

CURRICULUM VITAE

Fuad A. Aliyev

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PERSONAL INFORMATION

Name	Fuad
Surname	Aliyev
Address	Institute of Geology and Geophysics, Ministry of Science and Education Republic of Azerbaijan, Baku, AZ1143, H.Cavid pr., 119 Azerbaijan
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Date of birth	23.11.1985

PERSONAL STATEMENT

As an accomplished researcher in geology, I specialize in using physical methods to analyze geological objects and develop cutting-edge experimental installations for the study of rocks and mineral deposits.

My research predominantly focuses on mud volcanoes and sedimentary rocks collected from diverse geological outcrops. Employing advanced nuclear methods, I investigate the isotope and elemental content of geological samples.

Driven by a commitment to scientific excellence, I continuously seek innovative methodologies to deepen our understanding of geological processes. My work not only contributes to the academic field but also has practical implications for energy exploration and resource management.

EDUCATION

05/2018 – Present

Institute of Geology and Geophysics, Ministry of Science and Education Republic of Azerbaijan | Baku, AZ1143 Azerbaijan

Ph.D: Geophysics, geophysical methods for mineral exploration

Thesis Title: Application of gamma spectrometric, neutron activation and microfaunal methods to correlate the stratigraphic age of solid emissions from mud volcanoes

09/2013 – 07/2015

Azerbaijan State Oil and Industry University | Baku, AZ1010 Azerbaijan

MSc: Division of Geophysics, Master Program, Faculty of Geological Exploration

09/2009 – 07/2013

Azerbaijan State Oil and Industry University | Baku, AZ1010 Azerbaijan

BSc: Division of Geophysics, Bachelor Program, Faculty of Geological Exploration

EMPLOYMENT HISTORY

01/09/2015 – 01.06.2024

Engineer | Frank Laboratory for neutron Physics at the Joint Institute for Nuclear Research.

Department of Nuclear Physics: IREN Facility, Neutron Activation Analysis Group

Dubna, Russia

01/08/2013 – 10/09/2024

Engineer | Institute of Geology and Geophysics, Ministry of Science and Education Republic of Azerbaijan

| Baku, AZ1143 Azerbaijan

Title of department: Department of radioactive fields of the Earth.

Position: Engineer

10/09/2024 – present

Head of department | Institute of Geology and Geophysics, Ministry of Science and Education Republic of Azerbaijan | Baku, AZ1143 Azerbaijan

Title of department: Department of isotope – geochemical research.

Position: Head of department

During this period, I studied the following topics:

- Investigation of integral radioactivity and radionuclide composition of rocks, soils, waters, air, bottom sediments, etc.;
 - Evaluation of radionuclide contamination in different territories and study of its nature;
 - Determination of background radioactivity and the amount of radioactive elements in various lithologic-stratigraphic complexes, and the development of the radiostratigraphy method;
 - Study of radioactive fields of mud volcanoes and the creation of monitoring systems for their activity in near real-time.
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ADDITIONAL SKILLS / RESEARCH INTEREST

Ability to install and configure appropriate equipment to conduct experiments, analyze, and interpret data obtained by physical methods. Extensive experience in conducting analysis using the following devices:

- CANBERRA High-Purity Germanium (HPGe)
- Bruker S6 JAGUAR spectrometer (benchtop X-Ray Fluorescence)
- Jeol jsm-6610lv scanning electron microscope
- IRMS IsoPrime precisIon 100/elementar

COMPUTER SKILLS

- Origin Lab (Graphing for Science and Engineering)
- Surfer (For landscape visualization, surface analysis and 3D surface mapping)
- ArcGis (Manage and analyze geographic data and patterns)
- AutoCAD
- Root (Data Analysis Framework)
- C++

LANGUAGE SKILLS

- **Azerbaijani:** Mother tongue
- **English:** Fluent (speaking, reading, and writing)
- **Russian:** Fluent (speaking, reading, and writing)

