Curriculum Vitae

Kurban E. Magomedov

Name: Kurban
Surname: Magomedov
Place of Birth: Izberbash, Dagestan, Russia
Date of Birth: 12 December 1987
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Education

- **PhD Student:** Analytical and Pharmaceutical Chemistry, Chemical Department, Dagestan State University (2010-2013)
- **Specialist Degree:** Analytical and Pharmaceutical Chemistry, Chemical Department, Dagestan State University (2005-2010)

Experience in Science

- **Scientist:** Research Centre "Smart Materials and Biomedical Applications," IKBFU (2022 - Present)
- **Scientist:** Dagestan State University (2019 - 2023)
- **Engineer-Researcher:** Dagestan State University (2014-2019)
- **Senior Laboratory Technician:** Dagestan State University (2010-2014)

Qualifications

- **PhD Degree:** Analytical Chemistry, Kuban State University, Krasnodar, Russia (Awarded on 30 May 2019)
- **Specialist Degree:** Analytical Chemistry, Dagestan State University (2010)

Projects and grants

- **principal investigator:** Development of innovative devices for selective water and air purification based on two-dimensional materials - MXenes. No. 22-12-20036. 2022-2024. Immanuel Kant Baltic Federal University.
- **principal investigator:** Scholarship of the President of the Russian Federation to young scientists and postgraduate students conducting promising research and development in priority areas of modernization of the Russian economy, for 2019-2021. (Project No. SP-3926.2019.4). Dagestan State University.
- **member of the team:** State Orders of the Ministry of Education and Science of the Russian Federation (Project No. FZNZ-2020-0002). Dagestan State University.
- **member of the team:** State Orders of the Ministry of Education and Science of the Russian Federation (Project No. 4.5789.2017/ITR). Dagestan State University.
- **principal investigator:** Fund for Assistance to Small Innovative Enterprises of the UMNIK 15-4 program (project No. 7416GU/2015). Dagestan State University.
- **principal investigator:** Internal university grants Dagestan State University 2013.
- **principal investigator:** FTP "Scientific and scientific-pedagogical personnel of innovative Russia" for 2009 - 2013 (project No. 14.132.21.1465). Dagestan State University.
- **principal investigator:** scholarship of the president of the Republic of Dagestan 2012. Dagestan State University.

Teaching:

- Analytical Chemistry
- Spectroscopy
- Electrochemical analysis
- AAS & MAS
- Programming of Chemical Tasks. Practice

Main Skills

- Atomic Absorbance Spectrometry
- Ionometry
- Electroanalytical Chemistry
- Sorption on Nanomaterials
- Chemometrics
- Material Science

Other Skills

- **Programming Languages:** Wolfram Mathematica, Python
- **Hardware:** Programming of Arduino and STM32, assembly of devices based on ADC, DAC, PID, etc.
- **Operating Systems:** Linux, Windows, OS X
- **Software:** MS Office, Wolfram Mathematica, LaTeX, OriginPro, Python
- **Others:** bash, ssh, Linux terminal

Areas of Scientific Interest

- Atomic Absorption Spectrometry (AAS)
- Ion-Selective Membrane Electrodes
- Sorption on nanomaterials
- Sensors
- Material Science
- DFT and Neural Networks
- ICP-OES
- Spectrometry
- Hardware and Software Assembly of Devices
- Machine Learning

Last Publications Available in Profiles

- **Scopus**:
  https://www.scopus.com/authid/detail.uri?authorId=55992161500
- **Google Academy**:
  https://scholar.google.ru/citations?user=yLuFxKwAAAAJ&hl=en
- **Web of Science**:
  https://www.webofscience.com/wos/author/record/E-8762-2014
- **ORCID**:
  https://orcid.org/0000-0002-2852-0775
- **eLIBRARY**:
  https://www.elibrary.ru/author_profile.asp?authorid=618806
- **github**
  https://github.com/iamkurban/
- **IstinaResearcherID (IRID):** 15296308
  https://istina.msu.ru/workers/15296308/
- **ResearchGate:** https://www.researchgate.net/profile/Kurban-Magomedov

Publications:

Articles only*

[A1] Kirill Sobolev et al. "Iron Oxide Nanoparticle-Assisted Delamination of $Ti_3C_2T_x$ MXenes: A New Approach to Produce Magnetic MXene-Based Composites". In: *Nanomaterials* 14.1 (2024). ISSN: 2079-4991. DOI: 10.3390/nano14010097. URL: https://www.mdpi.com/2079-4991/14/1/97.

[A2] S. E. Aga-Tagieva et al. "PEGylated Iron-Oxide Nanoparticles: Structural, Magnetic, and Sorption Properties". In: *Nanobiotechnology Reports* 18.6 (2023), pp. 886–893. DOI: 10.1134/S2635167623600633. URL: https://doi.org/10.1134/S2635167623600633.

[A5] K. E. Magomedov et al. "SDS-Modified Iron Oxide Magnetic Nanoparticles for Removing of Methylene Blue from Aqueous Solution". In: *Bulletin of the Russian Academy of Sciences: Physics* 87.6 (2023), pp. 720–727. DOI: 10.3103/S1062873823702027. URL: https://doi.org/10.3103/S1062873823702027.

