



Last name, first name, patronymic:

Bayandinova Moldir Boleukhanovna

Position (Department):

Senior Lecturer

Information about education:

- 1) 1999-2004 East Kazakhstan State University named after S. Amanzholov, specialising in 010440-Physics.
- 2) 2006-2008 Full-time Master's programme at East Kazakhstan State University named after S. Amanzholov, specialising in 6N0604-Physics, Master of Physics, diploma with honours.
- 3) 2021-2024 Doctoral programme Educational programme 8D05301 – Physics, S. Amanzholov Higher School of Management

Academic degree:

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Academic title:

Doctor of Philosophy, PhD

Pedagogical experience:

Over 15 years

Subjects taught:

X-ray imaging, condensed matter physics, composite materials, methods and methodology of experimental research in manufacturing.

Scientific interests:

His scientific interests are focused on materials science, gas-thermal coatings and surface engineering. Particular attention is paid to the development and research of polymer composite coatings based on ultra-high molecular weight polyethylene with mineral fillers, as well as the study of their structure, tribological and corrosion properties. His interests include optimising the parameters of electric arc and gas thermal spraying, modelling the processes of coating formation and improving their operational durability in aggressive environments. A significant part of his research is focused on the creation of new powder materials and surface modification technologies for the protection of metal products.

Publications and articles:

SCOOPUS

1. Skakov, M.; **Bayandinova, M.**; Ocheredko, I.; Tuyakbayev, B.; Nurizinova, M.; Gradoboev, A. Influence of Diabase Filler on the Structure and Tribological Properties of Coatings Based on Ultrahigh Molecular Weight Polyethylene. *Polymers* 2023, 15, 3465. <https://doi.org/10.3390/polym15163465>
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. Bauyrzhan Rakhadilov, **Moldir Bayandinova**, Rinat Kussainov and Almasbek Maulit. Electrolyte-plasma surface hardening of hollow steel applicator needles for point injection of liquid mineral fertilizers. *AIMS Materials Science*. Volume 11, Issue 2, 295–308. <https://DOI:10.3934/matricsci.2024016>
4. Rakhadilov, B.; Kengesbekov, A.; Kylyshkanov, M.; Bayatanova, L.; Amangeldyevna, A.S.; **Bayandinova, M.** Environmental Benefits of Fluorogypsum Reuse in the Production of Construction Materials. *Buildings* 2024, 14, 3618. <https://doi.org/10.3390/buildings14113618>
5. Skakov, M.; **Bayandinova, M.**; Kozhakhmetov, Y.; Tuyakbaev, B. Microstructure and Corrosion Resistance of Composite Based on Ultra-High Molecular Weight Polyethylene in Acidic Media. *Coatings* 2025, 15, 89. <https://doi.org/10.3390/coatings15010089>
6. Magazov N. Rakhadilov B., **Bayandinova M.** Two-Step Statistical and Physical–Mechanical Optimization of Electric Arc Spraying Parameters for Enhanced Coating Adhesion. *Processes*. 2025, 15, 89.

ККСОН

1. Б. К. Рахадиллов, **М. Б. Баяндинова**, Д. Б. Буйткенов, Д. Н. Кәкімжанов, Л. Г. Журерова. Г. У. Ерболатова. Исследование трибологических свойств детонационных покрытий на основе оксида алюминия и карбида вольфрама. Вестник НЯЦ РК. выпуск 3, 2023. С. 160-168. <https://doi.org/10.52676/1729-7885-2023-3-168-173>
2. M.K. Skakov, I. A. Ocheredko, **M. B. Bayandinova**, B.T. Tuyakbaev. 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. *Physical Sciences and Technology*. Vol. 9 (No. 3-4), 2022: 59-68. <https://doi.org/10.26577/phst.2022.v9.i2.08>
3. M.K. Skakov, N. Kantay, M. Nurizinova, 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. *Reports of the national academy of sciences of the republic of Kazakhstan*. 2022. Vol. 4, pp. 153-163 <https://doi.org/10.32014/2022.2518-1483.178>
4. Скаков М.К., Баяндинова М.Б., Кожакметов Е., Туякбаев Б., Жанимжан П. Қышқыл ортадағы аса жоғары молекулалы полиэтилен негізіндегі композиттің микроқұрылымы //Bulletin of the In gumilyov eurasian national university. physics. Astronomy series. – 2025. – Т. 150. – №. 1. – С. 75-92.

5. Б.К. Рахадиллов, Н.М. Магазов, А. Апсежанова, М.Б. Баяндинова. Сравнительный анализ покрытий на основе литой и порошковой проволоки при электродуговой металлизации. Л.Н. Гумилев атындағы Еуразия ұлттық университетінің ХАБАРШЫСЫ. ISSN: 2616-6836. eISSN: 2663-1296 DOI: <https://doi.org/10.32523/2616-6836-2025-152-3-26-40>
6. Л. С. Баймолданова, Б. К. Рахадиллов, М. Б. Баяндинова. Оптимизация параметров механической активации для формирования функциональных покрытий на основе порошков TiSiCN. Вестник НЯЦ РК. выпуск 3, сентябрь 2025 <https://doi.org/10.52676/1729-7885-2025-3-113-121>

