakhmanov, Z., Bektasova, G.	<u>Microplasma-sprayed multilayer coatings for electric heating elements</u>	The paper presents new results on the application of microplasma spraying (MPS) for manufacturing electric heating elements (EHEs) consisting of a St3 steel plate (the substrate) with a sprayed electrically insulating Al ₂ O ₃ sublayer (400±50 µm thick) and TiO ₂ electric heating tracks (4 mm width; 150±50 µm thickness). Measurements of the temperature of the multilayer coating with a thermal imager enabled determination of the temperature distribution over the surface of the EHE. The electric strength and conductivity tests showed the efficiency of the sprayed EHEs up to a temperature of 200°C. The results of analysis of the causes of material losses during MPS of electric heating tracks (TiO ₂) are presented, and the optimal parameters for efficient MPS of coatings in the form of narrow tracks on steel substrates are determined. Using regression analyses, the equation for the influence of MPS parameters on the coating transfer efficiency (CTE) is obtained. Process parameters such as the electric current and the plasma-forming gas flow rate have been found to have the greatest influence on the CTE. In the experiment, a high efficiency of the sprayed material during MPS of electric heating tracks of TiO ₂ powder was established (the maximum CTE reached 89%), which indicates the prospects for using MPS technology in the production of EHEs for DC electric heating and for maintaining the temperature of product surfaces up to 200°C. © 2022 Sergii Kaliuzhnyi et al., published by Sciendo.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85158887973&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=1&citeCnt=0&searchTerm=	0
227.	Rakhimberdinova, M., Nurekenova, E., Ordabayeva, M., (...), Saifullina, Y., Kuttybaeva, N.	<u>Role of Development of the Agro-Industrial Complex to Create Areas of Agritourism</u>	Agritourism is rapidly developing in many countries, but despite this, little is known about the specific implementation, the actual scope and effectiveness of public and private measures to support the development of agriculture and agritourism, especially in recent times. Therefore, the purpose of this study is to analyze the development of agro-industrial complex for the creation of agrotourism zones on the materials of the Republic of Kazakhstan. The integration of agrotourism is a breakthrough for the prosperity of rural industry and the revitalization of rural areas. In addition, agricultural eco-efficiency and the integration of agro-tourism are closely related, so studying the relationship between them is of great importance for realizing high-quality agro-ecological development. © 2022 Rakhimberdinova, M., et al..	https://www.scopus.com/record/display.uri?eid=2-s2.0-85144925596&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=2&citeCnt=2&searchTerm=	2
228.	Sagdoldina, Z., Zhurerova, L., Tyurin, Y.	<u>Modification of the Surface of 40 Kh Steel by Electrolytic Plasma Hardening</u>	The high-strength, medium-carbon alloy construction steel 40 Kh is commonly used in the manufacture of tools and machine parts. This paper experimentally investigates the effect of electrolytic plasma thermocyclic hardening on the surface hardening and microstructure modification of 40 Kh steel. The research	https://www.scopus.com/record/display.uri?eid=2-s2.0-85144862421&origin=resultslist&sort=plf-	1

	(...), <u>Abildinova, S.</u> , <u>Kozhanova, R.</u>		was carried out using optical microscopy, scanning electron microscopy, X-ray diffraction analysis and micro-hardness measurements. Modified samples were obtained at different electrolyte plasma thermal cycling modes. As a result of the heat treatment, hardened layer segments of different thicknesses and structural composition formed on the surface of the steel. The parameters and mechanisms of surface hardening were determined by examining the microstructural modification and phase transformation both before and after treatment. It was revealed that the main morphological structural-phase component of the initial state of 40 Kh steel was a ferrite–pearlite structure, and after electrolytic plasma thermocyclic hardening, the hardened martensite phase was formed. It was found that in order to achieve a hardening depth of 1.6 mm and an increase in hardness to 966 HV, the optimum time for electrolytic plasma treatment of 40 Kh steel was 2 s. The technology under discussion gives an insight into the surface hardening potential for improving the service life and reliability of 40 Kh steel. © 2022 by the authors.	f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=3&citeCnt=1&searchTerm=	
229.	<u>Dautbekov, M.K.</u> , <u>Rakhadilov, B.K.</u> , <u>Zhurerova, L.G.</u> , (...), <u>Elistratov, S.L.</u> , <u>Segeda, T.A.</u>	<u>A Technology for Making Detonation Coatings on Power Equipment Parts Made of Grade 12Kh1MF Steel</u>	Abstract—: The article presents the results obtained from experimental studies of Cr₃C₂–NiCr coatings applied, using the detonation-spraying method, on grade 12Kh1MF heat-resistant steel, including those on the effect that the Cr₃C₂–NiCr coating application process technological parameters have on the coating’s structure and properties. In the tests, a detonation gun with a single dosing device was used. Detonation gun spraying is one of the methods for thermally producing a protective layer on the surface, characterized by the fact that it allows hard, wear resistant and dense microstructured coatings to be obtained. Acetylene–oxygen mixture served as combustible gas, which is most frequently used for detonation spraying of powder materials. A nitrogen or air pulse is used for purging the gun barrel after each detonation. This process is repeated several times a second. A high kinetic energy of hot powder particles, as they collide against the substrate, results in that a very dense and strong coating is produced. The obtained coatings have a heterogeneous layered porous structure with undulate location of 60–120 µm-thick structural components with the layered-porous structure. There are no pores or cracks at the substrate-to-coating interface. The profile arithmetic mean deviation R_a is selected as the key roughness measurement parameter. It has been determined that, with the gun barrel volume filled by 64% with explosive mixture, the processed sample surface features a low wear degree. The results from studying the effect that the detonation spraying has on the coating structural-phase composition and tribological properties using the X-ray structural analysis method are given, which have shown that the Cr₃C₂, Cr₇C₃, Cr₃O₆, Cr₂₃C₆, and CrNi₃ phases are produced. The microhardness, roughness, and tribological properties of the obtained coatings have been determined. © 2022, Pleiades Publishing, Inc.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85144113992&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=4&citeCnt=0&searchTerm=	0

230.	Orsayeva, R., Vasvaev, A., Shestak, V.	<u>Mechanisms for protecting children's rights and the role of psychological services in the juvenile justice system of Russia against the background of international practices</u>	Background: The study examines children's rights as a social and legal institution, adapting to the modern context, associated with new views on the psychology of the child and his legal personality. In addition, the study raises the question of the role of medical psychology and psychological practice in the juvenile justice system of Russia from the point of view of the foundations of legal regulation. The research outlines the problems of the implementation of the protection of children's rights in Russia and suggestions for the legislative improvement of the mechanism. Through the use of the interpretative approach, the United Nations Convention on the Rights of the Child is considered as a source of soft law, requiring pluralization of practice pursuant to international rules. Results: The comparison of the two key approaches to the Convention, the dual status of the child and the public/private dilemma, is a basis for studying current problems in Russia through discourses on rights of a child. The comparison highlights the limitations and peculiarities common to both Russia and foreign states clarifying possible strategies for improving the implementation of rights of a child in different countries. The article examines the current legislation, which sets incentives for the development of the juvenile justice system. The foreign experience has been analyzed and the possibility of its implementation into the national legal system has been considered. It was the legal norms that the research was based on. The analytical framework of the study relies on both qualitative and quantitative methodologies. The aim of the current research is to analyze the degree of protection of children's rights in Russia, as well as the system of juvenile justice. This required the assessment of the current political and cultural context, as well as the moral aspect that affects the development of the mechanism for protecting children's rights in Russia. Conclusions: The practical significance of the research carried out implies the possibility of using the results obtained in the development of legislative acts in the field of protecting the rights of children and the juvenile justice system. © 2022, The Author(s).	https://www.scopus.com/record/display.uri?eid=2-s2.0-85125437834&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=5&citeCnt=0&searchTerm=	0
231.	Baizhan, D., Rakhadilov, B., Zhurero, L., Adilkanova, M., Kozhanova, R.	<u>Investigation of Changes in the Structural-Phase State and the Efficiency of Hardening of 30CrMnSiA Steel by the Method of Electrolytic Plasma Thermocyclic Surface Treatment</u>	Electrolytic plasma thermocyclic surface hardening is an attractive solution for both chemical and heat treatment used to improve the properties of the steel surface by structural and phase transformation. Structural and phase transformations occurring during the process of electrolytic plasma thermocyclic hardening are performed repeatedly at varying heating-cooling temperatures, which radically improve the quality of the part and give them properties unattainable by means of one-time processing. The impact of electrolytic plasma thermocyclic hardening modes on the structure and mechanical and tribological properties of 30CrMnSiA steel is investigated. The structural and phase components were examined using optical and scanning electron microscopy, as well as X-ray phase analysis. It is established that the structure of the cross-section is characterized by the following zonality: zone 1—a near-surface	https://www.scopus.com/record/display.uri?eid=2-s2.0-85144875362&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University	2

			hardened zone, which is composed of hardened martensite; zone 2—thermal influence; and zone 3—a matrix consisting of pearlite and ferrite. The microhardness and wear resistance of the hardened surface were evaluated by nanoindentation and “ball on disk” methods, respectively. Nanoindentation analysis demonstrated that the indentation hardening process provides a maximum increase in hardness by three times and an increase in stiffness with a decrease in the elastic modulus by 38% compared to the original steel. The results of tribological studies show that electrolytic plasma thermocyclic hardening increases the resistance of steel to friction by increasing the surface hardness and reduces the area of actual contact during friction. It is established that the microhardness of the cross-section decreases proportionally from the surface to the depth of the layer, which is associated with a decrease in the volume content of martensite. © 2022 by the authors.	%22+60112447%29&relpos=6&citeCnt=2&searchTerm=	
232.	<u>Sagdoldina, Z., Shestakov, K., Yermolenko, M., (...), Rakhadilov, B., Kambarov, Y.</u>	<u>Magnesium Oxide Production by Plasma Chemical Conversion from Fluorine-Containing Industrial Waste</u>	This work discusses the possibility of decomposing magnesium fluoride by ionized water vapor to form solid magnesium oxide and hydrogen gas in the reaction: $\text{MgF}_2 + \text{H}_2\text{O} \rightarrow \text{MgO} + 2\text{HF}$. The technology and individual apparatuses of the plasma-chemical installation are described, and the influence of the fractional composition of magnesium fluoride powder on the productivity of the plasma conversion process is considered. To improve the efficiency of the plasma pyrolysis process, a method for making magnesium fluoride briquettes was developed. The completeness of the conversion process of magnesium fluoride to an oxide was evaluated by energy dispersive X-ray spectroscopy in the study of objects in scanning electron microscopy (SEM) and by X-ray diffractometry. It was found that the conversion process of magnesium fluoride to magnesium oxide has a relatively high degree of decomposition of magnesium fluoride fraction $\leq 75 \mu\text{m}$. The use of the proposed processing method makes it possible to obtain pure magnesium oxide as a commercial product and to utilize fluorine-containing industrial waste. © 2022 by the authors.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85141885242&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=7&citeCnt=1&searchTerm=	1
233.	<u>Bauyrzhan, R., Alexander, P., Zhuldyz, S., (...), Vyacheslav, B., Mukhamedova, A.</u>	<u>Effect of Bilayer Thickness and Bias Potential on the Structure and Properties of (TiZr/Nb)N Multilayer Coatings as a Result of Arc-PVD Deposition</u>	This work is devoted to the study of the formation of nanostructured multilayer coatings (TiZr/Nb)N on the surface of an AISI 321 steel substrate depending on the deposition parameters of the Arc-PVD method. The results of the X-ray diffraction analysis showed the formation of solid solution (TiNb)N and ZrN in the multilayer coatings with an FCC structure, ϵ-NbN with a hexagonal structure, as well as with a small volume fraction of the ϵ-Ti₂N and β-Nb₂N phase. On the basis of phase composition data, it is possible to assume that an increase in the number of bilayers leads to a decrease in the nitrogen concentration in the bilayers and, consequently, to a decrease in the volume fraction of ϵ-NbN and β-Nb₂N nitrides. In all investigated systems obtained at –100 V and –200 V bias potentials, ϵ-NbN is the main phase. The study of the element distribution over the thickness of the (TiZr/Nb)N coating confirms the results of the X-ray diffraction analysis. The use of the structure model in the form of alternating	https://www.scopus.com/record/display.uri?eid=2-s2.0-85141863478&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=8&citeCnt=3&searchTerm=	3

			layers allows for significantly improving the adhesion characteristics of the protective coating, as well as ensuring their high hardness. Based on the experimental results, it is possible to analyze changes in the mechanical and tribological properties of multilayer coatings depending on the number of applied bilayers. The results of the study of the elastic modulus and hardness of multilayer coatings (TiZrNb)N with different numbers of bilayers showed that a large number of bilayers (small thickness of each individual layer) shows the lowest value of hardness. It is assumed that as the bilayer thickness decreases, the coating characteristics are closer to the monolayer alloy than to the multilayer structure. © 2022 by the authors.		
234.	<u>Kengesbekov, A., Rakhadilov, B., Sagdoldina, Z., (...), Dosymov, Y., Kylyshkanov, M.</u>	<u>Improving the Efficiency of Air Plasma Spraying of Titanium Nitride Powder</u>	The operation modes of a plasmatron for powder coating spraying have been studied. The plasmatron has a node of annular input and a gasdynamic focusing of the powder, and the outlet holes of the nozzle-anode are made in the form of rectangular narrowing-expanding channels (No.34334 RK: IPC H05H 1/42). The dynamics and trajectories of the powder particles in the plasmatron were investigated. The paper analyzes the influence of plasmatron arc current and working gas flow rate on the structure and properties of the obtained coatings. It is established that the phase composition of the sprayed coatings and the initial powder is the same: the main phase is the compound TiN, in addition, the structure contains the phase TiO ₂ . The results of tribological tests of the coatings under dry friction conditions according to the ball-on-disk scheme are presented. Within the framework of this study, it can be said, from the point of view of obtaining denser coatings with high performance characteristics, that the optimal modes of plasma spraying of TiN powder are a current of 250 A and the working gas flow rate of argon 34 L/min. © 2022 by the authors.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85141839357&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=9&citeCnt=2&searchTerm=	2
235.	<u>Zhilkashinova, A., Abilevv, M., Zhambakin, D., Zhilkashinova, A., Pavlov, A.</u>	<u>Study of the structure and properties of SiC ceramics</u>	This paper presents the results of the entropy calculation of the equilibrium constants of chemical reactions at liquid-phase sintering of SiC ceramics with eutectic additives. The composition of the charge for sintering ceramics with nanoadditives forming the liquid phase was determined: MnO _{nano} 1.5 wt. % + Al ₂ O _{3nano} 2 wt.% + SiC _{µm} 94 wt. % + SiO _{2µm} 2.5 wt. %. Possible chemical reactions of liquid-phase sintering of ceramics at a temperature of 1800 °C in a weakly reducing CO medium were established. The values of the change in the Gibbs energy for all possible chemical reactions at a sintering temperature of 1800 °C were calculated by the method of entropy calculation of the equilibrium constants. The elements of the liquid phase and reinforcing additives were determined. The elements of the liquid phase and reinforcing additives were determined. The structure and properties of finished sintered ceramic samples were studied. Microstructural analysis of ceramics indicated its grain structure with an average grain size of ~10 µm. The main phase components of the ceramics based on silicon oxide were determined. It was found that the sample consists of three main phases: modification of the ring radical of silicate Si ₃ O ₆ ,	https://www.scopus.com/record/display.uri?eid=2-s2.0-85173791698&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=10&citeCnt=0&searchTerm=	0

			silicon dioxide SiO ₂ and anorthoclase (SiAl)O ₄ . © This is an open access article under the (CC)BY-NC license.		
236.	<u>Skakov, M.K., Ocheredko, I.A., Bayandinova, M.B., Tuyakbaev, B.T.</u>	<u>The impact of technological parameters of the torch to physical and chemical properties of a gas-thermal burner for spraying ultra-high molecular weight polyethylene</u>	The values of the heat flux density, transverse and longitudinal temperature gradients of the gas-thermal burner torch, the type of reaction during the combustion in various modes (reducing, neutral, oxidizing) depending on the mass fractions of the fuel and oxidizer burning have been determined in this paper. The significant role of the torch temperature as one of the most important parameters determining the quality of polymer coatings obtained by the gas-thermal method has been established. A spatial model of a gas-thermal burner has been designed, which allows to obtain thermal modes at specified technological parameters. A physical model of the interactions “torch-polymer particle”, “thermal jet – base” has been developed. The necessary density of the torch heat flux for the complete melting of ultrahigh molecular weight polyethylene (UHMWPE) particles not exceeding the temperature threshold of destruction has been determined. The required rate of introduction the UHMWPE powders into the burner flame has been also determined. Based on the calculations of the “torch-polymer particle interaction”, the optimal geometry of the torch, the particles trajectory in the torch and the spraying distances have been determined. © 2022, al-Farabi Kazakh State National University. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85156167930&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=11&citeCnt=2&searchTerm=	2
237.	<u>Kengesbekov, A., Sagdoldina, Z., Torebek, K., (...), Abdulina, S., Maulet, M.</u>	<u>Synthesis and Formation Mechanism of Metal Oxide Compounds</u>	In this work, the influence of the technological parameters of the detonation method on the formation of metal oxide compounds on the basis of titanium was investigated. The aim of the work was to investigate the method of the effective control of the phase composition and microstructure of titanium-based coatings during detonation spraying. The main parameters that varied in detonation spraying were the volume of filling the detonation barrel with explosive mixture and the oxygen/fuel ratio. The mechanism of formation of the gradient structure of coatings based on metal oxide compounds depending on the technological parameters of detonation spraying was considered. The structural-phase states and tribological properties of detonation coatings were investigated by the following methods: X-ray phase analysis (XRD), scanning electron microscopy (SEM), energy dispersive spectroscopy (EDX-mapping), profilometry, and the test for wear-resistance according to the “ball-disk” scheme. It is shown that the phase composition of coatings may significantly change relative to the initial titanium powder during the detonation spraying due to the interaction of particles of powders with components of the gas atmosphere. Varying the spraying parameters may control the chemical reaction and provide conditions for the synthesis of the desired phases in the coatings (titanium oxide TiO ₂ and Ti ₂ O ₃). © 2022 by the authors.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85140918031&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=12&citeCnt=2&searchTerm=	2
238.	<u>Rakhadilov, B., Kakimzhanov, D., Buitkenov, D.</u>	<u>Structural Phase Transformations in Detonation</u>	This work presents the results of the study on the effect of pulse-plasma treatment on the structural-phase states of the surface layer of detonation coatings based on Ti ₃ SiC ₂ . Structural-phase studies were carried out by three main methods:	https://www.scopus.com/record/display.uri?eid=2-s2.0-85140895017&origin=resultslist	0