Publications

1. Ayman Hamzawy, Dimitar Grozdanov, Mohamed Badawi, Fuad Aliyev, Abouzeid Thabet, Mahmoud Abbas, Ivan Ruskov, Ahmed El-Khatiba, Yuri Kopatch, and Mona Gouda, New Numerical Simulation Method To Calibrate The Regular Hexagonal NaI(Tl) Detector With Radioactive Point Sources Situated Non-Axial, Review of Scientific Instruments.
https://www.researchgate.net/publication/309874856_New_numerical_simulation_method_to_calibrate_the_regular_hexagonal_NaITl_detector_with_radioactive_point_sources_situated_non-axial
2. Hramco C., Grozdanov D.N., Aliyev F.A., Kopatch Yu.N., Gundorin N.A., Bystritsky V.M., Borzakov S.B., Ruskov I.N., Skoy V.R., Prompt-Gamma Neutron Activation Analysis in Mining, ISINN-24. <http://isinn.jinr.ru/proceedings/isinn-24/pdf/hramco.pdf>
3. Grozdanov D.N., Aliyev F.A., Hramco C., Kopatch Yu.N., Bystritsky V.M., Skoy V.R., Gundorin N.A., Ruskov I.N., On the Possibility of Determining the Moisture Content in Furnace Coke with a BGO Scintillation Gama-Detector and a ²³⁹Pu-Be Neutron Source
<http://isinn.jinr.ru/proceedings/isinn-24/pdf/grozdanov.pdf>
4. Ivan Ruskov, Yury Kopatch, Vyacheslav Bystritsky, Vadim Skoy, Valery Shvetsov, Franz-Josef Hambsch, Stephan Oberstedt, Roberto Capote Noy, Dimitar Grozdanov, Artem Zontikov, Yury Rogov, Nikolay Zamyatin, Mikhail Sapozhnikov, Vyacheslav Slepnev, Evgeny Bogolyubov, Andrey Sadovsky, Yury Barmakov, Valentin Ryzhkov, Dimitry Yurkov, Vladivoj Valković, Jasmina Obhodaš, and Fuad Aliyev, TANGRA – an experimental setup for basic and applied nuclear research by means of 14.1 MeV neutrons, EPJ Web of Conferences.
https://www.epj-conferences.org/articles/epjconf/pdf/2017/15/epjconf-nd2016_03024.pdf
5. A. Gandhi, D. N. Grozdanov, F. A. Aliyev, W. Dongming, N. A. Fedorov, Yu. N. Kopatch, V.R. Skoy, V.M. Bystritsky, I. N. Ruskov, C. Hramco, E. P. Bogolyubov, Yu. N. Barmakov, V. Kumar, V. Mishra, N. K. Rai, and A. Kumar, “TANGRA: Tagged Neutrons and Gamma Rays”, Proceedings of the DAE Symp. onNucl. Phys. 62 (2017)
<http://sympnp.org/proceedings/62/G42.pdf>
6. V.M. Bystritsky, Yu.N. Kopatch, V.R. Skoy, I.N. Ruskov, T.Yu. Tretyakova, N.A. Fedorov, D.N. Grozdanov, A. Gandhi, F.A. Aliyev, C. Hramco, W. Dongming, Yu.N. Barmakov, E.P. Bogolyubov, A. Kumar, V. Kumar, V. Mishra, and N. K. Rai, “Romashka” and “Romasha” gamma-ray spectrometers”, Proceedings of the DAE Symp. onNucl. Phys. 62 (2017)
<http://sympnp.org/proceedings/62/G9.pdf>
7. Метод меченых нейтронов в экспериментах по изучению ядерных реакций. (Н.А. Федоров, Т.Ю. Третьякова, Ю.Н. Копач, В.М. Быстрицкий, И.Н. Русков, Д.Н. Грозданов, Ф.А. Алиев, В.Р. Ской, Н.И. Замятин, В. Дунмин, К. Храмко, А.Кумар, А. Ганди, С.

Дабылова, Е.П. Боголюбов, Бармаков.) - "Концентрированные потоки энергии в космической технике, электронике, экологии и медицине",

