

ANEL IBRAYEVA



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Scopus ID 55637013100

LANGUAGES

English
Russian
German

SKILLS

Advanced Analytical Skills,
Scientific Rigor and Critical
Thinking,
Grant Writing and Budget
Management,
Lab Setup and Maintenance,
Interdisciplinary Collaboration,
Research Project Management,
Communication skills,
Research Strategy
Development,
Public presentations to
scientific and non-scientific
audiences,
Technical Skills (OriginPro,
Microsoft Office Suite, Zotero,
Mendeley, Moodle, Zoom,
Teams etc.)

EXPERIENCE

ASSISTANT PROFESSOR / DEPARTMENT OF NATURAL SCIENCES AND MATHEMATICS, SCHOOL OF COMPUTER SCIENCE AND MATHEMATICS, KIMEP UNIVERSITY,

2024/08/15-present time

Development and delivery of the Physical courses.
Preparation of lectures, assignments, exams, and course
materials. Providing academic guidance to students.

Mentoring students in their career and academic
development, supporting student research. Member of the
Hiring Committee and the Academic Methodical Council of
the University. Curriculum development and program
reviews. Organizing academic events like seminars,
conferences, excursions. Planning and development of a
physics laboratory, including the design of laboratory
courses for students and the procurement of necessary
equipment.

POSTDOCTORAL RESEARCHER / CENTRE FOR HIGH RESOLUTION TRANSMISSION ELECTRON MICROSCOPY, NELSON MANDELA UNIVERSITY, PORT ELIZABETH, SOUTH AFRICA

2021/08/06-2023/11/30

Sample preparation by the focused ion beam (FIB)
technique. Examination of material structure by means of
high-resolution transmission/scanning transmission electron
microscopy (HR TEM/STEM), scanning electron
microscopy (SEM), electron energy loss spectroscopy
(EELS), energy-dispersive X-ray spectroscopy (EDX).
Analysis of the received data. Co-author of scientific works.
Student teaching.

SENIOR RESEARCHER / ASTANA BRANCH OF INSTITUTE OF NUCLEAR PHYSICS, LABORATORY OF SOLID-STATE PHYSICS, NUR-SULTAN, KAZAKHSTAN

2016/10/01-present time

Leader of Scientific Projects of the Ministry of Education
and Science of the Republic of Kazakhstan. Examination of
material microstructural features by means of transmission
electron microscopy (TEM), scanning electron microscopy
(SEM), energy-dispersive X-ray spectroscopy (EDX),
nanoindentation. Analysis of the received data. Co-author
of scientific works. Student teaching.

CERTIFICATES AND AWARDS

Best Scientific Project of Young Scientists of Ministry of Education and Science of Kazakhstan (2024) (team award)

Best Oral Presentation of the XIII-th International Conference on Ion implantation and other applications of ions and electrons (ION 2022)

Best Oral Presentation of the 24th International Scientific Conference of Young Scientists and Specialists (AYSS-2020)

Best Oral Presentation of the 13th International Conference on the Interaction of Radiation with Solids (IRS-2019)

Best Poster Award of the 20th International Conference on Radiation Effects in Insulators (REI-2019)

Best Scientific Project of Young Scientists of Kazakhstan (2016) (team award)

OTHER INTERESTS

- Travelling,
- Reading
 - Gym
 - Diving
 - Hiking

COMMUNITY WORK

Participant of charity projects "all creatures great and small" (2018), "clean our city" (2017). head of the organizing committee of the faculty extracurricular activities (2011-2015). free physics lessons for orphans (2017-present), a charity for vet shelters (2013-present)

JUNIOR RESEARCHER / JOINT INSTITUTE FOR NUCLEAR RESEARCH, FLEROV LABORATORY OF NUCLEAR REACTIONS, DUBNA, RUSSIA

2020/09/05-2021/09/04

Simulation of the swift heavy ions impact on solids. Sample preparation. Examination of material properties by means of transmission electron microscopy (TEM), scanning electron microscopy (SEM), energy-dispersive X-ray spectroscopy (EDX). Analysis of the received data. Co-author of scientific works.