	(...), Zhurerova, L., Sagdoldina, Z.	<u>Coatings Based on Ti₃SiC₂ after Pulse-Plasma Effect</u>	scanning electron microscopy, transmission electron diffraction microscopy on thin foils and X-ray structural analysis. It was determined that after the pulse-plasma treatment, an increase in the intensity of the Ti ₃ SiC ₂ peaks was observed, and the appearance of new reflections (101, 102, 112, 204, 1110, 0016) of this phase was detected, which indicates the increase in the MAX-phase content. It was determined that after the pulse-plasma treatment, the fraction of voids (pores) and the particle area decreased and the microstructure became more homogeneous, which resulted in the densification of the Ti ₃ SiC ₂ -based detonation coating. It was found that the process of detonation spraying with subsequent pulse-plasma treatment resulted in the formation of a Ti ₃ SiC ₂ -based coating, with TSC carbosilicide (Ti ₃ SiC ₂) 0] plane reflexes, lamellar layered structure, and reduced porosity. © 2022 by the authors.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85140610563&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=13&citeCnt=0&searchTerm=	
239.	Daumova, G., Seraya, N., Azbanbayev, E., (...), Aubakirova, R., Reutova, G.	<u>Utilization of Spent Sorbent in the Production of Ceramic Bricks</u>	The composition and technology for the production of semi-dry ceramic bricks using a nanostructured complex sorbent based on bentonite clay of the 11th horizon of the Tagan deposit of the Republic of Kazakhstan and basalt fiber (gabbro-diabase) of the Karauzek deposit of East Kazakhstan have been developed. The characteristics, chemical composition, and structure of the spent sorbent are given based on electron microscopic and X-ray phase analyses. A number of physical and mechanical parameters have been studied to evaluate the spent sorbent as a raw material for the production of ceramic products. The microstructures of fired ceramic samples with loam and spent sorbent have been studied, and the features of their structure have been revealed. The environmental safety of waste sorbents utilization by extraction in acidic, alkaline, and neutral media with the determination of the content of chromium, zinc, and iron ions has been studied. Experimentally obtained data indicate an insignificant concentration of chromium and zinc ions, not exceeding 3.5 µg/L. Relatively high concentrations of iron ions in ceramic bricks are associated with their high content in the feedstock and in the spent sorbent. It has been established that the introduction of the spent sorbent in the amount of 25% of the total mass increases the strength of the final product from 10.8 to 15.8 MPa, which corresponds to the M125 ceramic brick grade. © 2022 by the authors.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85140610563&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=14&citeCnt=0&searchTerm=	0
240.	Kurmanova, A., Kozhayeveva, S., Ayupova, G., (...), Baizhumanova, B., Aubakirova, Z.	<u>University students' relationship with technology: Psychological effects on students</u>	The concept of digital natives is a frequently heard concept today. We live intertwined with technology. As in every field, technology has also taken its place in the fields of education. In addition to the advantages of technology products that facilitate the life of university students academically, physically, psychologically and socially, they also have negative effects in terms of physical, psychological and sociological aspects. Especially due to the misuse of smartphones, mobile Internet and social media, university students experience many problems such as technology addiction, nomophobia, netlessphobia and problematic social media use. In terms of socialisation, it is seen that university students are more affected by the psychological factors brought by technology,	https://www.scopus.com/record/display.uri?eid=2-s2.0-85136169602&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=14&citeCnt=0&searchTerm=	2

			as they use it extensively in their academic studies and access to information. For this purpose, this study aims to determine the views of university students on the psychological effects of technology. Within the scope of this general purpose, a study was conducted with 84 university freshmen. In order to reach the aim of the research, five open-ended questions developed by the researcher were asked. As a result of the research, it has been revealed that university students have problems because they do not use technology correctly. This situation disrupts social relationships and affects communication. The use of technological tools by students may cause social phobia, communication problems, academic success, emotional turmoil and physical harm to physical health. For conscious use, it can be recommended to inform students by giving trainings. © 2022, Birlesik Dunya Yenilik Arastirma ve Yayincilik Merkezi. All rights reserved.	v+East+Kazakhstan+University%22+60112447%29&relpos=15&citeCnt=2&searchTerm=	
241.	<u>Yensenov, K.A., Naimanbayev, B.R., Orazbakov, A.Zh., Nurbekova, R.K., Bulgynbaeva, A.K.</u>	<u>Rehabilitation of Deportees to Kazakhstan</u>	During the Soviet era, in the 20s and 50s of the XX century, repressions and forced migration were widespread. We have used methods of historical retrospective, analysis and synthesis. Documents of the Archives of the President of the Republic of Kazakhstan were used in the study. It was found that during the Soviet era, mass deportations to Kazakhstan led to the deportation of Poles in 1936, Koreans in 1937-1938, Iranians in 1938-1939, Germans in 1941, Karachays in 1943, and Chechen-Ingush in 1944. In addition, there was a case of forcible dissolution of the National Autonomies of nations. As a result, thousands and millions of people of different nationalities were forcibly evicted. The fate of deported peoples changed after I.V. Stalin's death in 1953. In 1956, XX Congress was held in the Soviet Union. It paved the way for the liberation from the "cult of personality" and the restoration of the rights of repressed and deported peoples, the process of rehabilitation. The rehabilitation process was carried out from 1954 to 1960, the rights of persecuted peoples were restored and the autonomies were reorganised. © 2022 Transnational Press London Ltd. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85141772195&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=16&citeCnt=2&searchTerm=	2
242.	<u>Gulnara, T., Nurlan, Y., Tokanovich, K.S., (...), Nagashbekovich, A.B., Medeu, A.</u>	<u>Development of students' professional skills through media technologies</u>	The concept of generation is used to describe a group of people who were born in the same years and experienced similar social events, troubles and obligations under the conditions of the same age. Generational formation is generally classified according to age and sociological phenomena. However, today, factors such as technology, differentiating social values, changing career perceptions, education and working conditions reveal the necessity of evaluating the classification according to different dimensions. The field of professional competence is an important issue all over the world. Especially with the technology that has developed and continues to develop in recent years, the qualifications of teachers in this field are important. We live in the age of technology. The aim of this study is to determine the opinions of teacher candidates studying at the Faculty of Education about the 'Media Literacy' course. For this purpose, the case study method, one of the qualitative research approaches, was used. 71 students studying in the Faculty of Education at the	https://www.scopus.com/record/display.uri?eid=2-s2.0-85139967127&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=17&citeCnt=0&searchTerm=	0

			university constituted the study group of the research. Semi-structured interview questions prepared by the researchers were used. In the analysis of data collection tools, the qualitative data analysis programme NVivo 8.0 was used and the results were interpreted with content analysis. When the results obtained from the research were examined, it was concluded that the media literacy course should be given in earlier periods. The most preferred media tools were television and the Internet. It has been concluded that media literacy provides human skills and teaching in the teaching process. Considering the results of this research, the importance of the media literacy course in terms of professional development at the university was emphasised. © 2022 Birlesik Dunya Yenilik Arastirma ve Yayincilik Merkezi. All rights reserved.		
243.	<u>Sumbembayev, A.A., Tergenbaeva, Z.H.T., Kudabayeva, G.M., (...), Genievskaya, Y.A., Szlachetko, D.L.</u>	<u>Assessment of state of Dactylorhiza fuchsii (Orchidaceae) populations from the Altai mountains of Kazakhstan</u>	The article presents the results of studying the current state of populations of a rare species-Dactylorhiza fuchsii in the Kazakhstan Altai. As a result of expeditionary studies, four main regions were identified, which were represented by 12 populations. Floristic plasticity according to the Jaccard coefficient (12-24%) showed a high heterogeneity in the studied populations. The cluster population dendrogram showed a clear dependence of the floristic composition of accompanying species on geographic location in terms of species similarity and differences of communities. External similarity was studied according to 10 morphometric features. The PCA analysis shows that the external structure is influenced by vertical zoning. Pearson's correlation analysis showed a stable direct and inverse dependence of morphometric characteristics on some environmental conditions (0.74-0.95). According to the data ANOVA disperse analysis, among studied environmental factors, soil nutrient richness (N) and humidity (F) had demonstrated the broadest significant effects (P-values from < 2e-16 to 0.001 for N and from 8.02e-09 to 0.02 for F) on plants morphology influencing eight out of ten morphological traits. Distribution regions of D. fuchsii have low vitality, and most populations are characterized as depressed. The results harmoniously complement the fundamental research on the state of D. fuchsii populations throughout the distribution range of the species. © 2022, Society for Indonesian Biodiversity. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85137990633&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=18&citeCnt=3&searchTerm=	3
244.	<u>Brimzhanova, S., Atanov, S., Moldamurat, K., (...), Brimzhanova, K., Seitmetova, A.</u>	<u>An intelligent testing system development based on the shingle algorithm for assessing humanities students' academic achievements</u>	Computer-based testing of humanities students has some inconveniences and difficulties, where the whole learning process is practically based on communicative methods. In this regard, one needs such a testing system, which would allow one to ask open-ended questions, and students would be able to enter detailed answers. Despite the popularity of using the shingle algorithm in determining plagiarism, few researchers have attempted to use it in assessing the academic achievements of students. In this regard, the aim of this study was to develop an intelligent testing system based on the shingle algorithm in assessing the academic achievements of humanities students. Taking into account that during testing humanities students will formulate answers of their own	https://www.scopus.com/record/display.uri?eid=2-s2.0-85128756508&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy	1

			understanding, the developed system should be able to determine the degree of their identity to the correct answer. At the same time, answers with a high degree of correspondence to the answer stored in the dictionary should also be entered in the database as one of the variants of the correct answer. The shingle algorithm, stemming, and MD5 hashing algorithms were used to achieve this goal. The performance of the algorithm was evaluated in terms of degree of matching (S), completeness (P), F-measure and performance (t). The experiment involved 120 humanities students in 2–3 courses at the age of 18–20 years, including 80 girls and 40 boys. It was found that the effectiveness of the developed algorithm is achieved at the optimal time $t = 77\%$ and the degree of compliance of the final grade $F = 77\%$. In this case, the final score of the F-measure fully reflects the result at the proportion of truthfulness equal to 0.5 and is directly proportional to the degree of compliance (S) and completeness (P) of use. It is found that a high value of the matching degree (S) is achieved with a smaller shingle length, while with a larger shingle length the matching degree decreases, thus, the probability of finding the same phrase in two documents increases. In addition, with smaller shingle lengths, the time spent calculating checksums is longer, and with larger shingle lengths, the time spent calculating checksums is shorter. Calculations showed that the optimal shingle algorithm efficiency was at the length of the shingle $N = 5$ of the average data processing time. The results of this study show that the developed algorithm can be included in pedagogical practice in order to objectively assess the learning achievements of humanities students, taking into account their communicative and cognitive abilities. In the future, the developed algorithm can also be used in other areas requiring text analysis, in particular for checking plagiarism. © 2022, The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature.	v+East+Kazakhstan+University%22+60112447%29&relpos=19&citeCnt=1&searchTerm=	
245.	Skakov, M., Zhilkashinova, A., Zhilkashinova, A., (...), Agelmenev, M., Ismailova, A.	<u>Effect of Heat Treatment on the Structural-Phase State and Properties of a Multilayer Co-Cr-Al-Y Coating</u>	The article describes the effect of heat treatment on the structural-phase state and properties of a multilayer Cr-Al-Co-Y coating obtained by magnetron sputtering. Heat treatment was carried out at 400, 800 and 1000 °C. The study of the microstructure was carried out by electron microscopy with energy dispersive analysis and powder X-ray diffraction. The surface of the samples was studied by atomic force microscopy. The thickness of the Co-Cr-Al-Y coatings was $1.5\text{--}1.7 \pm 0.2 \mu\text{m}$. The obtained coatings are characterized by a hardness of 4.7–6.4 GPa. A distinctive feature of the layers is the absence of a crystalline structure in some areas of the coating. The main process occurring during the thermal treatment is the formation of a spinel-type phase. For a single-layer sample after heat treatment at 400 °C, it was not possible to fix extraneous reflections except for the reflections of the silicon substrate 111 and 220. For the rest of the samples, the appearance of reflections of a number of phases was noticed, such as: SiO_2, CoO, $\text{AlSi}_{0.5}\text{O}_{2.5}$ and $\text{CrAl}_{0.4}\text{Si}_{1.58}$. An increase in the treatment temperature up to 800 °C did not lead to significant changes. In the case of the multilayer sample,	https://www.scopus.com/record/display.uri?eid=2-s2.0-85137390158&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=20&citeCnt=1&searchTerm=	1

			the reflections of various impurity phases disappeared and the Co ₃ O ₄ phase was formed. For samples treated at 1000 °C, the formation of a spinel-type phase (Co ₃ O ₄ -CoCr ₂ O ₄) was observed in all cases. Data on the structural-phase state and properties of the multilayer Co-Cr-Al-Y coating can be used to predict the nature of such coatings after heat treatment. © 2022 by the authors.		
246.	Nugumanova, A., Akhmed-Zaki, D., Mansurova, M., Baiburin, Y., Maulit, A.	NMF-based approach to automatic term extraction	This work describes automatic term extraction approach based on the combination of the probabilistic topic modelling (PTM) and non-negative matrix factorization (NMF). Topic modeling algorithms including NMF-based ones do not require expensive and time-consuming manual annotations for domain terms, but only a corpus of domain documents. The topics emerge from the corpus documents without any supervision as sets of most probable words. This work is aimed to investigate how fully and precisely these most probable words from topics can reflect domain terminology. We run a series of experiments on the novel, qualitatively annotated dataset ACTER that was first used in the TermEval 2020 Shared Task. We compare five different NMF algorithms and four different NMF initializations when changing the number of topics extracted from documents and the number of most probable words extracted from topics in order to determine optimal combinations for best performance of term extraction. Finally, we compare the obtained optimal combinations of NMF with the competitive methods in TermEval 2020 and prove that our approach is second only to two much more sophisticated, domain-dependent supervised methods. © 2022 Elsevier Ltd	https://www.scopus.com/record/display.uri?eid=2-s2.0-85127811599&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=21&citeCnt=7&searchTerm=	7
247.	Sanat, K., Nurbol, U., Bakhadurkhan, A., (...), Zukhra, D., Gulfat, K.	Teachers' opinions about technological pedagogical content knowledge used in geography lessons	Technology is used in every country in the world, in every field. The number of technology-supported trainings in which students are active is increasing day by day. Computers and the Internet are the most widely used technologies in geography lessons today, as in every field. In this research, it is aimed to determine which technologies are used in geography lessons; how often these technologies are used; and if there are problems experienced in this process, what are they. In order to achieve this aim, open-ended questions were applied to 12 geography teachers working in 12 different schools and 40 students taking this course. As a result of the study, it was concluded that the technological tools used in geography lessons are limited. It is stated that among the problems experienced by the teachers, the infrastructure of the school is not suitable for technological tools, and the deterioration in technological tools creates problems. It was concluded that teachers frequently use technological tools. It has also been concluded that the most used technological tools are smart boards and projection devices. The results for the students are quite sad. Students stated that they want to use technological tools more frequently in their lessons and that their learning is more permanent in this way. © 2022 Birlesik Dunya Yenilik Arastirma ve Yayincilik Merkezi. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85136820790&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=22&citeCnt=0&searchTerm=	0

	<u>Zhilkashinova, A., Skakov, M., Zhilkashinova, A., Prokhorenkova, N., Abilev, M.</u>	<u>Features of structural-phase states of Co-Cr-Al-Y composite coatings after heat treatment</u>	This article describes the results of studying the structural-phase state of composite Co-Cr-Al-Y coatings in the initial state and after thermal treatment, obtained because of using the developed magnetron method for applying multilayer coatings with a controlled concentration of constituent elements. According to the results of SEM measurements, it was revealed that unannealed coatings form dense coatings with a columnar structure. The results of transmission electron microscopy confirm the SEM and EDS measurements, and there are clear layer boundaries in the structure for each type of multilayer coating. A distinctive feature of the synthesized layers is the almost complete absence of a crystalline structure for all types of Co-Cr-Al-Y multilayer coatings, which is apparently due to the amorphous properties of cobalt and its tendency to form metallic glasses. The main process occurring during the heat treatment of the studied multilayer coatings is the formation of a spinel-type phase. The obtained results of experimental studies give new, deeper ideas about the processes of formation of structural-phase states of composite coatings obtained by magnetron sputtering. © This is an open access article under the (CC)BY-NC license.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85173752663&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=23&citeCnt=0&searchTerm=	0
248.	<u>Rakhimberdinova, M., Nurekenova, E., Duarte, Á., Suieubayeva, S., Ordabayeva, M.</u>	<u>Predictors Influencing the Choice of Master's Programs in the Tourism Industry</u>	The authors analyzed trends in integration of education, science and business in an industrially developed area. New ways of interaction between universities, research organizations and businesses are proposed especially in the field of tourism industry. The dynamic change in global economic processes entails reform education in this area of study, which from a method of simple reproduction of labor was transformed into a source of growth for economically and socially active population groups capable of acting in a competitive environment. The need to train highly qualified personnel to quickly changing working conditions is a priority for states and organizations, focused on meeting their economic goals. In Kazakhstan, the requirements for university education are increasing. It due to both new conditions on the labor market and the increased role of "lifelong education". The number of people applying for university education is growing. Is growing competition between different universities, between universities and other research institutions, between private and public education. Representatives of the business community, in turn, make demands on how they would like to see graduates of Kazakh universities. Business success depends on the ability of employees of firms to quickly restructure their activities in the changing conditions. That is why domestic business is becoming interested in the reform education: it needs specific specialists definitely in tourism area, and it is ready to financially support their training. © 2022 by ASERS® Publishing. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85133126008&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=24&citeCnt=7&searchTerm=	7
249.	<u>Pronin, S.A., Bagaev, M.V., Asmolova,</u>	<u>Determination of generations of textbooks on the</u>	Objective of the study was to identify generations of textbooks on the theory and methodology of sports. Methods and structure of the study. Consideration of the evolution of textbooks on the theory and methodology of sports made it possible	https://www.scopus.com/record/display.uri?eid=2-s2.0-85130815632&origin=resultslist	0

