


Alina Zurnachyan

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WORK EXPERIENCE

PHD, RESERCHER

A.B. NALBANDYAN INSTITUTE OF CHEMICAL PHYSICS, NAS, RA [01/04/2008 – Current]

City: Yerevan

Country: Armenia

- Material science
- Synthesis of nanomaterials, nanocatalysts
- Combustion synthesis, Synthesis via Microwave radiation
- Catalysts and Catalysis

LEADING SPECIALIST

ENVIRONMENTAL IMPACT MONITORING CENTER, MNP, RA [01/01/2009 – 01/11/2012]

City: Yerevan

Country: Armenia

- ICP-MS specialist; water analysis by ICP-MS method
- Water sampling and preservation
- Field measurements

SENIOR SPECIALIST

ENVIRONMENTAL IMPACT MONITORING CENTER, MNP, RA [01/11/2012 – 01/06/2013]

City: Yerevan

Country: Armenia

- ICP-MS specialist; analysis of waters, soils (sediments) and air filters by ICP-MS method
- Water quality monitoring and assessment

HEAD OF DEPARTMENT

ENVIRONMENTAL IMPACT MONITORING CENTER, MNP, RA [01/06/2013 – 01/05/2017]

City: Yerevan

Country: Armenia

- Organizing and implementation of water monitoring program
- Water quality assessment
- Organizing laboratory work
- Development of lab methods
- Creating and saving of database

HEAD OF DEPARTMENT

ENVIRONMENTAL MONITORING AND INFORMATION CENTER, MNP, RA [01/05/2017 – 07/05/2020]

City: Yerevan

Country: Armenia

- Organizing and implementation of water monitoring program
- Water quality assessment
- Organizing laboratory work
- Development of lab methods
- Creating and saving of database

HEAD OF SURFACE WATER QUALITY MONITORING SERVICE

HYDROMETEOROLOGY AND MONITORING CENTER, SNCO, ME, RA [07/05/2020 – Current]

City: Yerevan

Country: Armenia

- Organizing and implementation of water monitoring program
- Participates in cooperation with international and local organizations
- Water quality assessment
- Organizing field observations work
- Organizing laboratory work
- Development of lab methods
- Creating and saving of database

EDUCATION AND TRAINING

PHD, CHEMIST

A.B. Nalbandyan Institute of Chemical Physics, NAS RA [01/04/2008 – 01/09/2012]

Address: Yerevan (Armenia)

CERTIFICATE IN "APPLIED GROUNDWATER MODELLING"

UNESCO-IHE, IHE Delft Institute for Water Education [14/06/2010 – 02/07/2010]

Address: Delft (Netherlands)

CERTIFICATE OF PROFICIENCY IN "WATER MANAGEMENT AND CLIMATE CHANGE ADAPTATION" - 62nd UNEP/ UNESCO/BMUB International Short Course

SIPCEM, Technische Universität Dresden [03/09/2014 – 26/09/2014]

Address: Dresden (Germany)

CERTIFICATE IN "LABORATORY BASICS AND FUNDAMENTALS OF ISO CERTIFICATION"

European Union Water Initiative plus for the Eastern Partnership [12/12/2017 – 13/12/2017]

Address: Tbilisi (Georgia)

CERTIFICATE IN "Training on EN ISO 6468:1996 - Water quality - Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes - Gas Chromatographic method after liquid-liquid extraction"

The Umweltbundesamt - Environment Agency Austria, Vienna [26/11/2018 – 30/11/2018]

Address: Vienna (Austria)

CERTIFICATE IN "ECOLOGICAL CLASSIFICATION OF SURFACE WATER BODIES IN EUWI+ PILOT AREAS OF ARMENIA, GEORGIA AND AZERBAIJAN"

European Union Water Initiative plus for the Eastern Partnership [24/07/2018 – 25/07/2018]

Address: Tbilisi (Georgia)

PROJECTS

Bioinspired nacre-like architected high entropy MAX phases for renewable energy

[01/11/2023 - 01/11/2027]