[A6] Shabanov Nabi et al. “Key Aspects of the Processes of Thermal Decomposition of Complex Compounds of Copper Formate for Low-Temperature Printed Electronics”. In: *ACS Applied Electronic Materials* 5.6 (2023), pp. 3215–3223. DOI: 10.1021/acsaelm.3c00281. eprint: https://doi.org/10.1021/acsaelm.3c00281. URL: https://doi.org/10.1021/acsaelm.3c00281.

[A8] K. V. Sobolev et al. “Adsorption of Copper Ions on the Surface of Multilayer $Ti_3C_2T_x$ MXenes with Mixed Functionalization”. In: *Nanobiotechnology Reports* 18.1 (2023), S84–S89. DOI: 10.1134/S2635167623600955. URL: https://doi.org/10.1134/S2635167623600955.

[A10] S.D. Tataeva et al. “Solid-Phase Spectroscopic Determination Of Copper (II) Ions Using A Modified Anion Exchanger”. In: *Sorption And Chromatography Processes* 23.1 (2023), pp. 96–106. DOI: 10.17308/sorpchrom.2023.23/10997.

[A11] Kurban E. Magomedov et al. “Calculation of Lipophilicity of Organophosphate Pesticides Using Density Functional Theory”. In: *Membranes* 12.6 (2022). ISSN: 2077-0375. DOI: 10.3390/membranes12060632. URL: https://www.mdpi.com/2077-0375/12/6/632.

[A12] S. D. Tataeva and K. E. Magomedov. “A Cadmium-Selective Electrode Based on Ionophores with Nitrogen-, Sulfur-, and Oxygen-Containing Functional Groups”. In: *Journal of Analytical Chemistry* 77.1 (2022), pp. 110–117. DOI: 10.1134/S1061934821110150. URL: https://doi.org/10.1134/S1061934821110150.

[A13] Sarizhat D. Tataeva et al. “The Ionic Associate of Metamizole as an Electrode-Active Component of a PVC Plasticized Membrane Electrode”. In: *Chemosensors* 10.1 (2022). ISSN: 2227-9040. DOI: 10.3390/chemosensors10010017. URL: https://www.mdpi.com/2227-9040/10/1/17.

[A18] S.D. Tataeva et al. “Diantipyrylpropylmethane as electrode-active components of membrane of lead selective electrode”. In: *Izvestiya Vysshikh Uchebnykh Zavedenii, Seriya Khimiya i Khimicheskaya Tekhnologiya* 61.2 (2018), pp. 23–28. DOI: 10.6060/tcct.20186102.5607.

[A19] S.D. Tataeva, V.S. Magomedova, and K.E. Magomedov. “Determination of lead ions using an diantipyrylmethane-based electrode”. In: *Journal of Analytical Chemistry* 71.11 (2016), pp. 1115–1119. DOI: 10.1134/S1061934816110149.

* References available on request

Patent only

[P4] S.Kh. Gadzhimagomedov et al. “Preparation of nanostructured materials based on $BaZrO_3$”. Patent 2808853 C1. RU. 2023.

[P9] S.D. Tataeva et al. “Ion-selective electrode membrane for the determination of ceftriaxone in biosystems”. Patent 2789107 C1. RU. 2023.

Conference only

[T3] S.E. Aga-Tagiyeva et al. "Pegylated magnetic nanoparticles for water purification from organic dyes". In: *ASAM-8. The 8th Asian Symposium on Advanced Materials. Book of Abstracts*. Novosibirsk, 2023, pp. 259–260.

[T7] N.R. Shilov et al. "Development of $Ti_3C_2T_x$+Fe_3O_4 nanocomposite materials for water remediation". In: *ASAM-8. The 8th Asian Symposium on Advanced Materials. Book of Abstracts*. Novosibirsk, 2023, pp. 416–417.

[T14] A.K. Abdurakhmanova, S.D. Tataeva, and K.E. Magomedov. "Levofloxacin-selective electrode". In: *Mendeleev 2021. Book of abstracts XII International Conference on Chemistry for Young Scientists*. Saint Petersburg, 2021, p. 48.

[T15] R.G. Gamzatova, S.D. Tataeva, and K.E. Magomedov. "Application of vancomycin to create electrochemically active component (EAC) ISE membranes". In: *Mendeleev 2021. Book of abstracts XII International Conference on Chemistry for Young Scientists*. Saint Petersburg, 2021, p. 73.

[T16] K.E. Magomedov et al. "Azithromycin-selective electrode". In: *Mendeleev 2021. Book of abstracts XII International Conference on Chemistry for Young Scientists*. Saint Petersburg, 2021, p. 94.

[T17] E.Z. Ragimova and K.E. Magomedov. "Determination of soluble fluoride in toothpastes". In: *Mendeleev 2019. Book of abstracts XI International Conference on Chemistry for Young Scientists*. 2019, p. 481.