	<u>L.A., Kakieva, L.Kh.</u>	<u>theory and methodology of sports in the aspect of evolutionary development</u>	to distinguish five generations. Each of the generations is a qualitative step in achieving the goal of vocational education-to develop the skill of managing the training process in changing conditions. Currently, the vast majority of textbooks on the theory and methodology of sports are approximately at the level of the second generation. Poor development of practical applications for sports forecasting makes it difficult to move to third generation textbooks. © 2022, Teoriya i praktika fizicheskoy kul'tury i sporta. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85132881916&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&clusterr=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=25&citeCnt=0&searchTerm=	
250.	<u>Kalioldanovna, Y.G., Roza, N., Arzanbayeva, B., (...), Azimkhan, Y., Omarov, N.</u>	<u>Training of primary school teachers in the use of information technology</u>	In the research, it is aimed to provide primary school teachers with education about the use of information technology topics. The research was applied in the spring semester of 2021–2022. The study, which was conducted with the participation of 246 primary school teachers, was conducted in a screening model. In the study, 5-week distance education and information technology education were provided to primary school teachers. In order to collect data, a data collection tool developed by the people who created the study was used in the study. Data collected by the data collection tool are presented in the tables and the results of the survey in the comments are added to the obtained results. Considering the research in this field of primary school teachers training in the use of information technology shows that the use in their condition is good and it is seen that the results have been achieved. © 2022 Birlesik Dunya Yenilik Arastirma ve Yayincilik Merkezi. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85142544720&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&clusterr=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=26&citeCnt=2&searchTerm=	2
251.	<u>Tarasov, K.O., Ponkina, E.V., Nugumanova, A.B.</u>	<u>EFFECT OF FARMING TECHNOLOGIES INTENSIFICATION ON WHEAT YIELD IN THE DRY STEPPE OF SIBERIA: AN ANALYSIS BASED ON THE METHOD OF PROPENSITY SCORE MATCHING</u>	The study examines the effect of crop production technology intensification on wheat yield under drought conditions. The causal effect of fertilizers and herbicides usage was quantified based on a dataset of reports from 196 farms located in the Kulunda Steppe in Altai Krai. To quantify causal effects, the various methods were tested – Two Means Comparison tests and Linear regression. Due to the not experimental nature of the data, Propensity Score Matching was used to balance the sample based on the main indicative signs (covariates). We refined the effects of crop technologies intensification based on the balanced sample. The results showed that, according to all considered methods, intensification of agriculture even in the dry climatic conditions resulted in the expected growth of wheat yield. The average causal effect of intensive farming was +2.02 dt/ha. The results also showed that it is possible to obtain more correct estimates of causal effects based on balanced samples. Using simple approaches like Two Means Comparison methods lead to underestimation or overestimation. Finally, we highlighted some limitations and peculiarities of the Propensity Score Matching method. However, the Propensity Score Matching can be considered a good and prospective tool for developing digital services in	https://www.scopus.com/record/display.uri?eid=2-s2.0-85142544720&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&clusterr=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=27&citeCnt=0&searchTerm=	0

			agricultural analytics. © 2022, Science and Innovation Center Publishing House. All rights reserved.		
252.	<u>Nikolaeva, V.N., Dolanbayeva, G.T., Khosnutdinov a, T.S., Bogdanova, X.O., Zharkova, S.V.</u>	<u>Monitoring of viral and fungal diseases of potatoes in East Kazakhstan</u>	The presented article discusses ways to solve a very important problem concerning both agricultural producers and the population of any country - the cultivation and production of a sufficient number of potato tubers. Modern varieties of potatoes cultivated in the fields of the Republic of Kazakhstan are capable of yielding marketable tubers of more than 100 c/ha, but they realize their biological potential under production conditions by 15-30% [12]. A long process of vegetative reproduction of a culture contributes to the progressive accumulation of viral, viroid, fungal, and bacterial pathogens in plants [2]. The most effective way to improve the health of seed material at present is to obtain a healthy material based on the method of micropropagation [2-3; 12]. Potato varieties resistant to late blight were experimentally identified: Tavria, Vostochny-1 and Sante, in addition, varieties Vostochny-1 and Sante showed resistance to the Y virus. © Published under licence by IOP Publishing Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85128833766&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=28&citeCnt=0&searchTerm=	0
253.	<u>Yessilbekova, Y.Y., Khosnutdinov a, T.S., Bogdanova, X.O., Dolanbayeva, G.T., Zhakmanova, Ye.A.</u>	<u>Influence of a selenium-containing stimulant on the growth, development and yield potential of potato plants (solanum tuberosum)</u>	Potato (Solanum tuberosum) is one of the most consumed crops in Kazakhstan. The basis for modern potato cultivation technology is the use of healthy and virus-free material. One of these methods is micropropagation of potato plants in vitro on a nutrient medium. The addition of stimulants to the nutrient medium allows for rapid and healthy plant growth. One of the effective growth stimulants is the selenium-containing drug DAFS 25. It is well known that selenium has a beneficial effect on plant growth, flowering, adaptation to changing environmental conditions and plant resistance to certain diseases. The potato variety Sante (Dutch selection) was chosen for research. This variety is characterized as medium-early, for table use, the taste is good, it has a dense peel. There is a high keeping quality during storage. The article presents the results of the influence of selenium on potato plants in vitro on such biometric indicators as the number of leaves, stem length and root length. Plants grown on a nutrient medium with different concentrations of selenium were planted in the open ground of a closed area. At the end of the growing season, the yield of each plant under study was estimated according to the following indicators: the number of tubers per plant and the mass of tubers. It has been established that selenium favorably affects the development of tubers, adaptation and survival during transplantation, as well as productivity. To exclude the negative effect of viruses on experimental plants, enzyme immunoassay was carried out twice at the beginning and at the end of the growing season. The most effective concentration of selenium on the growth and development of potato plants in vitro was revealed. © Published under licence by IOP Publishing Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85128832677&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=29&citeCnt=0&searchTerm=	0
254.	<u>Zharkova, S.V., Nechaeva, A.V., Nikolaeva,</u>	<u>The influence of biological preparations</u>	The article presents the results of studying the effect of growth-stimulating preparations on the spring wheat yield: humates and obtained by explosive autohydrolysis from vegetable raw materials (pine needles, oat chaff, sunflower	https://www.scopus.com/record/display.uri?eid=2-s2.0-85128804373&origin=resultslist	0

	V.N., Sokolova, L.V., Manylova, O.V.	<u>presowing seed treatment on the spring soft wheat yield formation in conditions of Altai Krai Ob region</u>	husks, high-moor peat). The experiment was carried out in the Ob region forest-steppe conditions. It is shown that the highest yields are formed when seeds are treated with the preparations based on pine needles and Lignohumate. The coefficient of variability of the attribute "Yield" over the years did not exceed 10%, which shows the stability of its formation by the experimental variants. © Published under licence by IOP Publishing Ltd.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85127862321&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%22022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=30&citeCnt=0&searchTerm=	
255.	Kayukova, L., Vologzhanina, A., Dorovatovskii, P., (...), Shaimerdenov a, Z., Akatan, K.	<u>Reaction Products of β-Aminopropioamidoximes Nitrobenzenesulfochlorination: Linear and Rearranged to Spiropyrazolinium Salts with Antidiabetic Activity</u>	Nitrobenzenesulfochlorination of β -aminopropioamidoximes leads to a set of products depending on the structure of the initial interacting substances and reaction conditions. Amidoximes, functionalized at the terminal C atom with six-membered N-heterocycles (piperidine, morpholine, thiomorpholine and phenylpiperazine), as a result of the spontaneous intramolecular heterocyclization of the intermediate reaction product of an S_N2 substitution of a hydrogen atom in the oxime group of the amidoxime fragment by a nitrobenzenesulfonyl group, produce spiropyrazolinium ortho- or para-nitrobenzenesulfonates. An exception is ortho-nitrobenzenesulfochlorination of β -(thiomorpholin-1-yl)propioamidoxime, which is regioselective at room temperature, producing two spiropyrazolinium salts (ortho-nitrobenzenesulfonate and chloride), and regioselective at the boiling point of the solvent, when only chloride is formed. The para-Nitrobenzenesulfochlorination of β -(benzimidazol-1-yl)propioamidoxime, due to the reduced nucleophilicity of the aromatic β -amine nitrogen atom, is regioselective at both temperatures, and produces the O-para-nitrobenzenesulfochlorination product. The antidiabetic screening of the new nitrobenzenesulfochlorination amidoximes found promising samples with in vitro α -glucosidase activity higher than the reference drug acarbose. 1H -NMR spectroscopy and X-ray analysis revealed the slow inversion of six-membered heterocycles, and experimentally confirmed the presence of an unfavorable stereoisomer with an axial N–N bond in the pyrazolinium heterocycle. © 2022 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85127862321&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%22022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=31&citeCnt=3&searchTerm=	3
256.	Zhunosbekova, A., Koshtayeva, G., Zulkiya, M., (...), Kargash, A., Vasilyevna, S.M.	<u>The role and importance of the problem of ethics in education</u>	The purpose of this research; To evaluate the role and importance of the ethical problem in education through the ethical perceptions of primary school teacher candidates. The research was designed in accordance with the phenomenology pattern, one of the qualitative research designs. In this research, 40 teacher candidates studying in primary school teaching departments in various universities in Kazakhstan in the 2021-2022 academic year constitute the study group of the research. Research data were collected through a semi-structured interview form developed by the researchers. As a result of the research; Primary school teacher candidates' views on ethical behaviors in the teaching profession	https://www.scopus.com/record/display.uri?eid=2-s2.0-85129490514&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%22022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=31&citeCnt=3&searchTerm=	2

			were evaluated, and teachers ranked ethical behaviors as professional commitment, justice/equality, honesty/reliability, objectivity/impartiality, professional development, respect and professionalism. The pre-service teachers who participated in the research described discrimination, professional abuse, bribery, indiscipline and irresponsibility as unethical behaviors. In addition, the majority of teacher candidates participating in the research stated that the role of ethical behavior in the teaching profession is very effective. It is necessary to increase the courses taken by pre-service teachers during their education on professional ethics, and the course content should be developed in order to ensure their development. © 2022 Birlesik Dunya Yenilik Arastirma ve Yayincilik Merkezi. All rights reserved.	ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=32 &citeCnt=2&searchTerm=	
257.	Kabdrakhmanova, S., Shaimardan, E., Akatan, K., (...), Erbolatuly, D., Skakov, M.	Preparation and Characterization of the Catalyst Based on the Copper Nanoparticles	In this paper was studied a catalytic system based on copper nanoparticles which were stabilized by polyvinylpyrrolidone (PVPD40) and deposited on the surface of activated carbon substrate. Two methods of preparation of the catalyst were worked out: deposition on the surface and reduction in the pore volume of activated carbon. Both methods depicted the formation of copper nanoparticles, regardless of the amount of copper taken for preparation. The microstructure and dimensions of the obtained catalytic systems were investigated by using transmission electron microscopy and scanning electron microscopy. The copper nanoparticles obtained by applying to activated carbon are pure copper nanoparticles without signs of oxidation. Analysis of the surface of the catalysts showed that copper nanoparticles are concentrated in aggregates of irregular shape and layered structure. The developed catalytic systems were tested for hydrodechlorination of chlorobenzene in ethanol. The use of the developed catalyst made it possible to achieve a conversion of chlorobenzene of 94.46%. As a result of the reaction, benzene was formed as the main product. The data obtained by the chromatographic method was verified and proved by ¹ H NMR spectroscopy. © 2022	https://www.scopus.com/record/display.uri?eid=2-s2.0-85125929694&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=33 &citeCnt=0&searchTerm=	0
258.	Shevchuk, E.P., Plotnikov, V.A., Makarov, S.V.	Features of Formation of a Diffusion Zone on Steel 20 Obtained by Boriding in an Induction Furnace	Abstract: —In this paper, we present data from studies of the iron boride synthesis upon induction heating to 1000°C for 5 min of samples of steel 20 coated with a charge containing Fe–H ₃ BO ₃ . The content of boric acid in the charge composition varied from 25 to 75 wt %. The charge in the experiments can be diluted with a solution of liquid glass in water with the addition of a small amount of ammonium hydroxide and coal. The microhardness study of the surface layer showed that a macroscopically extensive diffusion zone with a size of 900–1000 μm, in which the boride content gradually decreases when moving deeper into the matrix, is formed during the saturation of the surface layer of carbon steel 20 with boron. Such a size of the diffusion zone indicates an anomalously high mass transfer during boriding of steel 20. Indeed, the calculated diffusion coefficient during boriding under induction conditions (about 1.35 × 10 ⁻⁹ m ² /s) is by two orders of magnitude higher than the diffusion coefficient in the classical version of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85137020402&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=34 &citeCnt=0&searchTerm=	0

			boriding. X-ray studies showed that, under the considered conditions, Fe ₂ B and FeB borides are synthesized, and a solid solution of boron in α -iron is also formed. An analysis of the phase composition of the structural components of the diffusion zone indicates that, from the surface to the matrix, the formation of boride phases occurs in the sequence of FeB $\rightarrow$ Fe ₂ B $\rightarrow$ (α -phase + B) $\rightarrow$ base metal. The microstructure of the diffusion zone consists of more or less pronounced layers consisting of FeB and Fe ₂ B boride phases. In general, especially deep-lying regions of the diffusion zone are a composite material consisting of a plastic α -phase and iron boride crystals. Crystals FeB and Fe ₂ B in the layer are oriented mainly perpendicular to the diffusion front. This is due perhaps to the rapid predominant growth of the boride phase under conditions of high diffusion mobility of boron atoms in one direction and hindered in others. © 2022, Allerton Press, Inc.		
259.	<u>Kargash, A., Gulden, Y., Yerubay, B., (...), Omarov, N., Nagashbek, Z.</u>	<u>Formation of students' communicative competence through game technology</u>	The aim of this study is to determine the creation of communicative competencies of students with game technology. The research was conducted in the fall semester of 2021–2022; the research consists of 327 volunteer students studying at universities in Kazakhstan and continuing their education. According to the sub-objectives of the research, the use of gamification technologies by university students during the day, the time spent by university students using the Internet and the situations were focused on. In the scope of the study, descriptive statistical methods were used for the development of students' communicative competencies with the gamification technology of university students. The research is a quantitative research method and is designed according to the analysis of students' views on the formation of communicative competencies on gamification technologies. According to the results of the research, it has been concluded that communicative skills increase with game technology. In addition, according to the results of the research, it was concluded that university students use the time zone on the Internet on the spot. ©2022 Birlesik Dunya Yenilik Arastirma ve Yayincilik Merkezi. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85127592512&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopusbyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=35&citeCnt=1&searchTerm=	1
260.	<u>Ospankulov, Y.E., Nurgaliyeva, S., Kunai, S., Baigaliev, A.M., Kaldyhanovna, K.R.</u>	<u>Using physical education lessons to develop the autonomy of primary school children</u>	The shift in emphasis from the motor sphere to the mental, psycho-emotional sphere leads to a decrease in the natural motor activity of the younger schoolchild, which actualizes the development of the functional and body adaptive capabilities by means of motor activity. In this regard, the formation of independence for physical education is one of the most important problems in Kazakhstani primary school. Therefore, this research has been undertaken to study: a) the state of work of the country's general education schools in the formation of independence skills in junior schoolchildren; b) the essence and features for the formation of the independence skill in younger schoolchildren through general developing exercises in physical education lessons; c) to propose measures that ensure the effectiveness of the physical education process in primary school to improve the physical fitness of schoolchildren, the formation of their motivation for	https://www.scopus.com/record/display.uri?eid=2-s2.0-85127537675&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopusbyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=35&citeCnt=1&searchTerm=	6

			independent physical education. The revealed results showed that the real experience for organizing physical education of schoolchildren in primary school is not effective enough. The present study points to the beneficial effect of general developing exercises on the physical development of children, especially on the development effectiveness of the independence of schoolchildren and their need for systematic physical exercise. © 2022 SciencePark Science, Organization and Counseling. All rights reserved.	%22+60112447%29&relpos=36&citeCnt=6&searchTerm=	
261.	<u>Zhilkashinova, A., Abilev, M., Ocheredko, I., (...), Nurbayev, M., Azamatov, B.</u>	<u>Mini-Hydropower Plant Based on Lenyov Hydrobelt and Volume-Sectional Hydraulic Engine</u>	The use of the energy of small watercourses with the help of small hydropower plants is one of the promising directions for the development of renewable energy. This article presents the designs of two different hydraulic engines, each of which has its own advantage. Therefore, the task of calculating the real parameters of the design of a mini-hydropower plant based on Lenyov hydrobelt has been solved. Theoretical calculations were validated numerically by the finite volume method and computational fluid dynamics modeling; both methods gave similar results. According to the results of calculations, this design based on the Lenyov hydrobelt with the capacity of 16 kW is advisable to place in a river with a flow velocity of at least 4.5 m/s. The article also presents an alternative type of developed mini-hydropower plant, a volume-sectional hydraulic engine. The proposed rotary-type positive displacement hydraulic engine can operate at low pressure on a flat surface. The advantage of the hydraulic engine is the sectional operation of several working chambers. It was established that a high water velocity and a large volume of passing water was not required. The total force acting in the hydraulic engine is 5430.19 N. Due to the use of conical inlet channels, the water flow velocity was increased and the water flow became directional. The frequency of rotation of the hydraulic engine shaft at a river flow velocity of 4 m/s was 60.43 rpm. The received power in these modes was 22.25 kW. © 2022 by the authors. Licensee MDPI, Basel, Switzerland.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85124817321&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=37&citeCnt=0&searchTerm=	0
262.	<u>Rakhadilov, B.K., Maksakova, O.V., Buitkenov, D.B., (...), Antypenko, V.P., Konoplianchenko, Y.V.</u>	<u>Structural-phase and tribo-corrosion properties of composite Ti₃SiC₂/TiC MAX-phase coatings: an experimental approach to strengthening by thermal annealing</u>	Composite Ti ₃ SiC ₂ /TiC MAX-phase coating was obtained by the detonation spraying onto U9 steel substrate using the mixed powder in the molar ratio of 74Ti/20SiC/6C as raw material. At the as-sprayed state, the synthesized composite had a stable double-phase composition: the main TiC phase and secondary Ti ₃ SiC ₂ MAX-phase. After thermal annealing at 700, 800 and 900 °C, oxidation occurred in the coatings, as indicated by the appearance of high-temperature-stable anatase TiO ₂ phase at the diffraction patterns. It was found that annealed at 800 °C coating demonstrated the best structural, compositional, tribo-mechanical and corrosion resistance characteristics. In particular, hardness increased to 1400 ± 75HV _{0.2} , coefficient of friction decreased to 0.35, adhesion strength was 14 N, and corrosion potential was 1.88 × 10 ⁻² A/cm ² . The corrosion potential of the annealed composite was 5.5 times less than that of the steel substrate, which indicates its strong corrosion protection. The relatively higher density, the formation of the main TiC phase that inhibits the grain growth and	https://www.scopus.com/record/display.uri?eid=2-s2.0-85123457504&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=38&citeCnt=6&searchTerm=	6

			TiO ₂ thin surface layer that serves as good diffusion barriers were the main reasons for the improvement of the functional parameters. © 2022, The Author(s), under exclusive licence to Springer-Verlag GmbH, DE part of Springer Nature.		
263.	<u>Nugumanova, A., Maulit, A., Sutula, M.</u>	<u>Clustering Analysis Applied to NDVI Maps to Delimit Management Zones for Grain Crops</u>	This research studies the possibility of applying data mining methods to determine homogeneous management zones in fields sown with cereals. For the study, satellite images of two fields in the East Kazakhstan region were used, obtained by the Sentinel-2 satellite in different periods of time (images of the first field were obtained from May to September 2020, images of the second field – from May to August 2021). Based on these images, a dataset of seasonal NDVI values was formed for each field. Four different clustering algorithms were applied to each of the datasets, the clustering results were visualized and rasterized as color maps, which were then offered for comparison and verification by an expert agronomist. Based on the expert review, recommendations were formulated for determining zones of homogeneous management. © 2022, The Author(s), under exclusive license to Springer Nature Switzerland AG.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85145250791&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=39&citeCnt=0&searchTerm=	0
264.	<u>Seitakhmetova, Z., Tulkibaevna, U.A., Sadvakassova, _____ A., (...), Karmenova, R., Zhunussova, G.</u>	<u>Determining University Students' Views on Mobile Technology and Moodle Applications in Personalized Learning</u>	The aim of this study is to determine the opinions of university students about mobile technology and Moodle applications, considering that university students continue their lessons through the distance education platform throughout the pandemic, mobile technology will turn into an advantage for them. Quantitative research method was used in the study. The research was conducted in the fall semester of 2021-2022. 270 volunteer university students that study in Kazakhstan participated in the research. In the research, 3-week online training was given to university students. In the research, the "Moodle & Mobile Technology" measurement tool developed by the researchers and compiled by experts in the field was used. The measurement tool was delivered and collected by university students via online method. The analysis of the data was made using the SPSS program, frequency analysis, t-test and anova test, and the results were added to the research with tables and comments. According to the results obtained from the research, it has been concluded that university students have a high opinion of mobile technology and module application. © 2022, International Journal of Interactive Mobile Technologies. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85144738444&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=40&citeCnt=2&searchTerm=	2
265.	<u>Nugumanova, A., Baiburin, Y., Alimzhanov, Y.</u>	<u>Sentiment Analysis of Reviews in Kazakh With Transfer Learning Techniques</u>	Heavily pretrained transformer models, such as Bidirectional Encoder Representations from Transformers (BERT) or Generative Pre-trained Transformer (GPT), have successfully demonstrated the superior ability to recognize the right sentiments of texts in English or other dominant languages. However, for low-resource languages such as Kazakh, there are no similar models due to the high computational and memory requirements for their training and the lack of labeled datasets. Under this circumstance, transfer learning can be applied to low-resource language using a pretrained multilingual or related-language model. In this paper, we consider two ways to implement the transfer learning	https://www.scopus.com/record/display.uri?eid=2-s2.0-85143401565&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-	2