<http://nuclphys.sinp.msu.ru/school/s17/sch2017.pdf>

8. Zamyatin N.I., Bystritsky V.M., Kopach Y.N., Aliyev F.A., et al., Neutron beam profilometer on the base of double-sided silicon strip detectors, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment. 2018, Volume 898, pp. 46-52, <https://www.sciencedirect.com/science/article/pii/S0168900218305254>
9. Grozdanov D.N., Fedorov N.A., Bystritski V.M., Aliev F.A., et al., Measurement of Angular Distributions of Gamma Rays from the Inelastic Scattering of 14,1- MeV neutrons by Carbon and Oxygen Nuclei, Physics of Atomic Nuclei. 2018, Volume 81, Issue 5, pp. 588-594 <https://link.springer.com/content/pdf/10.1134%2FS106377881805006X.pdf>
10. Grozdanov D.N., Aliyev F.A., Hramco C., et al., Determination of Moisture Contents in Coke with ^{239}Pu -Be Neutron Source and BGO Scintillation Gamma Detector, Physics of Elementary Particles and Atomic Nuclei Letters. 2018, Volume 15, Issue 2, pp. 157-163 <https://link.springer.com/article/10.1134/S1547477118020061>
11. Fedorov N.A., Grozdanov D.N., Bystritskiy V.M., Aliev F.A., et al., Measurements of the gamma-quanta angular distributins emitted from neutron inelastic scattering on ^{28}Si , EPJ Web of Conferences 177, 02002 (2018), pp. 1-5 https://www.epj-conferences.org/articles/epjconf/pdf/2018/12/epjconf_ayss2018_02002.pdf
12. Grozdanov D.N., Fedorov N.A., Aliev F.A., Bystritski V.M., et al., Elemental Analysis of Engine Parts of the Proton Rocket Carrier with Resonance Neutrons, Physics of Elementary Particles and Atomic Nuclei Letters. 2018, Volume 15, Issue 5, pp, 537–540 <https://link.springer.com/article/10.1134/S1547477118050102>
13. F.A. Aliyev, N.I. Zamyatin, V.M. Bystritsky, et al., Silicon two-dimensional position-sensitive fast neutron detector for beam profile measurement, 25-th International Seminar on Interaction of Neutrons with Nuclei 2018, <http://isinn.jinr.ru/proceedings/isinn-25/pdf/aliyev.pdf>
14. N.A. Fedorov, T.Yu. Tretyakova, Yu.N. Kopatch, V.M. Bystritsky, D.N. Grozdanov, F.A. Aliyev, et al., Angular Distribution of Gamma Rays from the Inelastic Scattering of 14 MeV Neutrons on Light Nuclei, 25-th International Seminar on Interaction of Neutrons with Nuclei 2018, <http://isinn.jinr.ru/proceedings/isinn-25/pdf/fedorov.pdf>
15. Grozdanov D.N., Kopatch Yu.N., Bystritsky V.M., Fedorov N.A., Aliyev F.A., et al., Measurements Of Gamma Rays From The Inelastic Scattering Of 14.1 Mev Neutrons Using The Tagged Neutron Method, 25-th International Seminar on Interaction of Neutrons with Nuclei 2018, <http://isinn.jinr.ru/proceedings/isinn-25/pdf/grozdanov.pdf>
16. V.M. Bystritsky, Yu.N. Kopatch, V.R. Skoy, I.N. Ruskov, T.Yu. Tretyakova, N.A. Fedorov, D.N. Grozdanov, A. Gandhi, F.A. Aliyev, C. Hramco, D. Wang, P.K. Prajapati, N.K. Rai, A. Sharma, N.L. Singh, S. Mukherjee, A. Kumar, Optimization of characteristic of BGO gamma-ray detectors, Proceedings of the DAE Symp. onNucl. Phys. 63 (2018) <http://sympnp.org/proceedings/63/G38.pdf>
17. A. Gandhi, D.N. Grozdanov, N.A. Fedorov, F.A. Aliyev, D. Wang, Yu.N. Kopatch, V.R. Skoy, V.M. Byrtritsky, I.N. Ruskov, T.Yu. Tretyakova, C. Hramco, P.K. Prajapati, N.K. Rai, A. Sharma, N.L. Singh, S. Mukherjee, A. Kumar, Response Function of “Romasha” Gamma-Ray Spectrometer, Proceedings of the DAE Symp. onNucl. Phys. 63 (2018) <http://sympnp.org/proceedings/63/G39.pdf>
18. Dongming Wang, Ivan N. Ruskov, Huasi Hu, Yuri N. Kopatch, Dimitar N. Grozdanov, Nikita A. Fedorov and Fuad A. Aliyev, Gamma-ray imaging with a time-modulated random coded aperture, Review of Scientific Instruments 90, 015107 (2019); <https://aip.scitation.org/doi/10.1063/1.5050211>
19. Fedorov N.A., Tretyakova T.Yu., Bystritsky V.M., Kopach Yu N., Ruskov I.N., Skoy V.R., Grozdanov D.N., Zamyatin N.I., Dongming W., Aliev F.A., et al., Investigation of Inelastic Neutron Scattering on ^{27}Al Nuclei, Physics of Atomic Nuclei. 2019, Volume 82, Issue 4, pp. 343-350, <https://link.springer.com/article/10.1134%2FS1063778819040094>
20. Fedorov N.A., Tretyakova T.Yu., Kopatch Yu.N., Bystritsky V.M., Grozdanov D.N., Aliyev F.A., et al., Study Of 14.1 Mev Neutrons Inelastic Scattering On Iron, 26-th International

