



Last name, first name, patronymic:

Nurizinova Makpal Manarbekovna

Position (Department):

Senior Lecturer at the Department of Physics and Technology

Information about education:

Higher

Academic degree:

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Academic title:

Doctor of Philosophy (PhD)

Pedagogical experience:

17

Subjects taught:

Methods of teaching physics; Fundamentals of scientific research in professional pedagogy; Professional ethical foundations of a teacher; Artistic processing of materials and aesthetics of everyday life; Decorative and applied creativity; Visual art; Design and technology

Scientific interests:

Problems of professional training of future physics teachers; formation of research and experimental competencies of students; integration of tribology, electrodynamics, diffraction and digital technologies into the educational process; use of STEM and STEAM approaches in teaching physics; development and implementation of digital educational resources; application of artificial intelligence technologies in physics education; methodology for solving Olympiad problems in physics; interdisciplinary research in the field of tribology and pedagogy of physics; development of students' soft skills and creativity by means of project and research training.

Publications and articles:

List of scientific publications indexed in international databases Scopus and Web of Science

1. **Nurizinova, M. M.**, Skakov, M. K., Ramankulov, S. Z. & Çoruh, A. (2022). Research and development of a teaching model for the physical foundations of tribology. *Cypriot Journal of Educational Sciences*. 17(11), 4163-4181. <https://doi.org/10.18844/cjes.v17i11.7659>
2. Skakov, M.; Ocheredko, I.; Tuyakbayev, B.; Bayandinova, M.; **Nurizinova, M.** Development and Studying of the Technology for Thermal Spraying of Coatings Made from Ultra-High-Molecular-Weight Polyethylene. *Coatings* 2023, 13, 698. <https://doi.org/10.3390/coatings13040698>
3. Mazhyn Skakov, Moldir Bayandinova, Igor Ocheredko, Baurzhan Tuyakbayev, **Makpal Nurizinova**, Alexander Gradoboev. Influence of Diabase Filler on the Structure and Tribological Properties of Coatings Based on Ultrahigh Molecular Weight Polyethylene. *Polymers* 2023, 15(16), 3465; <https://doi.org/10.3390/polym15163465>
4. **M. Nurizinova**, M. Skakov, A. Çoruh, Sh. Ramankulov, M. Nurizinov (2024). The development of digital educational materials on tribology and their application in the formation of the professional competence of future physics teachers. *International Journal of Innovative Research and Scientific Studies*, 7(4), pages: 1600-1613. <https://doi.org/10.53894/ijirss.v7i4.3459>
5. Mazhyn Skakov, Sherzod Ramankulov, **Makpal Nurizinova**, Bakitzhan Kurbanbekov, Yelmurad Dossymov Using digital tools in STEM education and the impact on student creativity in the field of tribology. *International Journal of Evaluation and Research in Education (IJERE)* Vol. 14, No. 1, February 2025, pp. 589~597 ISSN: 2252-8822. <http://doi.org/10.11591/ijere.v14i1.30220>
6. Kazhymukan Kelesbayev, Sherzod Ramankulov, **Makpal Nurizinova**, Bakytzhan Kurbanbekov, Amin Pattayev. STEAM's approach to physics: The impact of using LEGO robotics elements on academic achievement in laboratory classes. *International Journal of Innovative Research and Scientific Studies*, 8(1) 2025, pages: 469-480. <https://doi.org/10.53894/ijirss.v8i1.4180>
7. Bakitzhan Kurbanbekov, **Makpal Nurizinova**, Sherzod Ramankulov, Yesim Yergobek, Madina Akeshova. STEM-integrated education: Assessment of the liquidity of training future specialists in the engineering and technical fields. *International Journal of Innovative Research and Scientific Studies*, Vol. 8 No. 1 (2025), pages: 1077-1086. <https://doi.org/10.53894/ijirss.v8i1.4532>
8. Gulnara Rizakhojayeva, Sherzod Ramankulov, Madina Akeshova, **Makpal Nurizinova**, Yessenkeldy Tuyakov and Rustam Abdrakhmanov. STEM-based approaches to soft skills development: a synthesis of meta-analytic findings and empirical evidence. *Frontiers in Education*. 17 September 2025. <https://doi.org/10.3389/feduc.2025.1663155>
9. Sherzod Ramankulov, Genc Naci, **Makpal Nurizinova**, Bakitzhan Kurbanbekov, Nurkozha Zhaksylyk & Yelmurat Dosymov. Empowering Students' Research through STEM: Using Vernier Sensors to Explore Renewable Energy. *Eurasian Journal of Educational Research* 117 (2025) 64-78. <https://doi.org/10.14689/ejer.2025.117.04>
10. Meruyert Ramankulova, Zhanat Dauletbekova, Sherzod Ramankulov, **Makpal Nurizinova**, Gulnara Rizakhojayeva, Madina Akeshova. Assessing the Practice of Developing Students' Soft Skills in Essay Writing during Language Courses. *Forum for Linguistic Studies*, Volume 07, Issue 10, October 2025. <https://doi.org/10.30564/fls.v7i10.11123>
11. Parassat Zulkarshyn, Mazhyn Skakov, Ali Choruh, **Makpal Nurizinova**. Scientific and methodological methods for solving Olympiad problems in physics and their role in shaping the research competencies of future teachers. *International Journal of Innovative Research and Scientific Studies*, 8(6) 2025, pages: 2817-2828 <https://doi.org/10.53894/ijirss.v8i6.10206>