JUNIOR RESEARCHER / NATIONAL CENTER OF LABOR HYGIENE AND OCCUPATIONAL DISEASES, LABORATORY OF ECO-INDUSTRIAL DISEASES, KARAGANDA, KAZAKHSTAN

2014/01/01-2016/09/30

Statistical analysis of data: development of predictive models. Graphical analysis of data. The research technical assistance. Co-author of scientific works.

ENGINEER / RESEARCH INSTITUTE OF MOLECULAR NANOPHOTONICS, KARAGANDA, KAZAKHSTAN

2013/03/01-2013/12/31

Examination of spectral and luminescent characteristics of solids and liquids, measurements of the luminescence decay kinetics in the photon counting mode. The research technical assistance.

EDUCATION

PhD / L.N. GUMILYOV EURASIAN NATIONAL UNIVERSITY, "Nuclear Physics"

2016-2019. GPA=4.0

MSc / E.A. BUKETOV KARAGANDA STATE UNIVERSITY "Physics"

2013-2015. GPA=3.89

BSc / SAINT PETERSBURG NATIONAL RESEARCH UNIVERSITY OF INFORMATION TECHNOLOGY, MECHANICS AND OPTICS

"Photonics and Optoinformatics"

2008-2012. Main score=4.85 (out of 5)

Publications of Dr. Anel Ibrayeva

1. A.L.Kozlovskiy, I.V.Korolkov, G.Kalkabay, M.A.Ibragimova, **A.D.Ibrayeva**, M.V.Zdorovets, V.S.Mikulich, D.V.Yakimchuk, A.E.Shumskaya, E.Yu.Kaniukov, *Journal of Nanomaterials* (2017). <https://doi.org/10.1155/2017/3060972> IF JCR=0.421 **Q3**.
2. A.L.Kozlovskiy, D.I.Shlimas, D.B.Borgekov, **A.D.Ibrayeva**, M.V.Zdorovets, K.K.Kadyrzhanov, V.V.Uglov, *High Energy Chemistry* 51 (2017) 375-380. <https://doi.org/10.1134/S001814391705006X> IF JCR=0.634 **Q4**.
3. E. Kaniukov, A. Shumskaya, D. Yakimchuk, A. Kozlovskiy, **A. Ibrayeva**, M. Zdorovets, *Nanophysics, Nanomaterials, Interface Studies, and Applications: Selected Proceedings of the 4th International Conference Nanotechnology and Nanomaterials* (2017) 79-91. Springer International Publishing. https://link.springer.com/chapter/10.1007/978-3-319-56422-7_7.
4. A.S.Sohatsky, V.A.Skuratov, A.Janse van Vuuren, Nguyen van Tiep, J.H.O'Connell, **A.D.Ibrayeva**, M.Zdorovets, S.Petrovich, *Nucl.Instr.Meth.B* 60 (2019) 80-85. <https://doi.org/10.1016/j.nimb.2019.04.007> IF JCR=1.21 **Q3**.
5. A.Janse van Vuuren, V.Skuratov, **A.Ibrayeva**, M.Zdorovets, *Acta Phys.Pol.A* 136 (2019). <https://doi.org/10.12693/APhysPolA.136.241> IF JCR=0.857 **Q4**.
6. A.Janse van Vuuren, **A.D.Ibrayeva**, V.A.Skuratov, M.V.Zdorovets, *Ceram.Int.* 46 (2020) 7155-7160. <https://doi.org/10.1016/j.ceramint.2019.11.209> IF JCR=3.45 **Q1**.
7. A.Janse van Vuuren, **A.D.Ibrayeva**, J.H.O'Connell, V.A.Skuratov, A.Mutali, M.V.Zdorovets, *Nucl.Instr.Meth.B* 473 (2020) 16-23. <https://doi.org/10.1016/j.nimb.2020.04.009> IF JCR=1.21 **Q3**.
8. A.Janse van Vuuren, **A.D.Ibrayeva**, R.A.Rymzhanov, A.Zhalmagambetova, J.H.O'Connell, V.A.Skuratov, V.V.Uglov, S.V.Zlotski., A.E.Volkov, M.V.Zdorovets, *MRX* 7 (2020) 025512. DOI 10.1088/2053-1591/ab72d3 IF JCR=1.449 **Q3**.
9. E.A. Korneeva, A.D. **Ibrayeva, A.**, Janse van Vuuren, L. Kurpaska, M. Clozel, K. Mulewska, K., N.S. Kirilkin, V.A. Skuratov, J. Neethling, M. Zdorovets, *Journal of Nuclear Materials* (2021) 153120. <https://doi.org/10.3390/cryst11111313> IF JCR=3.55 **Q1**.
10. A. Zhumazhanova, A. Mutali, **A. Ibrayeva**, V. Skuratov, A. Dauletbekova, E. Korneeva, A. Akilbekov, M. Zdorovets, *Crystals* (2021). 1313. IF JCR=2.7 **Q2**.
11. R.A. Rymazhanov, A.E. Volkov, **A.D. Ibrayeva** *Eurasian Physical Technical Journal*, (2022) 23-28. <https://doi.org/10.31489/2022No3/23-28> IF = 0.4 **Q4**
12. **A.Ibrayeva**, A. Mutali, J. O'Connell, A. Sohatsky, V. Skuratov, L. Alekseeva, E. Korneeva, Rymzhanov, R. *Eurasian Physical Technical Journal* (2022) 124-131. <https://doi.org/10.32523/ejpfm.2022060204> IF = 0.4 **Q4**
13. A. Janse van Vuuren, A. Mutali, **A. Ibrayeva**, A. Sohatsky, V. Skuratov, A. Akilbekov, A. Dauletbekova, M. Zdorovets, *Crystals* (2022). 1410. <https://doi.org/10.3390/cryst12101410> IF JCR=2.7 **Q2**.
14. **A. Ibrayeva**, A. Mutali, J. O'Connell, A. Janse van Vuuren, E. Korneeva, A. Sohatsky, A., R. Rymzhanov, V. Skuratov, L. Alekseeva, I. Ivanov *Nucl. Mater. Energy* (2022) 101106. <https://doi.org/10.1016/j.nme.2021.101106> IF =2.49 **Q1**.