			strategy: zero-shot learning and fine-tuning. We design experiments to compare these two methods and report the obtained results. Experiments show that in both cases BERT-based multilingual sentiment analysis model performs better than the BERT-based model for Turkish language, and the performance of these models grows after fine-tuning even with a very small number of samples in Kazakh. © 2022 IEEE.	ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=41 &citeCnt=2&searchTerm=	
266.	Tolegen, M.A., Ryakova, Ye.G., Savchuk, Ye.V.	Human in the ideology of globalism [Человек в идеологии глобализма]	In this article the authors reveals the peculiarities of human understanding and vision for the future of mankind in the ideology of globalism took shape and gained considerable influence on the minds of the people in the second half of the 20 th century — early 21 st century. Platforms and specialized institutes are organized to develop ideas and mechanisms for their implementation by transnational business elites and representatives of other social groups adjacent to them. Their worldview, formed in the context of a society of alienation, inevitably becomes part of the ideology. Turning to the analysis of the ideology of globalism from the point of view of the relationship to human and the humanity seems promising for an adequate understanding of the essence of globalism and its role in the formation of modern public consciousness, as well as the contours of the future society. Considering globalism as a sociocultural phenomenon, the authors identify the foundations for the formation of the globalist worldview and its ideological sources that lie in the liberal intellectual tradition. The key intellectual moves in the rhetoric of globalists are an appeal to economism, humanism, and the need to correct the world order in the spirit of liberal values. The authors of the article identify key milestones in the formation of the globalist worldview associated with socio-cultural transformations and changes in the configuration of the world socio-political structure, which are reflected in ideological constructions and scientific research. In the course of understanding texts and programs written in the spirit of globalism, the analysis of ideologies and terms, the system of arguments familiar to globalists, is carried out through the prism of understanding the role and place assigned by them to a human. © 2022 Saint Petersburg State University. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85142770610&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&clusterr=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=42 &citeCnt=0&searchTerm=	0
267.	Saniyazova, A., CohenMiller, A., Kadylova, A., Rakisheva, A.	Gendered Aspects of Undergraduate Student Experience in the Time of COVID-19: A Case Study of Nazarbayev University	This study examines student experience in the context of their transition to remote instruction during the first months of the COVID-19 pandemic with a particular focus on the gendered aspects of the student experience. The researchers conducted a survey in July 2020 at one of the leading universities in Kazakhstan, Nazarbayev University. We sought to capture the immediate effects of the crisis on student experience and to see the impact of the COVID-19 pandemic on learning, teaching, and assessment. The survey was developed by the Student Experience in the Research University (SERU) Consortium (Berkeley, USA) which granted permission to all interested universities to use a survey instrument to explore the experience of their students. Nazarbayev University was the only university in Central Asia that surveyed their students using this survey	https://www.scopus.com/record/display.uri?eid=2-s2.0-85142266809&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&clusterr=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=42 &citeCnt=0&searchTerm=	0

			instrument. The survey assesses five areas of the student experience for both undergraduates and graduate students impacted by the pandemic and campus closures: (1) the transition to remote instruction, (2) the financial impact of COVID-19 on students, (3) student health and wellbeing, (4) belonging and engagement, and (5) future plans. © 2022 Taylor & Francis Group, LLC.	%22+60112447%29&relpos=43&citeCnt=0&searchTerm=	
268.	<u>Tlebaldinova, A., Karmenova, M., Ponkina, E., Bondarovich, A.</u>	<u>CNN-based Approaches for Weed Detection</u>	Seasonal monitoring of cultivated land for weeds with automatic classification of crops and weeds provides farmers with a significant return on investment, as it saves fertilizer, herbicides and time. This paper discusses the problem of semantic image segmentation using Convolutional Neural Network (CNN) architectures. In the implementation of the CNN architectures RGB format images are used. A comparative analysis of the application of the proposed approaches and their estimated performance indicators obtained as a result of experimental studies is carried out. © 2022 IEEE.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85141361149&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=44&citeCnt=0&searchTerm=	0
269.	<u>Rakhadilov, B.K., Tyurin, Yu.N., Kolisnichenko, O.V., Kakimzhanov, D.N., Zhurerova, L.G.</u>	<u>Structure and properties of multilayer coatings based on CoCrAlY/Al₂O₃ obtained by detonation spraying</u>	Ceramic coatings are used to protect against high-temperature oxidation of metal products. The efficiency of the technology of detonation spraying of two-layer coatings of aluminum oxide (Al ₂ O ₃) and a heat-resistant alloy (CoCrAlY) on the surface of a sample made of steel 12X18H10T was studied. A multi-chamber detonation unit was used in the work, providing high speed (up to 1000 m/s) and a 60– 80% utilization rate of the sprayed material. We used an oxygen-neutral combustible mixture based on propane-butane. The coating material has a smooth gradient of properties from ceramic to sample substrate The complex of the obtained structural and physical-mechanical properties of the coating material makes it possible to predict its high performance under conditions of high-temperature oxidation. © 2022, Eurasian Journal of Physics and Functional Materials. All Rights Reserved	https://www.scopus.com/record/display.uri?eid=2-s2.0-85139356928&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=45&citeCnt=0&searchTerm=	0
270.	<u>Wójcik, W., Kalizhanova, A., Kulyk, Y.A., (...), Smailov, N., Yussupova, G.</u>	<u>The Method of Time Distribution for Environment Monitoring Using Unmanned Aerial Vehicles According to an Inverse Priority</u>	This paper presents a time-saving method for monitoring the ecology of a dispersed territory using the delivery of measurement units provided by unmanned aerial vehicles with measurement sensors according to a reverse priority algorithm. It is achievable because of the decreasing mean waiting time of the order inside a queue during low-priority order servicing. The experimental research that confirms the efficiency of the proposed method in the case of delivery distributed measurement systems for low-priority measurement is carried out. The experimental research of the proposed method in the case of one-channel and many-channel SMD that can have an option of order rejection or an in-queue waiting option is conducted in WeBots. The probability distributions in	https://www.scopus.com/record/display.uri?eid=2-s2.0-85138632503&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo	0

			the case of this system applying are compared with similar probability distributions in the case of systems of direct priority applying. Comparison and analysis enable us to conclude that the probability distribution in the case of SMD with a direct priority of delivery tends to decrease and approximates zero. This is related to the fact that means at the end of the queue to be handled have a lower priority, as these means of measurement take longer to handle the order than those at the head of the queue. Thus, the means of a low priority will be serviced in the last charge and there is a constant possibility that in some cases such orders will be rejected. The proposed method enables moderate this situation by using increasing the possibility of servicing the low-priority orders. The method can increase the efficiency of environmental monitoring and pollution emission control © 2022, Journal of Ecological Engineering.All Rights Reserved.	v+East+Kazakhstan+University%22+60112447%29&relpos=46&citeCnt=0&searchTerm=	
271.	Nugumanova, A. , Baiburin, Y. , Apayev, K.	An Intelligent Web-Service for Automatic Concept Map Generation	Automatic generation of concept maps from texts is yet another research challenge at the intersection of Natural Language Processing (NLP) and Knowledge Engineering, that has not been fully resolved. Concept maps are knowledge visualization tools representing texts at the conceptual level. They are intended to show systemic relations between key concepts of a given text and contribute to its deeper understanding and appreciation. In this work, we present a web service for automatic generation of concept maps. The service provides both a simple web interface and API access. It takes an input text in Kazakh, Russian or English languages and generates a concept map, using one of two existing algorithms at the user's choice. Our service in a sense eliminates the need for human effort in creating concept maps, and can be useful in teaching, developing research, and exploring texts. In addition to the proposed web service, the contribution of our paper consists in the adaptation of the used algorithms originally developed for texts in English, to Kazakh, which is recognized as low resource language in NLP. © 2022, The Author(s), under exclusive license to Springer Nature Switzerland AG.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85137983555&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=47&citeCnt=0&searchTerm=	0
272.	Ananin, A.I. , Tungushbayev a. Z.K. , Nurshaiykova, G.T. , Kalelova, G.Zh.	TOP-DOWN CUT-AND-FILL MINING METHOD AT THE PERVOMAYSKIY DEPOSIT OF THE DONSKOY MINING AND BENEFICIATION PLANT	Based on the analysis of the world experience in the application of filling methods for ore extraction and laboratory studies, a technology has been developed for preparation of filling mixtures by a mill-mixing method with the possibility of operational transformation of the process flow diagram depending on the type of binding material (cement and cement-slag) and filling material (tailings, screenings, rock or sand). A backfill plant has been built, and pilot testing of the top-down cut-and-fill mining system of chrome ores has been started at the Pervomayskiy deposit under the protection of artificial ceiling, created in the upper layer of each sub-level. In the course of pilot tests, of the top-down cut-and-fill mining system with hardening mixtures and the complication of mining conditions showed the perspectivity of its use for excavation of reserves under artificial overburden as thick and medium thickness ore bodies of lower horizons. With a descending layered mining system, stopes and layered workings are filled	https://www.scopus.com/record/display.uri?eid=2-s2.0-85135572254&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=48&citeCnt=0&searchTerm=	0

			with hardening mixtures with the formation of a bearing layer and a layer of reduced strength. The normative strength of an artificial mass in a layer of reduced strength (topping layer) is determined by the stability escarpments, and with their height up to 3.5 m, it must be at least 0.7 MPa. The normative strength of the backfill bearing layer according to the condition of stability of the horizontal outcrop (development of penetrations on the underlying layer) should be achieved at a 90-day hardening (4.0 MPa without reinforcement and 3.0÷3.5 MPa with reinforcement). The composition of the filling mixture must ensure the standard strength of the artificial mass within the specified hardening time and be transportable through pipes due to pressure drop. © 2022, National Academy of Sciences of the Republic of Kazakhstan. All rights reserved.		
273.	<u>Shevchuk, E.P., Plotnikov, V.A., Makarov, S.V.</u>	<u>Features of formation of diffusion zone obtained on steel 20 by boriding in induction furnace</u>	The article presents data on studies of iron borides synthesis during induction heating to 1000°C for 5 min of steel 20 samples with a coating from a charge containing Fe - H ₃ BO ₃ . Content of boric acid in the charge varied from 25 to 75 % wt. Charge in the experiments could be diluted with a solution of liquid glass in water with addition of small amount of ammonium hydroxide and coal. Study of the surface layer microhardness showed that during saturation of the surface layer of carbon steel 20 with boron, a macroscopically extensive diffusion zone 900-1000 μm in size is formed, in which the boride content gradually decreases when moving deeper into the matrix. Such a size of the diffusion zone indicates an anomalously high mass transfer during boriding of steel 20. Indeed, the calculated diffusion coefficient during boriding under induction conditions (about 1.35·10 ⁻⁹ m ² /s) is two orders of magnitude higher than the diffusion coefficient in the classical boriding. X-ray studies showed that, under the considered conditions, Fe ₂ B and FeB borides are synthesized, and a solid solution of boron in α-iron is also formed. An analysis of phase composition of the diffusion zone structural components indicates that, from the surface to the matrix, formation of boride phases occurs in the following sequence: FeB → Fe ₂ B → (α-phase + B) → base metal. Microstructure of the diffusion zone consists of more or less pronounced layers consisting of FeB and Fe ₂ B boride phases. On the whole, especially deep-lying regions of the diffusion zone are a composite material consisting of plastic α-phase and iron boride crystals. Crystals in FeB and Fe ₂ B in the layer are oriented mainly perpendicular to the diffusion front. Perhaps, this is due to the rapid predominant growth of the boride phase under conditions of high diffusion mobility of boron atoms in one direction and hindered in others. © 2022 National University of Science and Technology MISIS. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85134732019&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=49&citeCnt=0&searchTerm=	0
274.	<u>Pogrebniak, A.D., Buranich, V.V., Horodek, P., (...), Zukowski, P., Opielak, M.</u>	<u>EVALUATION OF THE PHASE STABILITY. MICROSTRUCTURE</u>	The location and distribution of atoms in the crystal lattice play a major role in controlling the mechanical and tribological properties of high-entropy alloy (HEA) ceramic materials. Herein, vacuum arc-deposited (TiZrHfVNb)N coatings have been implanted with 200 MeV xenon (Xe ¹⁴⁺) ions at room temperature and fluences of 5 × 10 ¹¹ , 5 × 10 ¹² , and 5 × 10 ¹³ ions/cm ² . The defect structure	https://www.scopus.com/record/display.uri?eid=2-s2.0-85134244612&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=	1

		<u>RE, AND DEFECTS IN HIGH-ENTROPY CERAMICS AFTER HIGH-ENERGY ION IMPLANTATION</u>	evolution of Xe-related defects and their effects on the structural, nanomechanical, and tribological properties of HEA nitride were characterized. The results show redistribution of lattice atoms and defects. Further-more, it is found that the decrease of the wear rate in the implanted coating (5×10^{11} ions) from 9.7×10^{-6} to $4.85 \times 10^{-5} \text{ mm}^{3 \cdot \text{m}^{-1} \cdot \text{N}^{-1}}$ has resulted from new defect combinations (vacancies, interstitial voids, and dislocations). Another source responsible for deterioration of properties was the breaking disorder of the elemental composition revealed by mapping the elemental composition by secondary-ion mass spectrometry (SIMS). These findings enhance the fundamental understanding of the high-energy irradiation effect on HEA ceramics. © 2022 by Begell House, Inc.	7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopusbyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=50&citeCnt=1&searchTerm=	
275.	<u>Kylvshkanov, M.K., Shestakov, K.A., Sagdoldina, Zh.B., Abdulina, S.A., Rakhadilov, B.K.</u>	<u>Assessment of thermodynamic parameters of the plasma chemical process for magnesium oxide production</u>	This work are presented the calculation results of thermodynamic parameters of the reaction of magnesium fluoride decomposition by ionized water vapor with the formation of solid magnesium oxide and gaseous hydrogen fluoride at atmospheric pressure in the temperature range from room temperature to 2800°C. The calculation of the thermodynamic parameters was carried out with the Reaction Equations software module of scientific programs HSCChemistry package. Thermodynamic analysis of magnesium fluoride MgF_2 was carried out on a thermogravimetric analyzer TGA/DSC2. The thermodynamic parameters results are in good agreement with the results of thermogravimetric analysis. There were determined the optimum conditions for plasma-chemical processing of magnesium fluoride © 2022. Eurasian Journal of Physics and Functional Materials.All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85132721757&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopusbyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=51&citeCnt=1&searchTerm=	1
276.	<u>Temirbekov, A., Zhaksylykova, Z., Malgazhdarov, Y., Kasenov, S.</u>	<u>Application of the Fictitious Domain Method for Navier-Stokes Equations</u>	To apply the fictitious domain method and conduct numerical experiments, a boundary value problem for an ordinary differential equation is considered. The results of numerical calculations for different values of the iterative parameter τ and the small parameter ε are presented. A study of the auxiliary problem of the fictitious domain method for Navier-Stokes equations with continuation into a fictitious subdomain by higher coefficients with a small parameter is carried out. A generalized solution of the auxiliary problem of the fictitious domain method with continuation by higher coefficients with a small parameter is determined. After all the above mathematical studies, a computational algorithm has been developed for the numerical solution of the problem. Two methods were used to solve the problem numerically. The first variant is the fictitious domain method associated with the modification of nonlinear terms in a fictitious subdomain. The model problem shows the effectiveness of using such a modification. The proposed version of the method is used to solve two problems at once that arise while numerically solving systems of Navier-Stokes equations: the problem of a curved boundary of an arbitrary domain and the problem of absence of a boundary condition for pressure in physical formulation of the internal flow problem. The	https://www.scopus.com/record/display.uri?eid=2-s2.0-85130113770&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopusbyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=52&citeCnt=1&searchTerm=	1

			main advantage of this method is its universality in development of computer programs. The second method used calculation on a uniform grid inside the area. When numerically implementing the solution on a uniform grid inside the domain, using this method it's possible to accurately take into account the boundaries of the curved domain and ensure the accuracy of the value of the function at the boundaries of the domain. Methodical calculations were carried out, the results of numerical calculations were obtained. When conducting numerical experiments in both cases, quantitative and qualitative indicators of numerical results coincide. © 2022 Tech Science Press. All rights reserved.		
277.	<u>Rakhadilov, B.K., Maulet, M., Kakimzhanov, D.N., Stepanova, O.A., Botabaeva, G.B.</u>	<u>Comparative study of the structure and properties of homogeneous and gradient Ni-Cr-Al coatings</u>	This paper compares the structure and properties of homogeneous and gradient coatings in the Ni-Cr-Al system obtained by detonation spraying. According to X-ray analysis, only the CrNi ₃ phase appears in the homogeneous coating, and CrNi ₃ , Al, and NiAl phases appear on the gradient coating. The elements distribution graphs show that a small amount of aluminum is distributed over the depth of the homogeneous coating and in the gradient coating. The distribution of aluminum in the gradient Ni-Cr-Al coating gradually increases from the depth to the surface, and a high amount of aluminum forms in the coating surface. According to EDS analysis, a small amount of aluminium is distributed on the surface of the homogeneous coating and a large amount on the gradient coating. In the gradient coating, aluminium gradually increases from the substrate surface to the coating surface. Also, the gradient coating has a higher hardness than the homogeneous coating © 2022. Eurasian Journal of Physics and Functional Materials. All Rights Reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85129403939&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=53&citeCnt=0&searchTerm=	0
278.	<u>Karmenova, M., Tlebalidnova, A., Krak, I., (...), Ponkina, E., Györök, G.</u>	<u>An Approach for Clustering of Seismic Events using Unsupervised Machine Learning</u>	New and effective approaches for the analysis of seismic data make it possible to identify the distribution of earthquakes helping further to assess frequency of occurrence any associated risks. This paper proposes an effective approach for detecting areas with increased spatial density of seismic events and zoning territories on the map based on the Density-based Spatial Clustering of Applications with Noise algorithm (DBSCAN algorithm). The validity of the choice of this clustering algorithm is explained by the fact that the DBSCAN algorithm can detect clusters of complex shapes including geographical coordinates. This study uses seismic data from the seismic catalog of the Republic of Kazakhstan from 2011 to 2021 inclusive. Finally, the clusters detected over a certain period of time allowed for the presentation of a spatial model of the distribution of earthquakes and the detection of areas with increased spatial density on the map. In general, the results of the study were also compared and well associated with the general map of the seismic zoning of the Republic of Kazakhstan showing reliable results of clustering based on density. In addition, the architecture of intelligent information and the analytical system for analyzing seismic data is based on the proposed approach. © 2022, Budapest Tech Polytechnical Institution. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85129295106&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=54&citeCnt=8&searchTerm=	8