23LCG-2F001

Science Committee, Ministry of Education, Science, Culture and Sports RA

Bamboo-like hierarchical microstructure inspiring silicon and boron carbides by combustion synthesis with reactions thermokinetic coupling approach

[01/11/2020 - 01/11/2023]

20TTSG-2E003

Science Committee, Ministry of Education, Science, Culture and Sports RA

Transition metal carbides and borides as catalysts in hydroprocesses

[01/03/2018 - 01/03/2020]

18RF-114

Science Committee, Ministry of Education, Science, Culture and Sports RA

Travel grant - Young Scholars Support Program

[2015]

185/4Q-2015

Young Scholars Support Program

Short Term Conference and Travel Grants program from Calouste Gulbenkian Foundation

[2014]

135414

CALOUSTE GULBENKIAN FOUNDATION; Armenian Communities Department

Travel grant - Young Scholars Support Program

[2014]

69/4Q-2014

Young Scholars Support Program

Synthesis of tungsten and molybdenum carbide catalysts

[2013-2014]

YSSP-13-21

National Foundation of Science and Advanced Technologies (NFSAT), YSSP, AYF, CRDF Global

Travel grant - Young Scholars Support Program

[2013]

Q/100-2013

Young Scholars Support Program

Travel Grant - "XI International Symposium on SHS-2011, Anavyssos, Attica, Greece"

[2011]

Combustion Synthesis & Materials Science-1 fund

ICP Waters

[2018 - Current]

- Focal point in Armenia

ICP Water is an international cooperation program of the United Nations Economic Commission for Europe (UNECE) Convention on Long-range Transboundary Air Pollution, which aims to assess and monitor air pollution in rivers and lakes.

Armenian-Georgian Joint Transboundary Monitoring Program of Water Quality in Ktsia/Khrami- Debed River Basin

[Current]

Participation in the implementation of the Program of European Union Water Initiative Plus for Eastern Partnership Countries (EUWI+):

- Participating in the preparation of Guidance Document on the Joint River Monitoring Procedures
- Organizing field observations work
- Organizing laboratory work
- Participating in the preparation of Report

INVESTIGATIVE MONITORING SURFACE WATER SURVEY CAPACITY BUILDING IN ARMENIA

[08/2020 - 12/2020]

Participation in the implementation of the Program of European Union Water Initiative Plus for Eastern Partnership Countries (EUWI+):

- Participating in the preparation of Guidance Document on the Joint River Monitoring Procedures
- Organizing field observations work
- Organizing laboratory work
- Participating in the preparation of Report

Development of a model of Lake Sevan for the improvement of the understanding of its ecology and as instrument for the sustainable management and use of its natural resources

[01/01/2021 - 20/03/2023]

Project "Establishing science-based management instruments for Lake Sevan, Armenia - SEVAMO2" (Grant ID 01DK20038)

Helmholtz-Zentrum für Umweltforschung GmbH - UFZ with Hydrometeorological and Monitoring Center (HMC), SNCO