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15. R.A. Rymzhanov, A. Akzhunussov, A.E. Volkov, **A.D. Ibrayeva**, V.A. Skuratov *Nuclear Materials and Energy* (2022) 101267. <https://doi.org/10.1016/j.nme.2022.101267> IF =2.49 **Q1**.
16. R.A. Rymzhanov, A.E. Volkov, **A.D. Ibrayeva** *Computational Materials Science* (2023) 112078. <https://doi.org/10.1016/j.commatsci.2023.112078> IF =3.3 **Q1**.
17. **A. Ibrayeva**, J. O'Connell, V. Skuratov, Janse van Vuuren A. *Vacuum* (2023) 112865. <https://doi.org/10.1016/j.vacuum.2023.112865> IF = 4 **Q1**.
18. Ibrayeva, A., O'Connell, J., Mutali, A., Rymzhanov, R., & Skuratov, V. *Crystal* (2023) 1534. <https://doi.org/10.3390/cryst13111534> IF JCR=2.7 **Q2**.
19. **A. Ibrayeva**, J. O'Connell, V. Skuratov, A. Janse van Vuuren (2024). The effect of aluminium concentration on the resistance of Si_3N_4 to ion track formation. *Vacuum*, 220, 112865. **Q2** <https://doi.org/10.1016/j.vacuum.2023.112865>
20. **A. Ibrayeva**, J. O'Connell, A. Mutali, V. Skuratov, J. Li (2025). Swift heavy ion tracks in nanocrystalline TiO_2 . *Vacuum*, 233, 113958. **Q2** <https://doi.org/10.1016/j.vacuum.2024.113958>
21. A. Ibrayeva, J. O'Connell, A. Janse van Vuuren, V. Skuratov (2025). Annealing of Irradiation Defects in Si_3N_4 : TEM Examination, *Eurasian Journal of Physics and Functional Materials*, 9 (1), pp. 16-20 **Q4** <https://doi.org/10.69912/2616-8537.1237>