279.	Saltanat, A., Kaldykul, S., Zaure, K., (...), Karas, K., Bagdat, B.	<u>Opinions of University Students on Technology Literacy</u>	The aim of this study is to evaluate the views of engineering faculty students on technology literacy. This research was conducted using a qualitative research design. In accordance with the structure of the research, the phenomenology design was chosen from the qualitative research designs. The study group of the research consisted of 142 students studying at engineering faculties at various universities in Kazakhstan and who voluntarily agreed to participate in the research. In the study, the opinions of engineering faculty students on technology literacy were collected with a semi-structured interview form developed by the researchers. As a result of the research, students defined technology literacy as knowing the meaning and function of technology and using it effectively. In addition, they associated technology use in the profession with technology competencies and professional competencies. The majority of students put forward the knowledge of technology in technological competencies and being able to follow technological innovations in professional competencies as a prerequisite for the use of technology in the profession. The students participating in the research found themselves moderately competent in being technology literate. Technology literacy should be integrated with all curricula and the content of curricula should be arranged accordingly. © 2022 Kassel University Press GmbH. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85127798498&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=55&citeCnt=1&searchTerm=	1
280.	Alekseenko, A.N., Aubakirova, Z.S., Dyatlov, V.I.	<u>The city in Nation-Building Projects: Soviet Autonomy in Siberia and Sovereign Kazakhstan</u> [Город в проектах национально-государственного строительства: советская автономия в Сибири и суверенный Казахстан]	The most important part of the Soviet socialist transformation, and after the collapse of the USSR, of its sovereign heirs, are nation-building projects. With huge, essential differences, they are brought together by a genetic connection with the Soviet past, the tools of social engineering and the format of state projects, the ethnic basis for understanding the nation being formed. Different in time and implemented by different actors, the Soviet and sovereign projects have similar roles of cities as a key instrument for the production of the nation. The purpose of the article is to compare the role of provincial cities in two projects carried out by the central authorities. For the Soviet era – the regional town of Verkhneudinsk, appointed to be the capital of Soviet Buryatia. On the example of Ust-Kamenogorsk in sovereign Kazakhstan – the implementation of the project of forming a nation-state in one of the regions of the country is considered. Different mission sources, different times and contexts – but a common situation where an ethnically and culturally different city must transform patriarchal traditionalist rural societies into modern nations, if using the well-known metaphor of the transformation of «peasants into French». Receiving new functions from the authorities, changing society, cities themselves are radically changing both in terms of the composition of the population and the nature of relationships in the urban community. They attract the «titular» rural population and form communities of a new type – «urban Buryats» and «urban Kazakhs». Their urban culture is created as a result of a complex synthesis of Russian and their own language and culture within the rigid framework of the urban economy,	https://www.scopus.com/record/display.uri?eid=2-s2.0-85126658994&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=56&citeCnt=0&searchTerm=	0

			social structure, and lifestyle. New waves of rural migrants bring with them elements of traditionalism and a trend towards ruralization. There is a dynamic, often conflicting interaction between Russians, titular townspeople and newcomers – rural migrants within the framework set by the city and the policy of the authorities. © Siberian Federal University. All rights reserved.		
281.	Niyazbekova, S.U., Anzorova, S.P., Zubets, A.Z., Issayeva, A.Z., Abylaikhanov a, T.A.	Prospects for the Development of Mobile Technology in the Global Market in the Digital Age	The paper considers and analyzes the sales of the largest manufacturers of smartphones (e.g., Samsung, Xiaomi, Apple, and Oppo) in the global smartphone market. In the global market, Samsung, for the first time, managed to sell the largest number of smartphones in Q3 2011, replacing the former market leader – Nokia. By the beginning of 2021, Apple outperformed Samsung in the global smartphone market for five consecutive quarters. The South Korean company managed to break the 30% mark several times. This dominance was observed several years ago. Samsung's lead is shrinking and is especially overtaken by Chinese manufacturers. As of 2021, there is an increase in the number of smartphone users. The conclusion highlights the importance of smartphones in a digitized environment. © 2022, The Author(s), under exclusive license to Springer Nature Switzerland AG.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85124667243&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=57&citeCnt=2&searchTerm=	2
282.	Numerical simulation of inverse geochemistry problems by regularizing algorithms	Temirbekov, N., Imangaliyev, Y., Baigereyev, D., Temirbekova, L., Nurmangaliyeva, M.	Currently, methods and approaches of scientific visualization based on additional data analysis are being intensively developed due to the rapid development of computer technology in geology. The general concept is that the main data field on the day surface and additional conditions are specified at the input. Further, the methods of mathematical geophysics are used for their analysis and processing, as a result of which new information is obtained for deep exploration. Then visualization tools are applied to the obtained information and main data field in an information system. Thus, the information system is based on the synthesis of visual representation methods, methods of mathematical geophysics, computational mathematics, and various branches of science. This paper presents a description of the geoinformation system module for deep forecast search modeling of deposits developed on the base of the methods of intelligent anomalies detection of hidden deposits. Operation of the software module is based on the application of the theory of mathematical geophysics inverse problems using geological data on the Earth's surface, geophysical measurements and geochemical analyses as input data. The software module for the inverse problem of the continuation of potential fields in the direction of perturbing masses is used for real data of a particular mineral deposit. © 2022 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85122302634&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=7262f6a29c5ecb158008a7e06463e49e&sot=aff&sdt=cl&cluster=scopubyr%2c%222022%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholv+East+Kazakhstan+University%22+60112447%29&relpos=58&citeCnt=0&searchTerm=	0
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283.	Orsayeva, R., Vasyaev, A., Shestak, V.	Retraction Note: Mechanisms for protecting children's rights and the role of psychological services in the juvenile justice system of Russia against the background of international practices (Egyptian Journal of Forensic Sciences, (2022), 12, 1, (13), 10.1186/s41935-021-00242-6)	The Editor-in-Chief has retracted this article. An investigation by the publisher concluded that it appears authorship for this article was offered for sale before the article was submitted to the journal.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85160082855&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=0&citeCnt=0&searchTerm=	0
284.	Kuanyshbekov T.; Guseinov, Nazim Tolepov, Zhandos Kurbanova, Bayan Tulegenova, Malika Akatan, Kydyrmolla Kantay, Nurgamit Zhasasynov, Elzhas	Thermally Reduced Graphene Oxide Membranes From Local Kazakhstan Graphite "Ognevsky"	The properties of pure graphene and reduced graphene oxide (RGO) are close, so thermal annealing is a simple, safe and more cost-effective alternative, in comparison to other methods to produce graphene oxide (GO) on a significant scale. In this work, for the first time, for the production of GO and its membrane with subsequent thermal reduction, local Kazakhstan "Ognevsky" graphite was used as the initial raw material. The GO membrane was obtained by vacuum filtration and subjected to thermal annealing at various temperatures in a hydrogen atmosphere. It was noticed, that after the thermal recovery of GO membranes, their physical and chemical properties changed. This changes show the possibility of using GO new membranes as a potential material for sensitive elements, such kind of gas and humidity sensors. In this regard, GO and RGO membranes were studied by: SEM, EDX, FTIR, XRD, TGA and Raman spectroscopy. This work demonstrates a new and efficient strategy for manufacturing high performance RGO membranes from local raw materials.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85175983683&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=1&citeCnt=0&searchTerm=	0
285.	Kairat K.; Ildar, Pirmanov Karygash, Alibekkyzy Saule, Belginova Indira, Karymsakova Markhaba, Karmenova	Digital twins technology in the educational process of the aviation equipment repair	The article considers the digital transformation of the aviation industry based on twins of maintenance and repair. As a result of digitization, a set of documents and application software are formed in a virtual reality environment. The concept of a digital twin is presented in the context of a model-based system design of the helicopter maintenance process according to the technical regulations. Based on statistical modeling technologies, a model for assembling aircraft units has been developed, in which time characteristics are qualitative estimates of learning processes and the effectiveness of digital twins. The results of experimental studies based on the method of analysis of students' certification using digital	https://www.scopus.com/record/display.uri?eid=2-s2.0-85174213279&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=1&citeCnt=0&searchTerm=	0

	Aizhan, Baidildina		twins in the assembly of aircraft units are presented. It has been established that at the production site of an aircraft repair enterprise it is effective to apply training at the first stage using digital twins, and at the second stage using real objects. Based on analytical and experimental studies, regression models are proposed for the relationship between the optimal number of trainings at the second stage and the relative coefficient of training time for successful training and certification of mechanics and electronics engineers.	ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=2 &citeCnt=0&searchTerm=	
286.	Temirbekov, Nurlan Malgazhdarov, Yerzhan Tamabay, Dinara Tamabay D.; Temirbekov, Almas	Atmospheric Modelling of Photochemical Transformations of Pollutants: Impact of Weather Conditions and Diurnal Cycle (Case Study: Ust- Kamenogorsk, Kazakhstan)	In this study, the dispersal of atmospheric pollutants from point sources and their photochemical transformations are examined. The mass conservation principle underlies a system of differential equations formulated to describe the transfer and transformation processes, incorporating stoichiometric formulas and reaction rate constants. The atmospheric boundary layer model and the transport-transformation equation of pollutants are considered, integrating a specific parameter to assess the influence of anthropogenic heat sources and surface heterogeneity on pollutant dispersion. Using Ust-Kamenogorsk, an industrial city in Kazakhstan, as a case study, the model accounts for variations in photochemical transformations due to weather conditions, ambient temperature, and time of day. To facilitate numerical simulations of atmospheric pollution and visualize various scenarios, a software application package was created, incorporating photochemical transformations. The developed suite of applications has been verified with real data and benchmarked against contemporary software packages such as WRF and SILAM. Moving forward, the refined model aims to forecast air pollution patterns in industrial cities across Kazakhstan.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85175265662&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=3 &citeCnt=0&searchTerm=	0
287.	Magazov N.; Satbaeva, Zarina Rakhadilov, Bauyrzhan Rakhadilov B.; Amanov, Auezhan	A Study on Surface Hardening and Wear Resistance of AISI 52100 Steel by Ultrasonic Nanocrystal Surface Modification and Electrolytic Plasma Surface Modification Technologies	In this study, a surface hardening of AISI 52100 bearing steel was performed by ultrasonic nanocrystal surface modification (UNSM), and electrolytic-plasma thermo-cyclic surface modification (EPSM), and their effects on the wear resistance were investigated. To evaluate the impact of these treatments on the wear resistance, the friction tests under dry conditions were conducted using a ball-on-disk tribometer in accordance with ASTM G99. The microstructure of the samples before and after treatment was characterized by scanning electron microscopy. The micro-hardness with respect to the depth from the top surface was measured using a Vickers micro-hardness tester. Microstructural observations showed that EPSM treatment led to the formation of residual austenite in the surface layer, while UNSM treatment led to the formation of a surface severe plastic deformation layer on the surface of the samples. The increase in the micro-hardness of the treated layer was confirmed after UNSM at room temperature and after EPSM at different cycles. The highest increase in wear resistance was observed for the specimen treated by UNSM treatment at 700 °C and five cycles of EPSM treatment. In addition, the wear volume, which has correlation with the friction coefficient and hardness, was determined.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85175262015&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholo v+East+Kazakhstan+University %22+60112447%29&relpos=4 &citeCnt=0&searchTerm=	0

288.	Seraya N.; Litvinov V.; Daumova G.; Zhusipov N.; Idrisheva Z.; Aubakirova, Roza	Production Waste Management: Qualitative and Quantitative Characteristics and the Calculation of the Hazard Class of Phosphogypsum	Phosphogypsum (PG: $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) is a waste product (or by-product) from the production of phosphoric acid, the main component in the production of concentrated simple and complex fertilizers. The world production of phosphogypsum exceeds 200 million tons per year. PG discharged into water bodies (seas, rivers) or disposed of in land dumps may contain elements (including heavy metals and radionuclides) in forms and concentrations that are toxic to ecosystems and human health, which raises concerns about its impact on the environment. The concentrations of these elements vary depending on the region where the raw material is mined and the process used to produce phosphoric acid. Given the significant volumes of phosphogypsum formed, an urgent problem is not only the development of methods for its disposal, but also a special, specific control over its composition after the release of PG and during its use for removal, transportation, and storage in dumps and sludge storages. This article presents the results of comprehensive studies on the determination of the chemical and mineralogical composition of by-products from an experimental plant for the processing of phosphate raw materials of the designed chemical complex of the EuroChem-Karatau company (Republic of Kazakhstan). Based on the conducted studies, it was established that, in terms of the total toxicity index, the studied wastes belong to the fourth hazard class (low-hazardous) with the possibility of processing for the purpose of their further use.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85175148971&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=5&citeCnt=0&searchTerm=	0
289.	Noskov F.M.; Kveglis L.I.; Mali, Vyacheslav I. Esikov M.A.; Sakenova, Rimma	Investigation of the Processes of Structure Formation during Explosion Welding of Copper and Molybdenum	This article examines the processes of structure formation occurring during joint plastic deformation by the explosion of copper and molybdenum. These components are dissimilar metals with very limited mutual solubility under normal conditions, and the circumstances allowing for their interaction, as well as the products of the mechanochemical reactions of such interactions, have not been sufficiently studied and require new approaches. A cluster approach was used to describe the processes of structure formation, which describes phase formation as the process transitioning of the polyhedron of the initial phase into the polyhedron of the final phase. This work shows that under the conditions under consideration, not only is the formation of solid solutions in the contact zone with smooth concentration transitions from one component to another possible, but also the formation of new structural states, which can be represented as localized icosahedral atomic configurations (amorphous metal clusters). Such a structure is capable of locally strengthening the composite, which is confirmed by microhardness studies.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85175009250&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=6&citeCnt=0&searchTerm=	0
290.	Pavlov, Alexandr Sagdoldina, Zhuldyz Zhilkashinova, Almira Magazov, Nurtoleu	Synthesis and Investigation of Properties of Beryllium Ceramics Modified with	Samples of beryllium ceramics, with the addition of micro- and nanoparticles TiO_2 , have been obtained by the method of thermoplastic slip casting. The microstructure of batch ceramics, consisting of micropowders and ceramics with TiO_2 nanoparticles sintered at an elevated temperature, has been investigated. It was found that the introduction of TiO_2 nanoparticles leads to changes in the mechanisms of mass transfer and microstructure formation, and the mobility of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85174031170&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa354873	0

	Magazov N.; Turar, Zhangabay Gert, Sergey	Titanium Dioxide Nanoparticles	TiO ₂ at interfacial grain boundaries increases, which leads to the formation of elements of a zonal shell structure. The reduction of intergranular boundaries leads to an increase in density, hardness, and mechanical strength of ceramics. The whole complex of properties of the synthesized material, with the addition of TiO ₂ nanoparticles in the amount of 1.0–1.5 wt.%, leads to an increase in the ability to absorb electromagnetic radiation in the frequency range of electric current 8.2–12.4 GHz. The analysis and updating of knowledge on synthesis, and the investigation of properties of beryllium ceramics modified by nanoparticles, seems to be significant. The obtained results can be used in the creation of absorbers of scattered microwave radiation based on (BeO + TiO ₂) ceramics.	37098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=7&citeCnt=0&searchTerm=	
291.	Yeskermessov, Didar Kantay, Nurgamit Kakimzhanov, Daur Rakhadilov, Bauyrzhan Apsezhanova, Akbot Ahmed, Waqar	Detonation-gun spraying technology for multilayer coatings: Obtaining multilayer coatings by the detonation spraying method	This study investigated the structural-phase, morphology, elemental composition, and tribological properties of coatings systems based on Al ₂ O ₃ , NiCr, and NiCr-Al ₂ O ₃ fabricated by detonation-gas spraying method in a nitrogen/propane atmosphere. The coatings were characterised using SEM-EDX, XRD, Raman spectroscopy, and hardness measurements, and results analysed are presented. According to the experimental data, an optimal mode was selected that provides an increase in mechanical and tribological characteristics, and a method for detonation spraying surface hardening was also developed. Tribology tests have shown that the wear rates and friction coefficients of the coatings are highly dependent on the degree of filling of the gun.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85175128326&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=8&citeCnt=0&searchTerm=	0
292.	Berdyshev, Abdumauvlen Berdyshev A.; Baigereyev, Dossan Baigereyev D.; Boranbek, Kulzhamila	Numerical Method for Fractional-Order Generalization of the Stochastic Stokes–Darcy Model	This paper is aimed at efficient numerical implementation of the fractional-order generalization of the stochastic Stokes–Darcy model, which has important scientific, applied, and economic significance in hydrology, the oil industry, and biomedicine. The essence of this generalization of the stochastic model is the introduction of fractional time derivatives in the sense of Caputo’s definition to take into account long-term changes in the properties of media. An efficient numerical method for the implementation of the fractional-order Stokes–Darcy model is proposed, which is based on the use of a higher-order approximation formula for the fractional derivative, higher-order finite difference relations, and a finite element approximation of the problem in the spatial direction. In the paper, a rigorous theoretical analysis of the stability and convergence of the proposed numerical method is carried out, which is confirmed by numerous computational experiments. Further, the proposed method is applied to the implementation of the fractional-order stochastic Stokes–Darcy model using an ensemble technique, in which the approximation is carried out in such a way that the resulting systems of linear equations have the same coefficient matrix for all realizations. Furthermore, evaluation of the discrete fractional derivatives is	https://www.scopus.com/record/display.uri?eid=2-s2.0-85176465259&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=9&citeCnt=0&searchTerm=	0

			carried out with the use of parallel threads. The efficiency of applying both approaches has been demonstrated in numerical tests.		
293.	Raimbekov Z.; Syzdykbayeva B.; Rakhmetulina A.; Rakhmetulina Z.; Abylaikhanova T.; Ordabayeva M.; Doltes, Lyubov	The Impact of Agri-Food Supply Channels on the Efficiency and Links in Supply Chains	Improving the efficiency in the links in the supply chains of agri-food products is relevant in terms of the assessment methodology and practical aspects for ensuring and supporting sustainable supply chains of products not only in individual channels of product movement but also in the end-to-end supply chain of products, i.e., from the field to the end consumer. However, it is still unclear which supply chain opportunities in commodity distribution channels are more effective for creating end-to-end sustainable supply chains for agri-food products. The purpose of the study is to develop a methodology for assessing the impact of agri-food supply channels on the efficiency and link in supply chains, taking into account the factors affecting them and developing recommendations for their improvement. Quantitative methods based on correlation and regression analysis using the EViews program on the basis of Kazakh statistical data for 2008–2022 were used. A methodology is proposed for assessing the effectiveness of the functioning and links in commodity movement in the supply chains of agricultural products at the macroeconomic level based on the consideration and use of important factors affecting the efficiency and links: production and sales volumes, total costs, and profitability for each supply channel: “production–processing–industrial production–trade”. The relationship between the efficiency and the links in supply chains and also the key factors that affect them have been established. The results showed that the increase in the efficiency in supply channels in the commodity distribution system leads to a decrease in the coefficient of the link in commodity movement and inventory availability. To reduce the link ratio in the supply chains of agri-food products, it is necessary to increase the efficiency in supply chains in each supply chain link and reduce the share of retail trade in the gross turnover. Recommendations are proposed to improve supply chain efficiency and reduce links to support and create end-to-end sustainable supply chains of agri-food products. The study makes an essential contribution to providing empirical evidence of the relationship between the effectiveness of agri-food supply channels and the link in the supply chain. Since few works describe the relationship between the links of product distribution and the efficiency in supply chains in the literature, in this work, it was possible to propose a methodology and identify factors and gaps in research to identify potential areas for future research.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85169002642&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=10&citeCnt=0&searchTerm=	0
294.	Kuanyshebekov T.; Sagdollin Z.; Zhasasynov E.; Akatan K.; Kurbanova B.; Guseinov, Nazim	Composite Membrane Based on Graphene Oxide and Carboxymethylcellulose from Local	The synthesis of new composite nanomaterials based on graphene oxide (GO) modified with cellulose and its derivatives, as well as nanocellulose, is currently an important direction and contributes toward solving many problems in various fields such as nanotechnology, information technology, medicine, high-dielectric materials, and nanoelectronics. In this work, for the first time, for the production of GO and its membrane with carboxymethylcellulose (CMC),	https://www.scopus.com/record/display.uri?eid=2-s2.0-85168877092&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa354873	1