List of scientific publications recommended by the Committee for Quality Assurance in the Field of Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan

1. Скаков М.К., **Нуризинова М.М.** Пәндердің кәсіби циклінде трибология саласындағы болашақ физика мұғалімін дайындаудың қажеттілігі // *Ясауи университетінің хабаршысы*. – 2021. – №1 (119). – Б. 114–123. <https://doi.org/10.47526/habarshy.vi1.482>
2. **М. Nurizanova**, Sh. Sherzod Ramankulov, M. Skakov Evaluation of advanced technology for the formation of research competence of physics students in the field of tribology // *Доклады Национальной академии наук Республики Казахстан* — 2022. — № 4. – Б. 136-152. <https://doi.org/10.32014/2022.2518-1483.177>.
3. M.K. Skakov, N. Kantay, **М. Nurizanova**, B. Tuyakbayev, M. Bayandinova. Influence of silicon oxide and diabase powders on the degree of crystallization and chemical structure of a polymer (uhmwpe) coating produced by the method of gas thermal spraying // *Доклады Национальной академии наук Республики Казахстан*. — 2022. — № 4. – Б. 153-163. <https://doi.org/10.32014/2022.2518-1483.178>.
4. **М. Nurizanova**, M. Skakov, Sh. Ramankulov. The study of the formation of ideas of future specialists about tribology // *Вестник Национальной академии наук Республики Казахстан* — 2023. — №1(401). – Б. 212-223. <https://doi.org/10.32014/2023.2518-1467.433>
5. Ramankulov SH., **Nurizanova M.**, Dosymov Y., Akhanova A. Principles and content of teaching physics in english for future physics teachers«ҚР ҰҒА хабаршысы» ғылыми журналы. — 2023. — №3(403). – Б. 172–186. <https://doi.org/10.32014/2023.2518-1467.501>
6. **Нуризинова М.**, Келесбаев К., Раманкулов Ш., Паттаев А., Мұсахан Н. STEM жобалық оқытудың болашақ физика мамандарын даярлаудағы ерекшеліктері ҚР ҰҒА Хабарлары. Физика-математика сериясы. — 2023. — №2. – Б. 193–207. <https://doi.org/10.32014/2023.2518-1726.193>
7. M.K. Skakov, T.N. Dalabayev, A. Choruh., **М.М. Nurizanova**. The methodological foundations for developing the Scientific research competencies of future physics. Teachers«ҚР ҰҒА хабаршысы» ғылыми журналы. — 2024. — №1. – Б. 283–294. <https://doi.org/10.32014/2024.2518-1467.673>
8. Е. Досымов, Eser Selda, **М. Нуризинова**, Е. Еділбаев, Б. Асанбек. Механика курсын оқытуда цифрлық ресурстарды қолданудың ерекшеліктері. «ҚР ҰҒА хабаршысы» ғылыми журналы. — 2024. — №2. – Б. 49–62. <https://doi.org/10.32014/2024.2518-1467.706>
9. Tleubek Dalabayev, Mazhyn Skakov, Ali Choruh, **Макпал Nurizanova**. The role of physical practical course in improving research skills of future teachers. Higher education in Kazakhstan No1(49) / 202537 <https://doi.org/10.59787/2413-5488-2025-49-1-37-51>
10. Ш.Ж.Раманкулов, **М.М.Нуризинова**, И.Б.Усембаева, Д.Қ.Берді. Құрылымдық Теңдеулер моделі (sem) негізінде stem – білім берудің білім алушылардың Soft Skills дамуына әсері. Абай атындағы ҚазҰПУ-ң ХАБАРШЫСЫ «Педагогика ғылымдары» сериясы, №3(87), 2025 ж. <https://doi.org/10.51889/2959-5762.2025.87.3.011>

Монографий

1. Sh. Ramankulov, **М. Nurizanova**. The impact of stem and clil technologies in physics teaching on the development of students' research competencies Sarsen Amanzholov East Kazakhstan university, Shymkent: «Nurly Beine», 2024. – 104 p.
2. Досымов Елмурат, **Нуризинова Макпал**. STEM ТЕХНОЛОГИЯСЫ НЕГІЗІНДЕ СТУДЕНТТЕРДІҢ КРЕАТИВТІЛІГІН ДАМУ: ФИЗИКАНЫ ОҚИТУ МЫСАЛЫНДА Өскемен: С. Аманжолов атындағы ШҚУ, Шымкент, «Нұрлы бейне» баспасы, 2025. – 109 б.



AMANZHOLOV
UNIVERSITY