- Organizing laboratory work
- Participating in the preparation of Report

PUBLICATIONS

1. Կիրակոսյան Յ. , Ամիրխանյան Ն. , Չաքարյան Մ. , Չուռնաչյան Ա. , Այդինյան Ս. , Բամբուկանման հիերարխիկ միկրոկառուցվածքով սիլիցիումի եվ բորի կարբիդների ստացումն այրման ռեժիմում ռեակցիաների ջերմակինետիկական զուգորդման մոտեցմամբ, Համահայկական գիտաժողով, Երևան, Հայաստան, Երեւնի 17-22, 2023, 135:
2. N. Amirkhanyan, H. Kirakosyan, M. Zakaryan, A. Zurnachyan, M.A. Rodriguez, L. Abovyan, S. Aydinyan, Sintering of silicon carbide obtained by combustion synthesis, *Ceramics International*, 49(15) 2023, 26129-26134.
3. Marieta K. Zakaryan, Alina R. Zurnachyan, Narine H. Amirkhanyan, Hasmik V. Kirakosyan, Maksim Antonov, Miguel A. Rodriguez, Sofiya V. Aydinyan, Novel Pathway for the Combustion Synthesis and Consolidation of Boron Carbide, *Materials*, 15(14) 2022, 5042.
4. Ա. Չուռնաչյան, Մ. Չաքարյան, Ն. Ամիրխանյան, Յ. Կիրակոսյան, Ս. Այդինյան, Բորի և սիլիցիումի կարբիդների նանոփոշիների ստացումն այրման ռեժիմում, Համահայկական գիտաժողով, Վանաձոր, Հայաստան, 26 սեպտեմբեր - 01 հոկտեմբեր, 2022, 65:
5. M. Zakaryan, N. Amirkhanyan, H. Kirakosyan, A. Zurnachyan, S. Aydinyan, Combustion Synthesis of Nanoscale Boron and Silicon Carbides, 15th International Ceramics Congress, CIMTEC 2022, June 20-24, 2022, p. CA-11.2:L04.
6. Narine Amirkhanyan, Hasmik Kirakosyan, Marieta Zakaryan, Alina Zurnachyan, Sofiya Aydinyan, Self-Propagating High-Temperature Synthesis of Silicon Carbide Using Reactions Thermokinetic Coupling Approach, 2nd European Conference on Silicon and Silica Based Materials and the 6th International Conference on Competitive Materials and Technology Processes, Hungary, October 4-8, 2021, 115.
7. V. Akopyan, P. D. Polikarpova, O. I. Forofontova, I. S. Levin, R. A. Mnatsakanyan, D. A. Davtyan, A. R. Zurnachyan, A. V. Anisimov & E. A. Karakhanov, Hydrogenation of Alkenes on Molybdenum and Tungsten Carbides, *Technology of Organic Substances*, 54, 2020, 1045-1051.
8. А.В. Акопян, П.Д. Поликарпова, О.И. Форофонтова, И.С. Левин, Р.А. Мнацаканян, Д.А. Давтян, А.Р. Зурначян, А.В. Анисимов, Э.А. Караханов, Гидрирование алкенов на карбидах молибдена и вольфрама, *Химическая Технология*, Т. 20, № 7, с. 305-311.
9. Zurnachyan, D. Davtyan, E. Karakhanov, A. Akopyan, R. Mnatsakanyan, Application of microwave radiation in heterogeneous catalysis, XV International Symposium on Self-Propagating High-Temperature Synthesis, Moscow, Russia, 2019, September 16-20, 2019, 95.
10. Raman Mnatsakanyan, Davit Davtyan, Alina Zurnachyan, Suren Kharatyan, Edward Karakhanov, Argam Akopyan, Khachatur Manukyan, Microwave-assisted preparation and characterization of nanoscale rhenium diboride, *Ceramics International*, 44(18) 2018, 22339-22344.
11. A.R. Zurnachyan, R.A. Mnatsakanyan, Preparation of Mo₂C catalyst via microwave radiation, Current problems of Chemical Physics, Yerevan, Armenia, September 25-29, 2018, 101.
12. Raman Mnatsakanyan, Alina R. Zurnachyan, Valery A. Matyshak, Khachatur V. Manukyan, Alexander S. Mukasyan, Microwave-assisted synthesis of carbon-supported carbides catalysts for hydrous hydrazine decomposition, *Journal of Physics and Chemistry of Solids*, 96-97, 2016, 115-120.