21. Алиев Ф.А., Мададзада А.И., Алиев Ч.С., Гусейнов Д.А., Дулиу О.Г., Павлов С.С., Фронтасьева М.В., Определение содержания петрогенных и рассеянных элементов в осадочных породах Азербайджана методом нейтронной активации, труды всероссийского ежегодного семинара по экспериментальной минералогии, петрологии и геохимии 2019
<http://intranet.geokhi.ru/rasempg/Shared%20Documents/2019/%D0%A2%D0%A0%D0%A3%D0%94%D0%AB%20%D0%92%D0%95%D0%A1%D0%AD%D0%9C%D0%9F%D0%93-2019.pdf>
22. Fedorov N.A., Dashkov I.D., Grozdanov D.N., Kopatch Yu N., Ruskov I.N., Skoy V.R., Tretyakova T.Yu, Aliev F.A., Dabylova S., Gundorin N.A., Hramco C. Investigation of 14.1 MeV neutrons interaction with C, Mg, Cr. Indian Journal of Pure and Applied Physics. Издательство scientific Publishers (India), год: 2020, том 58, № 5, с. 358-362.
<http://nopr.niscair.res.in/handle/123456789/54753>
23. Grozdanov D.N., Fedorov N.A., Yu.N. Kopatch, Ruskov I.N., Dabylova S.B., Aliyev F.A., Skoy V.R., Hramco C., T.Yu. Tretyakova, Kumar A., Gandhi A., Sharma A., Wang D., Sakhiyev S.K. Indian Journal of Pure and Applied Physics. Издательство scientific Publishers (India), год: 2020, том 58, № 5, с. 427-430. <http://nopr.niscair.res.in/handle/123456789/54739>
24. Grozdanov D.N., Fedorov N.A., Kopatch Yu N., Bystritsky V.M., Tretyakova T.Yu, Ruskov I.N., Skoy V.R., Dabylova S., Aliev F.A., Hramco K., Gundorin N.A., Dashkov I.D., Bogolyubov E.P., Yurkov D.I., Zverev V.I., Gandhi A., Kumar and A. Measurement of the Yield and Angular Distributions of Gamma Rays Originating from the Interaction of 14.1 MeV Neutrons with Chromium Nuclei. Physics of Atomic Nuclei. издательство Pleiades Publishing, Ltd (Road Town, United Kingdom), год: 2020, том 83, № 3, с. 384-390. DOI: 10.31857/S0044002720030095
https://www.pleiades.online/contents/nuclphys/nuclphys3_20v83cont.pdf
25. Fedorov N.A., Grozdanov D.N., Kopatch Yu N., Bystritsky V.M., Tretyakova T.Yu, Ruskov I.N., Skoy V.R., Dabylova S., Aliev F.A., Hramco K., Gundorin N.A., Dashkov I.D., Bogolyubov E.P., Yurkov D.I., Gandhi A., Kumar A. Measuring the Yields and Angular Distributions of γ -Quanta from the Interaction between 14.1 MeV Neutrons and Magnesium Nuclei. Bulletin of the Russian Academy of Sciences: Physics. издательство Allerton Press Inc. (United States), год: 2020, том 84, № 4, с. 367-372. DOI: <http://dx.doi.org/10.3103/S1062873820040085>
26. Fedorov N.A., Grozdanov D.N., Kopatch Yu N., Tretyakova T.Yu, Ruskov I.N., Skoy V.R., Dashkov I.D., Aliyev F.A., Dabylova S., Hramco C., Kumar A., Gandhi A., Wang D., Bogolyubov E.P., Yurkov D.I., collaboration TANGRA, Inelastic scattering of 14.1 MeV neutrons on iron, European Physical Journal A, издательство Springer Verlag (Germany), том 57, 2021 DOI: <http://dx.doi.org/10.1140/epja/s10050-021-00503-x>
27. Dashkov I.D., Fedorov N.A., Grozdanov D.N., Kopach Yu N., Tretyakova T.Yu, Ruskov I.N., Skoy V.R., Dabylova S., Aliev F.A., Hramco C., Gundorin N.A., Marzhokhov R.B., Barmakov Yu N., Bogolyubov E.P., Zverev V.I., Modeling 14 MeV Neutron Scattering on Titanium, Chromium, and Iron Nuclei Using the TALYS Program, Bulletin of the Russian Academy of Sciences: Physics, издательство Allerton Press Inc. (United States), том 85, № 10, с. 1113-1121, 2021. <https://www.elibrary.ru/item.asp?doi=10.31857/S0367676521100136>
28. Aliyev F.A., Aliyev Ch.S., Determination of the concentration of major and trace elements in sedimentary rocks using neutron activation analysis, Geophysics news in Azerbaijan, № 1-2/ 2022 https://amgk.az/pdf/aze_GGI_1-2.2022.pdf
29. Matlab N Mirzayev, Anca C Parau, Lyubomir Slavov, Mihaela Dinu, Dimitar Neov, Zdravka Slavkova, Evgeni P Popov, Maria Belova, Kanan Hasanov, Fuad A Aliyev, Alina Vladescu, TiSiCN as Coatings Resistant to Corrosion and Neutron Activation, Materials 16(5) (2023) 1835. DOI: [10.3390/ma16051835](https://doi.org/10.3390/ma16051835)