	Tolepov Z.; Kantay N.; Beisebekov, Madyar	Kazakh Raw Materials for Possible Applications in Electronic Devices	local Kazakhstan “Ognevsky” graphite was used as the initial raw material. In this regard, the preparation of nanocomposites of GO modified with cellulose derivatives, including CMC, attracts great interest from scientists and expands its field of practical application due to the significant changes in its physicochemical properties. In this work, the GO obtained using the Hummers method was modified by CMC, and its physicochemical, structural, and electrical characteristics were studied. The GO/CMC membrane was synthesized by mixing 1% GO with crushed solid mass of CMC (0.03 g; 0.06 g; 0.15 g) and then processing using ultrasound. The surface morphology of the GO/CMC membrane was studied using scanning electron microscopy (SEM). It has been established that by increasing the mass of CMC (0.03 g; 0.06 g; 0.15 g), the polymerization of CMC occurs on the surface of GO nanosheets. Cross-sectional micrographs of GO/CMC show the formation of sandwich-like layered structures. The synthesis efficiency (yield) of GO from synthetic graphite is 10.8%, and GO from Ognevsky graphite is 11.9%, almost 1.1% more than GO from synthetic graphite. The mechanical tensile strength increases from 2.3 MPa to 14.3 MPa and the Young’s modulus from 2.3 MPa to 143 MPa. The electrical parameters of the humidity sensor based on GO and GO/CMC membranes (0.03 g; 0.06 g; 0.15 g) were studied as a function of humidity to determine the performance of the device.	37098b&sot=aff&sdt=cl&cluster=scopusbyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=11&citeCnt=1&searchTerm=	
295.	Kabdrakhmanova S.; Kabdrakhmanova A.; Shaimardan E.; Akatan, Akatan K.; Beisebekov M.; Hryhorchuk, Hryhorchuk N.; Selenova B.S.; Joshy K.S. Thomas, Sabu	Fungicidal and Stimulating Effects of Heteroleptic Copper Complex on the Germination and Phytosafety of Plants	At present, when the whole world is intensively switching to organic farming, the refusal or minimization of the usage of chemical plant protection products and synthesized fertilizers is a very urgent issue for the agro-industrial complex (AIC). Accordingly, the solution to the problems of increasing yields and ensuring the fight against pathogenic components should be carried out in accordance with the principles of “green” chemistry. In this regard, the usage of heteroleptic complexes based on carboxylic and amino acids with biogenic metals is dictated not only by their availability, low cost, and ability to increase crop yields but also by fungicidal activity, lower toxicity, and easy biodegradability, which lists them among the “green” and cost-effective plant biostimulants. In the present work, for the first time, a heteroleptic complex based on succinic acid and glycine, with the formula [Cu(succ)(gly)], was developed for usage as a fungicidal biostimulant, which has the ability to significantly reduce the number of pathogens. We found that this compound has a layered structure and was able to increase soybean germination up to 100%.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85168859742&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopusbyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=12&citeCnt=0&searchTerm=	0
296.	Skakov M.; Bayandinova M.; Ocheredko I.; Tuyakbayev B.; Nurizinova M.;	Influence of Diabase Filler on the Structure and Tribological Properties of Coatings Based on	This article presents the results of a study of a composite coating made of ultrahigh molecular weight polyethylene (UHMWPE) with a diabase filler obtained by flame spraying. Diabase of 10 wt.%, 20 wt.%, 30 wt.% and 40 wt.% was chosen as a filler. The polymer coating was applied to the St3 metal substrate using temperature control in a conventional flame spraying process. The coating was studied using scanning electron microscopy, X-ray phase analysis, infrared	https://www.scopus.com/record/display.uri?eid=2-s2.0-85168801320&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa354873	0

	Gradoboev, Alexander	Ultrahigh Molecular Weight Polyethylene	spectroscopy, abrasive wear resistance, microhardness testing and determination of the friction coefficient. It has been shown that diabases do not have a negative effect on the initial chemical structure of UHMWPE and it is not subjected to destruction during flame spraying. The introduction of diabase into the composition of UHMWPE with a content of 10–40% of the total mass does not adversely affect the crystalline structure of the coating. It has been established that with an increase in the volume of the diabase filler, the wear resistance of the composite coating based on UHMWPE increases. It has been determined that with the addition of diabase, the microhardness of the coatings increases.	37098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=13&citeCnt=0&searchTerm=	
297.	Yessenova, Moldir Abdikerimova G.; Murzabekova, Gulden Nurbol, Kakabayev Glazyrina, Natalya Adikanova, Saltanat Uzakkyzy, Nurgul Sadirmekova, Zhanna B. Niyazova, Rozamgul	Application of informative textural Law's masks methods for processing space images	Image processing systems are currently used to solve many applied problems. The article is devoted to the identification of negative factors affecting the growth of grain in different periods of harvesting, using a program implemented in the MATLAB software environment, based on aerial photographs. The program is based on the Law's textural mask method and successive clustering. This paper presents the algorithm of the program and shows the results of image processing by highlighting the uniformity of the image. To solve the problem, the spectral luminance coefficient (SBC), normalized difference vegetation index (NDVI), Law's textural mask method, and clustering are used. This approach is general and has great potential for identifying objects and territories with different boundary properties on controlled aerial photographs using groups of images of the same surface taken at different vegetation periods. That is, the applicability of sets of Laws texture masks with original image enhancement for the analysis of experimental data on the identification of pest outbreaks is being investigated.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85152100778&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=14&citeCnt=2&searchTerm=	2
298.	Zhambakin, Dauren Zhilkashinova A.; Abilev M.; Łatka, Leszek Pavlov, Alexandr Tuyakbaev, Bauyrzhan Zhilkashinova, Assel	Structure and Properties of Spark Plasma Sintered SiC Ceramics with Oxide Additives	This article describes spark plasma sintering of ceramics based on silicon carbide with nanoadditives, as follows: MnOnano 5.5 wt. % + Al2O3nano 2.0 wt. % + SiCnm (37–57 wt. %) + SiC μ m (31–51 wt. %) + SiO2 μ m 4.5 wt. %. Sintering was carried out at 2000 °C. The diffraction pattern of the analyzed sample showed the presence of silicon carbide with a hexagonal crystal lattice. Residual amounts of rhombohedral SiC, α -Fe, and a solid solution of silicon in iron were also found. The method of thermogravimetric analysis established the change in mass, heat flow, temperature of the samples, and the change in the partial pressures of gases during the experiment. Samples obtained by SPS show a higher density of the material at the level of 3.3 g/cm ³ , average mechanical strength of 454 MPa, and microhardness of 35 GPa, compared with samples obtained by liquid-phase sintering. The SPS method also made it possible to obtain materials with a higher density (by 8%) and practically no significant crystal growth compared to samples obtained by liquid phase sintering. The results of the study facilitate the achievement of a combination of new approaches to the design of compositions and the technology of manufacturing SiC ceramics, which significantly expands their areas of application.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85166271234&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=15&citeCnt=0&searchTerm=	0

299.	Madina B.; Saltanat A.; Gulnaz Z.; Yuriy V.; Ainur A.; Akmaral J.; Meruyert K.; Roza, Bekbayeva	Application of ontology-based engineering and stem approach in learning	Currently, there is a need to improve the educational system and develop interdisciplinary studies at all stages of education, from school to postgraduate education. The implementation of cross-curriculum connections promotes a holistic view of natural phenomena and the relationship between them, that is, this knowledge becomes more meaningful and applicable in practice. The article proposes an approach to building a conceptual model of the content of education in the form of a thesaurus and ontology, the use of which will ensure that the educational information is adaptively selected and put straight. The article discusses the possibility of and experience in using ontological modeling and engineering for the conceptual description of school and higher education. The article discusses the development of the ontological science, technology, engineering, and mathematics (STEM) Education at School model. The article builds an ontological model, which is an integration of the ontology of school and the ontology of university. When filling in the knowledge base, it becomes possible to identify interdisciplinary relationships. The use of ontological engineering methods will improve the quality of education for schoolchildren and students through the semantic description of knowledge of the subject area by using interdisciplinary and STEM approaches in the process of education.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85159809329&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=16&citeCnt=0&searchTerm=	0
300.	Aimukhambet Z.; Aituganova, Saulesh Alimbayev, Aslan Sagynadin, Gulnaz Seiputanova, Aiymgul	The Effects of Computer Aided Education in the Education of Folk Cultural Products	This research explores the effects of computer-aided education (CAE) on the education of folk cultural products. Folklore, encompassing tangible and intangible cultural artifacts, holds significant importance in defining the identity and values of a community. CAE, utilizing multimedia software and interactive teaching methods, has emerged as a promising approach to enhancing student learning experiences. This study aims to investigate the impact of CAE on students' achievement, retention, cultural competency, and classroom participation in the domain of folk culture education. A quasi-experimental pretest-posttest control group design was utilized, with an experimental group of 32 1st grade students receiving CAE and a control group of 32 1st grade students receiving traditional teaching methods in Almaty, Kazakhstan. Various assessment tools were employed to measure academic achievement, cultural competency, and classroom participation. The results indicate that students in the CAE group exhibited significantly higher academic achievement scores, improved retention of knowledge, enhanced cultural competency, and increased classroom participation compared to the control group. These findings provide empirical evidence supporting the effectiveness of CAE in fostering effective and engaging education, particularly in the context of preserving and promoting cultural heritage through folk culture education.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85170714091&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholov+East+Kazakhstan+University%22+60112447%29&relpos=17&citeCnt=1&searchTerm=	1
301.	Abilev, Madi Zhilkashinova, Almira Pavlov, Aleksandr	Structural-Phase State and Properties of SiC Ceramics Obtained by	This study proposes an experimental charge composition for sintering carbide ceramics with additives forming a liquid phase: MnO 2.5 wt. % + Al ₂ O ₃ 2.0 wt. % + SiC 91.0 wt. % + SiO ₂ 4.5 wt. %. The results of the structural-phase state and physical-mechanical properties of SiC ceramics obtained by ultrasound-	https://www.scopus.com/record/display.uri?eid=2-s2.0-85146919804&origin=resultslist&sort=plf-	2

	Zhambakin, Dauren B Zhambakin D.; Tuyakbayev, Baurzhan	Ultrasound-Assisted Liquid-Phase Sintering with Eutectic Additives	assisted liquid-phase sintering with eutectic additives are presented. Densification with the participation of the liquid phase formed by SiO ₂ , SiO, Si and MnO led to the formation of equiaxed grains with an average size of $\leq 10 \mu\text{m}$. The formation of the ceramic microstructure based on silicon carbide using eutectic additives made it possible to choose a composition that provided a decrease in the sintering temperature to 1800 °C. The main phase components of the synthesized ceramics were modification of the ring radical of silicate Si ₃ O ₆ , silicon dioxide SiO ₂ , and anorthoclase (SiAl)O ₄ . The resulting material based on silicon carbide with a grain size of 10 μm with the addition of 9 wt. % eutectic additive, after firing in a weakly reducing CO atmosphere at 1800 °C and holding for 2 h, has the following controlled indicators: ultimate strength in bending 440 $\pm$ 20 MPa, microhardness (HV) 30 GPa. This is promising for use as an armored material and for obtaining materials with high physical and mechanical properties at significantly lower energy, resource, and material costs.	f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=18&citeCnt=2&searchTerm=	
302.	Karassayev G.M.; Yensenov K.A.; Naimanbayev B.R.; Bakirova Z.S.; Kabdrakhmanova F.K.	Mutual Cooperation of the Republic of Kazakhstan with the States of Central Asia in 1991-2000	The relevance of this article is based on the processes of revising the systems of relationships in various sectors of Central Asia that are important for 2023, and not least among them is agriculture. Studying the history of cooperations between these countries is the relevant theme for the research, and to analyse the accepted and implemented agreements of the Central Asian states after the fall of the Soviet Union: Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Turkmenistan in the field of political and economic cooperation, defense, cultural, social and humanitarian spheres. Therefore, scientific literature and archival documents were brought to scientific analysis in order to study their initiatives and agreements on cooperation with each other at the international level in the field of historical science, and consider them in the historical and political aspect. From a theoretical and methodological point of view, the study of the political, economic, and sociocultural development of the states of Central Asia in the historical and political aspect, as well as in the system of international relations, is one of the most important tasks.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85162222981&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=62&s=AF-ID%28%22Sarsen+Amanzholy+East+Kazakhstan+University%22+60112447%29&relpos=19&citeCnt=0&searchTerm=	0
303.	Maulit A.; Nugumanova A.; Apayev, Kurmash Baiburin, Yerzhan Sutula, Maxim	A Multispectral UAV Imagery Dataset of Wheat, Soybean and Barley Crops in East Kazakhstan	This study introduces a dataset of crop imagery captured during the 2022 growing season in the Eastern Kazakhstan region. The images were acquired using a multispectral camera mounted on an unmanned aerial vehicle (DJI Phantom 4). The agricultural land, encompassing 27 hectares and cultivated with wheat, barley, and soybean, was subjected to five aerial multispectral photography sessions throughout the growing season. This facilitated thorough monitoring of the most important phenological stages of crop development in the experimental design, which consisted of 27 plots, each covering one hectare. The collected imagery underwent enhancement and expansion, integrating a sixth band that embodies the normalized difference vegetation index (NDVI) values in conjunction with the original five multispectral bands (Blue, Green, Red, Red Edge, and Near Infrared Red). This amplification enables a more effective	https://www.scopus.com/results/results.uri?sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&cl=t&offset=21&origin=resultslist&ss=plf-f&ws=r-f&ps=r-f&cs=r-f&cc=10&txGid=7ba16966635fede7afca8ea78a5be471	1

			evaluation of vegetation health and growth, rendering the enriched dataset a valuable resource for the progression and validation of crop monitoring and yield prediction models, as well as for the exploration of precision agriculture methodologies. Dataset: https://doi.org/10.5281/zenodo.7749239, https://doi.org/10.5281/zenodo.7749362, https://doi.org/10.5281/zenodo.7748792, https://zenodo.org/record/7860751. Dataset License: Creative Commons Attribution 4.0 International.		
304.	Skakov, Mazhyn Ocheredko I.; Tuyakbayev, Baurzhan Bayandinova, Moldir Nurizinova, Makpal	Development and Studying of the Technology for Thermal Spraying of Coatings Made from Ultra-High-Molecular-Weight Polyethylene	UHMWPE is resistant to acids, alkalis and radiation. Its combination of unique properties makes this material attractive for obtaining multifunctional coatings. However, in practice, obtaining coatings based on UHMWPE is associated with difficulties associated with low thermal conductivity and high viscosity of the material. The possibility of overcoming the technological problems of obtaining gas-thermal coatings based on UHMWPE was studied in the present work. A physical model of a flame with UHMWPE particles moving along the central axis was developed by the finite element method. The temperature along the central axis of the plume was determined. The interaction between a gas-thermal torch and a UHMWPE particle was established. It was determined that the residence time of UHMWPE particles in a gas-thermal flame is not enough for its complete penetration, which is the reason for the appearance of various defects. The interrelation of the particle heating rate in the torch depending on its diameter was determined. A new variant of coating deposition with preliminary heating of the powder in a fluidized bed was proposed. The thermal characteristics of UHMWPE powder were determined by differential scanning calorimetry and thermogravimetric analysis. The allowable temperature interval for UHMWPE deposition was established. Coatings were obtained under various deposition modes. It was established using the methods of X-ray diffraction analysis and infrared spectroscopy that the structure of the crystal lattice of UHMWPE did not change after deposition. Significant oxidation processes do not occur during spraying. It was found using scanning electron microscopy that the coatings obtained with preliminary heating of the powder in a fluidized bed do not have air inclusions. The obtained results make it possible to obtain higher quality coatings.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85156110144&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=21&citeCnt=1&searchTerm=	1
305.	Bayatanova, Lyaila Rakhadilov, Bauyrzhan Kengesbekov A.; Kylyshkanov, Manarbek Abdulina, Saule Adilkanova, Meruyert	Production of Anhydrite Binder from Waste Fluorangydrate	The technology for obtaining hydrofluoric acid and the peculiarities of its production were studied, and the physical and chemical properties of the waste were examined. Activators that accelerated the hardening of the anhydrite binder were selected. The process of recycling fluorine hydrite waste from the production of hydrofluoric acid at Ulba Metallurgical Plant JSC was studied, and anhydrite unburnt binder with a setting time of 30 min was obtained. On the basis of the obtained data, a technological scheme of anhydrite binder production was developed. The effectiveness of the technological scheme was confirmed experimentally. This work aimed to study the possibility of the integrated use of	https://www.scopus.com/record/display.uri?eid=2-s2.0-85153950137&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-	0

	Sagdoldina, Zhuldyz		secondary and anthropogenic raw materials from Ulba Metallurgical Plant, which represents an important means of not only increasing production efficiency and economic benefits and reducing the irrational alienation of land resources, but also protecting against the pollution of water and air basins, as the environmental policy of UMP JSC is nowadays of great importance.	ID%2860112447%29&relpos=23&citeCnt=0&searchTerm=	
306.	Yessenova M.; Abdikerimova G.; Sadirmekova Z.B.; Glazyrina N.; Adikanova S.; Tanirbergenov A.; Karipola M.; Mukhamedrakhimova, Galiya	Features of growth of agricultural crops and factors negatively affecting their growth	This article is about methods of analyzing aerial images. Images from Planet.com for crops in North Kazakhstan owned by the Center for Cereal Production and Research. A.I. Barayev. The main goal of the research work is to develop and implement algorithms that allow identifying and distinguishing factors in aerial photographs that adversely affect the growth of plants during the growing season. Spectral brightness coefficient (SBC), normalized difference vegetation index (NDVI), textural features, clustering, and integral transformations are used to solve the problem. Particular attention has been paid to the development of software tools for selecting features that describe textural differences to divide texture regions into subregions. That is weeds, and pests in aerial images. The application of a set of textural features and orthogonal transformations to the analysis of experimental data is explored to identify regions of potentially correlated features in the future. The analysis of the received data made it possible to determine the characteristics of changes in the reflective capacity of agricultural plants and weeds in certain stages of the growing season. The obtained information is of great importance for confirming the observations from space remote from the aerial images.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85147164394&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=23&citeCnt=0&searchTerm=	0
307.	Khasenov M.; Samarkhanov K.; Batyrbekov E.; Gordienko Y.; Kenzhina I.E.; Tulubayev, Yevgeniy	Optical Radiation during Sputtering of Lithium into a Noble Gas Using a Nanosecond Electron Beam	The optical radiation in a gaseous medium upon the irradiation of a lithium layer with a fast electron beam of a 5 ns duration has been studied. The irradiation chamber was filled with argon, krypton, or xenon at a pressure of 10 kPa up to 60 kPa. The lines of lithium atoms appear in the emission spectrum at a lithium layer temperature of 650–680 K, and the intensity of these lines sharply increases with the increasing temperature of the lithium layer. The optical radiation arises from both the transitions of noble gas atoms and the transition of the lithium atom in a time of about 20–30 ns. The duration of the radiation pulses at half maximum at temperatures above 800 K was 60–100 ns at a wavelength of 610.4 nm and 140–220 ns at 670.8 nm in krypton and argon. The various mechanisms for the population of lithium levels during the radiation pulse are discussed.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85152704308&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=24&citeCnt=2&searchTerm=	2
308.	Kurbanova, Bayan Aimaganbetov, Kazybek Ospanov, Kanat Abdrakhmanov, Kairat Zhakiyev, Nurkhat	Effects of Electron Beam Irradiation on Mechanical and Tribological Properties of PEEK	In this work, the mechanical and tribological characteristics of polyetheretherketone (PEEK) sheets were enhanced by electron beam irradiation. PEEK sheets irradiated at a speed of 0.8 m/min with a total dose of 200 kGy achieved the lowest specific wear rate of 4.57 ± 0.69 (10–6 mm ³ /N–1m–1), compared to unirradiated PEEK with a rate of 13.1 ± 0.42 (10–6 mm ³ /N–1m–1). Exposure to an electron beam at 9 m/min for 30 runs, with a dose of 10 kGy per run for a total dose of 300 kGy, resulted in the highest improvement in microhardness, reaching 0.222 GPa. This may be due to the decrease in crystallite	https://www.scopus.com/record/display.uri?eid=2-s2.0-85152636197&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=24&citeCnt=2&searchTerm=	0