- 13.A.R. Zurnachyan, R.A. Mnatsakanyan, Microwave radiation in heterogeneous catalysis, IV International Conference "Current problems of Chemical Physics", Yerevan, Armenia, October 5-9, 2015, 115.
- 14.A.R. Zurnachyan, Kh.V. Manukyan, R.A. Mnatsakanyan, Preparation of molybdenum and tungsten carbide catalysts via Microwave radiation, 14th Conference of the European Society (ECERS 2015), Toledo, Spain, June 21-25, 2015, ID:02215.
- 15.A.R. Zurnachyan, W.T. Minasyan, R.A. Mnatsakanyan, Influence of oxidizing on catalytic activity of Pt/WC catalyst in the reaction of n-heptane reforming, Chemical Journal of Armenia, LXVII, No. 4, 2014, 374-381.
- 16.A.R. Zurnachyan, R.A. Mnatsakanyan, Combustion and Microwave Methods for the Synthesis of Carbide Catalysts, 13th International Ceramics Congress, CIMTEC 2014, Montecatini Terme, Tuscany, Italy, June 8-13, 2014, CB-9.2:L04.
- 17.A.R. Zurnachyan, R.A. Mnatsakanyan, Combustion and Microwave Synthesis of Tungsten and Molybdenum Carbide catalysts, XII International Symposium on Self-propagating High Temperature Synthesis (SHS-2013), 21-24 October, South Padre Island, TX, USA, 2013, 82-83.
- 18.A.R. Zurnachyan, S.L. Kharatyan, E.A. Avetisow, R.A. Mnatsakanyan, Hydrogenation of naphthalene in the presence of molybdenum carbide produced by a modified SHS, International Conference "Current Problems of Chemical Physics" dedicated the 50-year anniversary of A.B. Nalbandyan Institute of Chemical Physics NAS RA, 9-12 October, Yerevan, Armenia, 2012, 182-184.
- 19.A.R. Zurnachyan, R.A. Mnatsakanyan, Kh.V. Manukyan, Carbide catalysts synthesized under the combustion mode, Fifth International Symposium on "Non-Equilibrium Processes, Plasma, Combustion, and Atmospheric Phenomena", NEPCAP 2012, 1-6 October, Sochi (Loo), Russia, 2012, 454-455.
- 20.A.R. Zurnachyan, Preparation of Tungsten Carbide from Na_2WO_4 , Electronic Journal of Natural Sciences, Vol. 2, Iss. 2/17/, 2011, 6-9.
- 21.R. Zurnachyan, Kh. V. Manukyan, S. L. Kharatyan, V. A. Matyshak & R. A. Mnatsakanyan, New isopropanol dehydration catalyst based on tungsten carbide prepared by modified self-propagating high-temperature synthesis, Kinetics and Catalysis, 52, 2011, 851-854.
- 22.A.R. Zurnachyan, R.A. Mnatsakanyan, Kh.V. Manukyan, S.L. Kharatyan, Combustion Synthesis of WC/C & Mo₂C/C Catalytic Systems, XI International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2011), 5-9 September, Anavyssos, Attica, Greece, 2011, 80-81.
- 23.A.R. Zurnachyan, Kh.V. Manukyan, S.L. Kharatyan, R.A. Mnatsakanyan, Synthesis of Molybdenum Carbide by Modified SHS Method, Chemical Journal of Armenia, LXIV, No. 3, 2011, 326-334.
- 24.Kh. V. Manukyan, A. R. Zurnachyan, S. L. Kharatyan, R. A. Mnatsakanyan, WC-Based Catalyst for Isopropyl Alcohol Dehydration as Prepared by Combustion Synthesis, International Journal of Self-Propagating High-Temperature Synthesis, 20(1) 2011, 1-5.
- 25.A.R. Zurnachyan, S.L. Kharatyan, H.L. Khachatryan, A.Gh. Kirakosyan, Self-propagating high temperature synthesis of SiC-Cu and SiC-Al cermets: Role of chemical activation, International Journal of Refractory Metals and Hard Materials, 29(2) 2011, 250-255.