	Rakhadilov, Bauyrzhan		size, as indicated by the broadening of the diffraction peaks in the irradiated samples. According to the results of thermogravimetric analysis, the degradation temperature of the irradiated samples remained unchanged at 553 ± 0.5 °C, except a sample irradiated at dose 400 kGy, where the degradation temperature shifted towards a lower position of 544 ± 0.5 °C. Differential scanning calorimetry results revealed that the melting temperature ((Formula presented.)) of the unirradiated PEEK was about 338 ± 0.5 °C, while a high temperature shift of the (Formula presented.) was observed for the irradiated samples.	2ct&sl=15&s=AF-ID%2860112447%29&relpos=25&citeCnt=0&searchTerm=	
309.	Russakova, Alyona Zhilkashinova A.; Alontseva, Darya Abilev M.; Khozhanov, Alexandr Zhilkashinova, Assel	Effect of the Dislocation Substructure Parameters of Hadfield Steel on Its Strain Hardening	This article presents a study of changes in the microstructure of Hadfield steel depending on the tensile deformation and cold rolling with the strain/stress level. It has been established that the change in the “ σ - ε ” curve (at $\varepsilon = 5\%$) is accompanied by a 1.5-times decrease in the strain-hardening coefficient. At $\varepsilon = 0$ to 5%, the structure contains dislocation loops, the interweaving of elongated dislocations, single-layer stacking faults. At $\varepsilon = 5\%$, the structure contains multilayer stacking faults and mechanical microtwins. At $\varepsilon > 5\%$, there is an intense microtwinning with no long dislocations and stacking faults. The most intense twinning develops in the range of deformation degrees of 5–20%, while the number of twins in the pack increases from 3–4 at $\varepsilon = 10\%$ to 6–8 at $\varepsilon = 20\%$. When mechanical twinning is included, a cellular dislocation substructure begins to develop intensively. The cell size decreases from 700 nm at $\varepsilon = 5\%$ to 150 nm at $\varepsilon = 40\%$. Twinning develops predominantly in systems with the largest Schmid factor and facilitates the dislocation glide. The results may be of interest to the researchers of the deformation processes of austenitic alloys.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85149227563&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=26&citeCnt=0&searchTerm=	0
310.	Rakhadilov, Bauyrzhan Bayatanova, Lyaila Kurbanbekov S.; Sulyubayev, Ravil Shektibayev, Nurdaulet Berdimuratov, Nurbol	Investigation on the effect of technological parameters of electrolyte-plasma cementation method on phase structure and mechanical properties of structural steel 20X	This article presents the results of a study on the effect of electrolyte-plasma cementation on the phase composition of the surface-modified layer and the mechanical properties of 20X steel using different solutions. It has been determined that electrolyte-plasma cementation followed by quenching in solutions containing (a) 10% calcined soda (Na_2CO_3), 10% urea ($\text{CH}_4\text{N}_2\text{O}$), 10% glycerin ($\text{C}_3\text{H}_8\text{O}_3$) and 70% distilled water and (b) 10% calcined soda (Na_2CO_3), 20% urea ($\text{CH}_4\text{N}_2\text{O}$) and 70% distilled water, results in the formation of a modified structure on the surface of 20X steel. This structure mainly consists of the α -Fe phase, along with separate particles of reinforcing phases, Fe_3C and Fe_3C_7 carbides and martensitic α' -Fe phase. The plasma of the electrolyte was used to heat the samples. Then these samples were partially immersed in the electrolyte and held at a temperature of 950 °C for 5 min, followed by quenching. As a result of this process, it was found that 20X steel exhibits higher hardness. After the electrolyte plasma cementation, it was observed that the friction coefficient of the modified surface of the steel samples significantly decreased. Additionally, the wear volume was reduced by more than 6.5 times compared to the initial state. The average microhardness after the electrolyte-plasma	https://www.scopus.com/record/display.uri?eid=2-s2.0-85176259226&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=27&citeCnt=0&searchTerm=	0

			cementation is 660 HV, which is nearly four times higher than that of the initial material.		
311.	Ramazanova, Ainur Ramazanova A.; Sabitova, Assyl Sabitova A.; Orsayeva, Raissa Orsayeva R.; Bairkenova, Gulmira Bairkenova G.; Smailova, Indira	Religious context and its influence on banking sector regulation	The aim of the study is to identify typical religiously-based regulatory practices in the banking sector of secular states. With this end in view, the intersection of religion and banking was qualitatively analysed, as well as confessional-based economies of Judaism, Christianity, and Islam were characterised. The results obtained provide evidence that religion exerts a notable influence on the social and economic life of the country. The Jewish banking system is based on the analogy of the Islamic finance paradigm – it is built upon Sharia law but provides services for the population according to national jurisdiction of the state and the laws of the Torah. In the meantime, the regulation of basic banking practices in the Christian tradition is not religiously conditioned. The originality of this study is in the analytical tool designed to manage financial activities within the particular economic system while making allowances to the moral values of society.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85175299543&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=28&citeCnt=0&searchTerm=	0
312.	Raimbekov Z.; Syzdykbayeva B.; Rakhmetulina A.; Rakhmetulina Z.; Abylaikhanova, Tana	International Trade and Logistics of Kazakhstan and Its Trading Partners: Contribution to Economic Growth and Distribution of Trade Flows*	Purpose: To investigate the intensity of bilateral international trade of the Silk Road Economic Belt (SREB) countries with Kazakhstan, its relationship with logistics (LPI), to assess their contribution to economic growth and distribution of commodity flows. Research design, data, and methodology: The method of analyzing the bilateral trade flow was applied by using the trade intensity index (TII) and a multidimensional regression model describing the relationship between LPI and its components, TII, the volume of exports and imports, GDP. Results: The nature and directions of the relationship between TII and the key components of logistics, the positive impact of LPI on the intensity of trade are established. It is revealed that the intensity of trade between the countries in the direction of the EAEU-Kazakhstan has a greater impact on the growth of LPI than in the opposite direction. At the same time, the higher the level of trade integration and the volume of GDP, the stronger their impact on the efficiency of logistics and distribution of commodity flows. Conclusions: Effective distribution of commodity flows will require the development of logistics components based on the direction of bilateral trade and the size of countries, the intensification of state reforms in the field of international trade and distribution logistics.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85172281088&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=29&citeCnt=0&searchTerm=	0
313.	Apakhayev N.Z.; Ramazanova A.S.; Bugybay D.B.; Adilova K.A.; Kopbayev, Duman Z	Adoption of the administrative procedural code as the implementation of Kazakhstan's legal policy concept	The purpose of this study is to investigate the features and innovations of the Administrative Procedural Code of the Republic of Kazakhstan (APCRK) within the framework of Concept adopted by the Kazakh government. To achieve this purpose, the following methods were employed: analysis, synthesis, comparison, and induction. In particular, the study employed the method of comparative analysis of approaches to the study of administrative justice of European states. The main conclusion of the study is that at present, the APCRK constitutes a combination of laws that contained disconnected norms for the regulation of relations between citizens and public authorities. The applied value of this study	https://www.scopus.com/record/display.uri?eid=2-s2.0-85171628784&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=29&citeCnt=0&searchTerm=	0

			lies in offering recommendations for improving the introduced innovations in the APCRK.	ID%2860112447%29&relpos=30&citeCnt=0&searchTerm=	
314.	Mukasheva, Roza Rakhmetullina Z.; Uvaliyeva, Indira Mukhamedova, Raushan Amenova, Farida	DEVELOPMENT OF A MATHEMATICAL MODEL FOR ASSESSING THE QUALITY OF SERVICE ON A PACKET SWITCHING SUBNET	Currently, data traffic is growing rapidly, and ensuring optimal network performance and effective data flow management have become the most important tasks. In this context, the quality of network service plays a crucial role in achieving these goals. This article suggests an approach to solving the problem of efficient service in ISDN. Namely, optimization of resource distribution between channel switching and packet switching subnets in ISDN to calculate optimal quality of service characteristics. In the process of ISDN design analysis, an optimization problem is compiled, where the evaluation of the packet-switched subnet service is used as an objective function, and the evaluation of the circuit-switched subnet service is used as one of the constraints for this task. To calculate the main characteristics of a packet-switched subnet, the subnet is considered as a service system with a delay. During the study, the methods of optimal movement of the generalized channel boundary between the subnets of channel switching and packet switching were identified, depending on the data parameters and the state of the integrated network, which made it possible to develop an optimal mathematical model of optimal control of the generalized boundary. To calculate the bandwidth for channel switching and packet switching subnets, an algorithm has been compiled to implement the resulting model and a program in C++ has been compiled. The study of the generalized boundary and the dynamic redistribution of bandwidth between subnets represents a new approach to network optimization. The results are based on the use of the classical Erlang formula for systems with service failures and on load distribution plans, which makes it possible to effectively manage the maintenance process in the network.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85171296266&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=31&citeCnt=0&searchTerm=	0
315.	Bondarovich, Andrey Illiger, Patrick Schmidt, Gerd Ponkina, Elena Nugumanova, Aliya Maulit A.; Sutula, Maxim	Effects of Agricultural Cropping Systems on Soil Water Capacity: The Case in Cross-Border Altai	Temperate grasslands are called the breadbaskets of the world. Due to most continental climate conditions, humus-rich soils have been developed. These soils are very well suited for grain production. This is why extensive conversions from natural steppe to arable land have been implemented in this biome. The Kulunda Steppe, in Southwest Siberia and Central Asia, occupies large parts of the driest regions of the Eurasian Steppe Belt. It was one of the sites of the Virgin Land Campaign realized in the former Soviet Union in the 1950s and 1960s. Intensive agricultural practices have caused significant soil degradation, mainly through humus loss and soil erosion. This results in the degradation of organic carbon, altering the physical and chemical structure of the chestnut soils and impacting their water storage capacity. Against the background of climatic changes, a further intensification of these processes and conditions is to be expected. To stabilize soil carbon and optimize moisture utilization, it is necessary to extensively introduce worldwide experiences in conservation cropping technologies (such as no-till, min-till, and direct seeding) in the area. This study aimed to determine the effects of different cropping systems on soil	https://www.scopus.com/record/display.uri?eid=2-s2.0-85168292906&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=32&citeCnt=0&searchTerm=	0

			water storage and water availability. The study's initial hypothesis was that the soil conservational cropping system has advantages against the traditional deep tillage (24 cm). This hypothesis was based on extensive global experience studying the effects of different agricultural management systems on soil-water balance. In 2013–2016, an experiment was conducted for the first time in the Kulunda steppe to instrumentally measure soil moisture and matrix potential at 30–60–120 cm depth under traditional and conservation technology using innovative meteorological and soil hydrological stations. Statistically significant advantages of no-till over deep tillage (24 cm) in terms of moisture retention were found, confirming the hypothesis of this study. Besides, this groundbreaking study reveals new possibilities for soil monitoring in the region. The acquired data are applicable for predictive models using remote sensing. Moreover, the results on the management effects for the soil water balance provide basic approaches to soil water monitoring, offering important data for evaluating model results and remote sensing products for the region.		
316.	Batyrbekov, Erlan Khasenov, Mendykhan Skakov, Mazhyn Gordienko, Yuriy Samarkhanov K.; Kotlyar, Andrey Miller, Alexandr Bochkov, Vadim	High-Energy Tritium Ion and α -Particle Release from the Near-Surface Layer of Lithium During Neutron Irradiation in the Nuclear Reactor Core	This paper examines in situ spectroscopic measurements of nuclear-excited plasma of noble gases excited by $6\text{Li}(n,\alpha)3\text{H}$ nuclear reaction products in the core of a nuclear reactor. A thin layer of lithium applied on the walls of the experimental device, stabilized in the matrix of the capillary-porous structure, serves as a source of gas excitation. During in-pile tests conducted at the IGR research reactor, thermal neutrons interact via the $6\text{Li}(n,\alpha)3\text{H}$ reaction, and the emergent α -particles with a kinetic energy of 2.05 MeV and tritium ions with a kinetic energy of 2.73 MeV excite the noble gas (Ar) medium. The intensity of tritium release from the lithium layer in noble gases was estimated by the intensity of the α -line of the Balmer series of the tritium atom $3\text{H}\alpha$ (656.2 nm). A tritium release was observed at 710 K due to the beginning of desorption of thermalized tritium atoms dissolved in the liquid phase of lithium. The results are of interest in terms of clarifying the mechanisms and developing models that allow for describing the processes of generation, diffusion, and release of tritium from lithium during neutron irradiation.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85168084673&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=33&citeCnt=0&searchTerm=	0
317.	Skakov, Mazhyn Baklanov, Victor Zhanbolatova G.; Miniyazov, Arman Sokolov, Igor Kozhakhmetov, Yernat Tulenbergenov, Timur Mukhamedova, Nuriya	The effect of recrystallization annealing on the tungsten surface carbidization in a beam plasma discharge	Tungsten was chosen as the plasma facing material (PFM) of the ITER divertor. However, graphite and carbon-graphite materials are used as PFM in some research thermonuclear facilities, including the Kazakhstan materials science tokamak. This circumstance determines the interest in continuing the study of the formation of mixed layers under plasma irradiation. This article is devoted to the study of the effect of preliminary recrystallization annealing on the carbidization of the tungsten surface in a beam-plasma discharge (BPD), which is one of the ways to simulate the peripheral plasma of a tokamak. Experiments on preliminary isochoric and isothermal annealing of tungsten samples were carried out in the mode of direct heating of tungsten samples by an electron beam. The carbidization of tungsten samples after annealing was carried out in a methane	https://www.scopus.com/record/display.uri?eid=2-s2.0-85166912726&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=34&citeCnt=1&searchTerm=	1

	Bukina, Olga Gradoboev, Alexander		atmosphere in the BPD at a temperature of 1000 °C for a duration of 3600 s. Optical microscopy (OM) and X-ray diffraction were used to analyze the structure of the tungsten surface. It has been established that differences in the structure arising during recrystallization annealing affect the transfer of carbon atoms in the near-surface area of tungsten and the formation of tungsten carbides (WC or W ₂ C). © 2023 the Author(s), licensee AIMS Press. This is an open access article distributed under the terms of the Creative Commons Attribution License		
318.	Efremenkova M.N.; Murashchenkova N.V.; Gritsenko, Valentina V. Gritsenko V.V.; Stelmakh S.A.; Burdina, Elena I	Perceptions of the Present and Future of the Country as a Factor of the Emigration Activity of Student Youth: Cross-Cultural Analysis	Objective. Analysis of the relationship between perceptions of the present and future of the residence country and the emigration activity of students in Belarus, Kazakhstan and Russia. Background. The study of the perceptions of residence country as predictors of students' emigration activity can improve the effectiveness of youth policy in preserving valuable human capital at the country level. Research design. Using multiple regression analysis, the results of the January-April 2021 online survey identified the specifics of the relationships between perceptions of the present and future of the residence country and emigration activity of young people in three countries. Participants. University students are citizens of Belarus (208 people), Kazakhstan (200) and Russia (250) aged 18 to 25 years. Measurements. Research questionnaire included 6 statements, based on the theory of planned behavior, developed by I. Ajzen, for studying emigration intentions and behavior in their realization, as well as two sets of characteristics from "Scale of temporary attitudes" by J. Nutten for studying the present and future of the country of residence. Results. Factors of emigration activity of Russian student youth are perceptions of the present of their residence country as not long-lasting, not free, significant, but boring, as well as perceptions of future in Russia as significant, but not eventful and not innovative. Belarusian emigration-oriented youth perceive their country's present as related to the past, not cohesive, but their own, and the country's future as not cohesive and related to Belarus' present. Kazakhstani emigration-oriented students perceive the present of their country as beautiful, active, but not close, not chaotic and not bright, and the future as not their own and not related to the present of Kazakhstan. Conclusions. There are differences in the relationships between perceptions of the present and future of the residence country and emigration activity of young people in Belarus, Kazakhstan and Russia. The effective implementation of youth policy to preserve valuable human capital at the country level requires considering the social and cultural context in which these relationships are formed.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85166639467&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopusbyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=35&citeCnt=0&searchTerm=	0
319.	Yespolova G.; Irodakhon K.; Bekzod B.; Rabiga, Rabiga B.;	The influence of learning technology on the formation of research skills in primary school	This study aims to determine the effectiveness of the author's teaching technology in developing schoolchildren's research skills, the challenges an elementary school faces, and how the entire process of developing research skills works. Quantitative and qualitative research techniques were used. Participants were from No.15, No.1, No.46, and No.16 schools in Ust-Kamenogorsk (East	https://www.scopus.com/record/display.uri?eid=2-s2.0-85166004956&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=	0

	Zhupat, Astambayeva	students: research	Action	Kazakhstan). A random selection was made of an EG comprising 176 students and a CG comprising 173 students. To test the hypothesis that the author's teaching technology in studying natural science fosters the effectiveness of generating research skills, the research methodology employed an experimental pretest-posttest learning CG and EG study. As a result of the introduction of the developed technology in the EG, the levels of formation of these skills among students from the CG and the EG differ significantly. Finally, the developed technology can be used in the practical activities of teachers in elementary schools and serve as the basis for creating methodological materials that perform the developing function of teaching "Natural Science."	adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=36&citeCnt=0&searchTerm=	
320.	Wójcik W.; Savina, Nataliia Kovshun, Nataliia Akselrod, Roman Bezsmertna, Oksana V. Adikanova, Saltanat Akbarova, Gulviram	Risk Assessment as a Decision-Making Tool in the Field of Public Health and Environment		The article deals with the current issues of interconnection between public health and the quality of water resources. It was proposed to determine environmental safety areas in the basins of small rivers based on environmental morbidity valuation. Four phases are herewith determined: hazard identification, exposure assessment, environmental mortality rate assessment, decision-making regarding the need for implementation and water protection measures. In order to assess the influence of the state of river quality on the health status of the population in the certain administrative region, the impact factor of recreational water use was introduced. The risks related to organoleptic, sanitary and toxicological properties of water; epidemiological water hazard are considered.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85164616536&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=37&citeCnt=0&searchTerm=	0
321.	Milenin D.; Lysychenko M.; Milenin A.; Koval L.; Amirgaliyeva S.; Satymbekov M.; Adikanova, Saltanat	OPTIMIZATION OF RESOURCE ALLOCATION, EXPOSURE TIME AND ROTARY SPEED OF INCUBATIVE EGGS		Recently, the laser technology of influencing biological objects in biology, medicine, and veterinary medicine has become widespread in order to activate certain biochemical and physiological processes in the organism. Any influence of electromagnetic radiation (in part icular optical emission) requires the exact adherence to the recommended illumination dose to obtain a positive effect on the biological object. The article presents the results of a theoretical study concerning provision of uniform illumination of the egg's surface, taking into account the location of the laser radiation source and rotating time of the egg.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85164039584&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=38&citeCnt=0&searchTerm=	0
322.	Bukabayeva Z.; Abiyev, Sardarbek Silybayeva, Batiyash Assanova, Ulbala Sharipkhanova, Anargul Sagdatkyzy, Balnur	Epiphytic and epigeal lichens as bioindicators of air pollution in the Burabay National Park, Kazakhstan		Lichens are recognized as a symbiotic association between a fungus (mycobiont) and a chlorophyll-containing partner (photobiont). Because lichens receive all their nutrients from the atmosphere, they are very sensitive to air quality and can be used as bioindicators of pollution by heavy metals, organic compounds and radioactive elements in the air. This study aimed to evaluate the potential of lichens as bioindicators of the heavy metal content in the air in the Burabay National Park, northern Kazakhstan. In the period from 2018 to 2022, we studied the floristic composition of lichens in the national park. To inform air pollution level, we determined the quantitative characteristics and projective cover of an	https://www.scopus.com/record/display.uri?eid=2-s2.0-85162918317&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=39&citeCnt=0&searchTerm=	0

			epiphytic lichen <i>Evernia prunastri</i> (L.) Ach. at different heights above ground level, and the heavy-metal content in an epigeal lichen <i>Cladonia alpestris</i> (L.) Rabenh (Syn. <i>Cladonia stellaris</i> (Opiz) Pouzar & Vězda) at different distances from the road edge. We identified 56 species of lichen belonging to 23 genera and 16 families on the roadsides or in the nearby forest. We found that the average number of individuals of <i>E. prunastri</i> decreased as the tree trunk height increased. The largest number of individuals (11.3) was observed at a height of 60 cm, and the smallest (2.5), at a height of 150 cm. The analysis of <i>C. alpestris</i> samples taken at different distances (50, 100, 150, 200 m) from the roadside showed that the concentrations of Pb, Cr, Cd, As, Ga, V, and Cs were high, and for all the elements studied, except for Mn and Be, exceeded Maximum Allowable Concentration. Our study demonstrates that <i>E. prunastri</i> and <i>C. alpestris</i> are sensitive to air pollution from road traffic and can be used as biomonitors of heavy metal pollution in the study area. Because of the ever-increasing anthropogenic pressure on the vegetation of the Burabay National Park, we recommend further research and monitoring of its lichen biota.	ID%2860112447%29&relpos=39&citeCnt=0&searchTerm=	
323.	Pronin S.A. Pronin S.A.; Korolkov E.P. Asmolova L.A. Kakieva, L.Kh.	DYNAMICS OF THE TOPICS OF BOOKS ON SCIENTIFIC AND / OR METHODOLOGICAL PROBLEMS OF PHYSICAL CULTURE AND SPORTS PUBLISHED IN THE RUSSIAN FEDERATION IN 2000-2019	Objective of the study was to identify the main trends in the dynamics of the development of the subject of books on scientific and / or methodological problems of physical culture and sports published in the Russian Federation in the period 2000-2019. Methods and structure of the study. At the first stage of the bibliographic search, individual publications on physical culture and sports topics were selected, published in Russian in the period from 2000 to 2019. The research base was information sources of the largest libraries of the Russian Federation - the Russian State Library, the Russian National Library, as well as libraries of sports universities. The resulting sample exceeded 40,000 units. The second stage consisted in the selection of scientific and/or methodological sources. Results and conclusions. The trend identified by the author is characterized by a general increase in the number of scientific papers of various thematic types with a decrease in the quality of research, numerous duplications of the names of collections and methodological materials on issues of physical culture and sports, the absence of narrowly focused scientific forums of the regional and Russian level. With a large amount of scientific work, some demographic categories, in particular, the elderly, are not in the field of scientific interests of scientists, despite the fact that program documents in the field of physical culture and sports set targets for their involvement in systematic physical activity.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85162753177&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopusbyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=40&citeCnt=0&searchTerm=	0
324.	Ramazanov R.A. Saurbayeva B.S. Ivashchenko Y.N. Tantybayeva B.S. b;	RESEARCH ON ZINC CONCENTRATE DRESSING AT THE ZHEZKENT PROCESSING	The article investigates dressing of zinc concentrate of Zhezkent processing plant with the purpose of receiving conditioned zinc concentrate and copper product output. The scheme of the zinc concentrate dressing is suggested which includes the following operations: desorption of the initial concentrate by sodium sulfide and activated carbon; preliminary hydraulic classification (washing of thin sludge) complicating the flotation process; comminution of the concentrate in a	https://www.scopus.com/record/display.uri?eid=2-s2.0-85162034174&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa354873	0

	Zhamanbayeva M.K.	PLANT TO OBTAIN CONDITIONED CONCENTRATE	ball mill up to the size of 96 %, class - 0,044 mm; flotation of copper minerals by reagents: xanthate, Methyl isobutyl ketone blowing agent, and depressors (Na ₂ S, FeSO ₄ , ZnSO ₄). The proposed dressing scheme provides obtaining conditioned zinc concentrate of grade KC-3 with Zn 47,0 %, and Cu 1,9 %.	37098b&sot=aff&sdt=cl&clusterr=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=41&citeCnt=0&searchTerm=	
325.	Aituganova S.; Sarekenova, Karlygash Aubakir, Zhandos Seiputanova, Aiyngul Karipbayev, Zhanbota Aimukhambet, Zhanat	The Impact of Online Technologies Supported by the Teaching of Poetry Poetology on the Achievements and Attitudes of Students	The traditional face-to-face learning approach, which has been practiced for centuries, is gradually being replaced by a new learning approach. Today's technology and research in the field of educational sciences show that the use of the Internet and information technologies in the field of education will have a direct impact on students' achievement and attitudes. Within this context, this study aims to examine the effect of online teaching approach on the achievement, attitude towards poetry and learning retention of university students on the subject of 'Abai Qunanbaiuly Poems' in Kazakh Language Literature course. For this purpose, pretest-posttest model with control group from quasi-experimental models was used in the study. In the study, the subject of 'Abai Qunanbaiuly Poems' in the experimental group was taught by online teaching method and the same subject in the control group was taught according to the instructions of the existing curriculum. The study was conducted on a total of 60 students in the Kazakh Language and Literature department of a university in Almaty. Academic Achievement Test and Attitude Scale towards Poetry were used to collect data. According to the findings of the study, it was found that the online teaching approach increased students' achievement, attitudes towards poetry and learning retention at a high level compared to the current curriculum-based education. Therefore, as a result of the research, it was revealed that online learning positively affects students' academic achievement, attitudes and learning retention in Kazakh Language Literature course and recommendations were developed in this context.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85161358181&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&clusterr=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=42&citeCnt=0&searchTerm=	0
326.	Saparbaikyzy S.; Assilbayeva, Fatima Botabayeva, Ademi Kim, Olga Akparova, Zhanna Bekbayeva, Malika	A Study on Scientific Thinking Skills and Professional Experience of Teachers	Scientific thinking is considered as a cognitive process in which the underlying causes of a basic problem are solved. It is of great importance for teachers to have scientific thinking skills to improve their professional lives, to create effective learning environments, to continuously question the events and processes in the classroom, to carry out research, to identify problems and to produce solutions. The aim of this study is to determine whether there is a significant difference between teachers' scientific thinking skills and variables such as gender, seniority and branch. The research was conducted based on the comparative descriptive survey model. The data obtained concerning the demographic characteristics of the teachers were analyzed with frequency and percentage techniques. In the analyses between the demographic characteristics of the subjects and their scientific thinking skills, arithmetic mean, t-test and one-way analysis of variance (ANOVA), which were selected according to the characteristics of the groups, were used. For the research, the Scientific Thinking Skills Scale developed by	https://www.scopus.com/record/display.uri?eid=2-s2.0-85161295149&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&clusterr=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=43&citeCnt=0&searchTerm=	0

			Göktürker (2005) was adapted into Kazakh and applied to the teachers. According to the findings of the study, the scientific thinking skills of the participant teachers were found to be at a medium level. In addition, significant differences were found in teachers' scientific thinking skills according to gender, branch and professional seniority factors.		
327.	Baizhan D.R.; Rakhadilov B.K. Aldabergenova T.M. Bayatanova L.B. Kurbanbekov Sh.R. Buitkenov D.B.	OBTAINING OF CALCIUM- PHOSPHATE COATINGS ON THE TITANIUM SURFACE BY MICRO-ARC OXIDATION	The results of experiments on obtaining calcium-phosphate coatings on substrates of titanium grade VT1-0 by micro-arc oxidation (MAO) are presented. The coatings were obtained by adding different amounts of titanium oxide nanoparticles to the electrolyte. The microstructure and tribological properties of calcium phosphate coatings were investigated. In conducted research results have been established and determined optimal modes and parameters for obtaining calcium phosphate coatings. It is shown that the addition of titanium oxide nanoparticles to the electrolyte can affect the structure also the strength of the obtained coatings. The research results led to conclude that such treatment of MAO from titanium alloys is promising to improve their splices with bone tissue.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85159373299&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=44&citeCnt=0&searchTerm=	0
328.	Kabdrakhmanova, Sana Aryp K.; Shaimardan, Esbol Kanat, Elvira Selenova, Bagadat Nurgamit, Kantai Kerimkulova, Aigul Amitova, Aigul Maussumbayeva, Aida	Acid modification of clays from the Kalzhat, Orta Tentek deposits and study their physical-chemical properties	This research work is an acid modification of Kalzhat and Orta Tentek clays. Kazakhstan is rich in large deposits, and the Kalzhat and Orta Tentek deposits are not fully explored, therefore, in this research work, these deposits were studied. The activation of clays Kalzhat and Orta Tentek deposits of the Republic Kazakhstan with 5% and 10% hydrochloric acid solutions was carried out. Using X-ray fluorescence analysis and scanning electron microscopy, the chemical composition and morphology of the initial and modified clay samples were established. Using the X-ray diffraction method, it was established that the main rock-forming mineral of the Kalzhat and Orta Tentek clays is montmorillonite. It has been established that modification with hydrochloric acid leads to a decrease and leaching of calcium, potassium, magnesium, barium, zinc, aluminum and molybdenum ions from samples of both clays and an increase in the content of iron ions. It is shown that the zeta potentials of the initial clays are negatively charged and acid modification leads to a decrease in the negative value of the zeta potential due to a decrease in alkali and alkaline earth metal ions in the clay.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85158832579&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=45&citeCnt=0&searchTerm=	0
329.	Batyrbekov, Erlan Khasenov, Mendykhan Skakov, Mazhyn Gradoboev, Alexandr Gordienko, Yuriy Tulubayev, Yevgeniy Samarkhanov K.;	On the use of lithium-containing layers to study the sputtering of lithium into noble gas via bombardment by an electron beam	Interest in the sputtering of lithium into a gaseous medium by charged particles is associated with the possibility of excitation of large volumes of gas by the products of the nuclear reaction $6\text{Li}(n,\alpha)3\text{H}$. To simulate the processes during excitation of noble gas atom and lithium by $6\text{Li}(n,\alpha)3\text{H}$ nuclear reaction products, a lithium target was fabricated. This paper presents in sufficient detail the procedure for obtaining a lithium-containing layer, the main object of research, intended for conducting experiments to study the sputtering of lithium into noble gas upon excitation by a nanosecond electron beam. The possibility of using solid lithium hydride instead of lithium in the liquid phase in a surface excitation source is discussed. The lithium target was located in the irradiation chamber of the	https://www.scopus.com/record/display.uri?eid=2-s2.0-85153030508&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=45&citeCnt=0&searchTerm=	0

	Bochkov, Vadim		experimental setup based on a pulsed electron accelerator. The lithium layer during bombardment by a pulsed fast electron beam is heated from 300 K up to 900 K. During heating, the luminescence spectra were recorded using a QEPro-abs spectrometer (Ocean Insight). The paper presents in-situ spectroscopic measurements of lithium sputtering into noble gas under high-speed electron beam bombardment in a wide temperature and spectral range. The temperature dependences of intensity of the emission of atoms of noble gases and lithium have been studied. The results of scientific research can be used in designing of high-power lasers pumped by an electron or ion beam.	ID%2860112447%29&relpos=47&citeCnt=0&searchTerm=	
330.	Rakhadilov B.; Kakimzhanov D.; Dautbekov M.; Sagdoldina Z.; Adylkanova M.; Abylkalykova, Riza	Influence of Spraying Parameters on the Structure and Tribological Properties of Cr3C2-NiCr Detonation Coatings	In this work, the influence of spray parameters on the formation of the microstructure, phase composition, and the tribological properties of detonation flame sprayed coatings was studied. It was determined that the chemical composition of Cr3C2-NiCr coatings during detonation spraying depends on the degree of filling the barrel with an explosive gas mixture. The degree of filling the barrel with an explosive gas mixture at 73% leads to a decrease in the content of carbide phases, and at 57% filling of the barrel, an increase in carbide phases is observed. It is established that the decrease of the filling degree leads to the increase of hardness and wear resistance of the Cr3C2-NiCr coatings since the hardness and wear resistance of the coating material deposited at 57% is higher than at 65% and 73%; this is due to the increase in the carbide phase Cr3C2. Detonation flame sprayed Cr3C2-NiCr gradient coatings have been developed in this study, which is carried out by varying the spray parameters. It was found that in the gradient coating, Cr3C2-NiCr carbide phases gradually increase from the depth to the surface. The obtained gradient coating closer to the substrate consists of the CrNi3 phase, while the coating surface consists of CrNi3 and Cr3C2 phases. © 2023 Bauyrzhan Rakhadilov et al.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85152792055&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=47&citeCnt=0&searchTerm=	0
331.	Koilybayeva R.; Zhunis M.; Kusmanova K.; Mirov M.; Missyachenko, Svetlana	Patterns of Interaction in Family Discourse: A Resilience Theory Perspective	In modern linguistics, the issue of values has become especially acute. The value system was considered in the context of family discourse. The purpose of this article was to consider family discourse characteristics and the connection of the family discourse with the resilience theory. It defined the lingua-axiological aspect through language, national values, and communication. One hundred sixty-seven participants from Kazakhstan took part in an online survey, representing their attitude to family values. The findings revealed that family support, understanding, love, parental agreements, and having a child were rated higher than other values. Decisions were made by both parents or collectively. Participants' answers portrayed family values as different from traditional family discourse. The study clarified the importance of family values, parents' roles, family traditions, and methods of teaching family values. The research findings demonstrated that the narrative organization of family communication distinguishes the main signs of the lingua-axiological aspect in family discourse.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85152789100&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=48&citeCnt=0&searchTerm=	0

332.	Dashkovskiy P.K.; Zhanbosinova, Albina S. b; Stolyarova, Eleonora O.	Regional Factors in the Formation of Religious Identity Among the Students of East-Kazakhstan (Based on Results of Sociological Research)	In the context of globalization, the problem of religious identity has become a focus of interdisciplinary research. The interest is due to the general destabilizing phenomena associated with non-traditional religious movements. The post-Soviet space, including Kazakhstan, has not escaped the activation and politicization of ethno-confessional processes. There is a hypothesis that permanent residence and primary socialization do not affect the religious identity formation in Kazakhstan. In order to confirm or disprove this hypothesis, we conducted a pilot study. The study participants were three groups of university students from the East-Kazakhstan region. The paper presents the results of the first stage of our research to identify similarities and dissimilarities in students' religious identity in the Eastern and Southern regions of Kazakhstan. The study showed that regional differences in socio-economic and cultural-historical nature are possible factors influencing the religious identity of youth.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85151291767&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=49&citeCnt=0&searchTerm=	0
333.	Shurshitbay M.; Kabdrakhmanova F.; Seitembetov Y.; Zhirenova, Aigula,	The Philosophy of Upbringing Healthy and Well-bred Generation of Kazakh Nationality	The article deals with the role, peculiarities and philosophical issues of upbringing healthy and well-bred generation in Kazakh ethnomedicine, which has been passed down from generation to generation and has not lost its importance. Attention is paid to the peculiarities of the Kazakh people's attitudes to nature, formed in connection with the natural environment, and the method of treatment based on shamanic beliefs. Philosophical concepts of nobility norms preservation of the Kazakh nation, following the tradition of exogamy in the formation of generation health, have been analysed. The doctrine of blood purity is discussed in Treatise on Healing by Uteiboydak Tleu-kabyluly, a scientist-healer of 15th century. Tleukabyluly considers debauchery, love relationships outside of marriage, unacceptable. He gives a reason why Kazakhs should be banned from related marriages up to the seventh generation, since, according to his observations, this leads to infertility and miscarriages or the birth of an imbecile child. The role of the mother in the healthy generation was studied in the national philosophical context. © 2023, Lithuanian Academy of Sciences Publishers. All rights reserved.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85150980115&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=50&citeCnt=1&searchTerm=	1
334.	Saurbayeva B.S. Ivashchenko Y.N. Ramazanov R.A.; Tanybayeva B.S. Kabdrakhmanova S.K.	RESEARCH OF COMPONENT COMPOSITION AND CATALYTIC REACTIVITY OF METALLURGICAL INDUSTRY SLAG	The article deals with the research of component composition and catalytic reactivity of metallurgical waste products. The slags component composition was investigated by X-ray fluorescence analysis. The slag stuff has been modified with alkali (NaOH) and mineral acids (HNO ₃ , H ₂ SO ₄ , HCl and H ₃ PO ₄), and their catalytic reactivity in the catalytic decomposition of ethyl alcohol and hydrogen peroxide has been determined for the first time. The revealed catalytic reactivity of the slag stuff for the decomposition of ethyl alcohol and hydrogen peroxide indicates the need for a more detailed research and development of an industrial non-ferrous waste treatment technology.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85148699568&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=51&citeCnt=0&searchTerm=	0

335.	Zharlikov M.S. Aubakirova R.A. Daumova G.K. Ivashchenko E.N. Saurbayeva B.S. Sanyazova, Sh. K.	IMPROVING THE ASSAY- GRAVIMETRIC METHOD FOR DETERMINING THE CONTENT OF NOBLE METALS	The study considers the current state and problems of analytical control as the most important component of all stages of technology and production of noble metals. Based on the analysis carried out, a universal method for measuring the mass fraction of gold and silver in ores, products of their enrichment and metallurgical processing by the assay-gravimetric method was improved, and the optimal parameters for determining gold and silver were de-termined.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85148690958&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=52&citeCnt=0&searchTerm=	0
336.	Sutula M.Yu.; Khosnutdinova, Tatyana S. Zhakmanova, Yekaterina A. Akhmadiyeva, Alena N.	The Prevalence of Recombinant Strains of Potato Virus Y in the East Kazakhstan Region	disease development and spread; field crops; PVY; Solanum tuberosum L; viroids; viruses	https://www.scopus.com/record/display.uri?eid=2-s2.0-85147299566&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=53&citeCnt=0&searchTerm=	0
337.	Nagima B.; Saniya N.; Gulden Y.; Saule Z.; Aisulu S.; Nazigul, Makhmetova a	Influence of special learning technology on the effectiveness of pedagogical ethics formation in future teachers	This study aims to identify the effectiveness of special training technology in the formation of the pedagogical ethics of future teachers, the problem of a regional university in the formation of pedagogical ethics among students and how the entire formation pedagogical ethics process takes place. The study included 102 students (aged 18–22) with pedagogical profiles who were all present. Expert assessment method, a scaling method for studying the level of formedness of the future teacher's professional ethics, a survey of students and teachers (questions with attached assessment characteristics), questioning, including the ranking of value orientations and observation of the process of pedagogical ethics formation among future teachers were used. The revealed results have shown that the propensity and willingness of students for future pedagogical activity, their desire for continuous self-education and self-improvement as well as a creative and responsible attitude towards their profession have not been formed. It was necessary to involve future teachers in a specially designed programme aimed at developing pedagogical ethics as a method of self-regulation in the educational process and within the framework of the organisation of students' extracurricular activities.	https://www.scopus.com/record/display.uri?eid=2-s2.0-85146999982&origin=resultslist&sort=plf-f&src=s&nlo=&nlr=&nls=&sid=adbb4fe8fbc672f7c8aa35487337098b&sot=aff&sdt=cl&cluster=scopubyr%2c%222023%22%2ct&sl=15&s=AF-ID%2860112447%29&relpos=54&citeCnt=10&searchTerm=	10