26. R.R. Grigoryan, L.A. Vartikyan, R.A. Mnatsakanyan, A.R. Zurnachyan, Methane Reforming on the Molybdenum Carbide, *Chemical Journal of Armenia*, LXIII, No. 4, 2010, 535-538.
27. A.R. Zurnachyan, R.A. Mnatsakanyan, Synthesis of Submicron Molybdenum Carbide under the Combustion Mode, II Scientific Conference of Armenian Chemical Society "The New Materials and Processes", Yerevan, Armenia, October 4-8, 2010, 98.
28. R.R. Grigoryan, L.A. Vartikyan, R.A. Mnatsakanyan, A.R. Zurnachyan, Methane Reforming on the Molybdenum Carbide, II Scientific Conference of Armenian Chemical Society "The New Materials and Processes", Yerevan, Armenia, October 4-8, 2010, 104.
29. A.R. Zurnachyan, R.A. Mnatsakanyan, Kh.V. Manukyan, S.L. Kharatyan, Combustion Synthesis of Submicron Molybdenum Carbide, XXI-st International Symposium on Combustion Processes, Międzyzdroje, Poland, September 14-17, 2010, 160-161.
30. Kh.V. Manukyan, S.L. Kharatyan, R.A. Mnatsakanyan, A. Zurnachyan, A. Voskanyan, V. Danghyan, Combustion Synthesis of Tungsten Containing Ceramic Materials, 12th International Ceramics Congress, Montecatini Terme, Tuscany, Italy, June 6-11, 2010, 42.
31. A.R. Zurnachyan, Kh.V. Manukyan, S.L. Kharatyan, R.A. Mnatsakanyan, Combustion Synthesized Tungsten Carbide as Catalyst for Isopropanol Dehydration, X International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2009), Tsakhkadzor, Armenia, 6-11 July, 2009, 222-223.
32. A.R. Zurnachyan, H.L. Khachatryan, S.L. Kharatyan, Chemically Activated Combustion Synthesis of SiC-Cu, SiC-Al Cermets, International Conference "Current Problems of Chemical Physics" dedicated the 100-year anniversary of academician A.B.Nalbandyan, Yerevan, Armenia, October 21-24, 2008, 132.
33. A.R. Zurnachyan, Kh.V. Manukyan, S.L. Kharatyan, R.A. Mnatsakanyan, Phase Formation Features During the Combustion of the WO₃-Mg-C System, International Conference "Current Problems of Chemical Physics" dedicated the 100-year anniversary of academician A.B.Nalbandyan, October 21-24, Yerevan, Armenia, 2008, 133.
34. A.R. Zurnachyan, H.L. Khachatryan, S.L. Kharatyan, Mechanically Activated SHS of Boron Carbide Fine Powders, International Conference "Nonisothermal Phenomena and Processes" dedicated the 75-year anniversary of academician A.G.Merzhanov, Yerevan, Armenia, 27 November-1 December, 2006, 98.
35. A.R. Zurnachyan, H.L. Khachatryan, S.L. Kharatyan, Synthesis of BN/B₄C Composite Powders under Activated Combustion Mode, First Armenian-Israel workshop, Yerevan, Armenia, September 26-29, 2005, 24.

CONFERENCES AND SEMINARS

Համահայկական գիտաժողով

[Երևան, Հայաստան, 17/11/2023 - 22/11/2023]

Համահայկական գիտաժողով

[Վանաձոր, Հայաստան, 26/09/2022 - 01/10/2022]

15th International Ceramics Congress (CIMTEC-2022)

[Montecatini Terme, Tuscany, Italy, 20/06/2022 - 24/06/2022]

The 2nd European Conference on Silicon and Silica Based Materials and the 6th International Conference on Competitive Materials and Technology Processes

[Hungary, 4/10/2021 - 8/10/2021]

XV International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2015)

[Moscow, Russia, 16/09/2019 - 20/09/2019]

Current problems of Chemical Physics

[Yerevan, Armenia, 25/09/2018 - 29/09/2018]

XIII International Symposium on Explosive Production of New Materials: Science, Technology, Business, and Innovations (EPNM-2016)

[Coimbra, Portugal, 20/06/2016 - 24/06/2016]

14th Conference of the European Ceramic Society (ECERS 2015)

[Toledo, Spain, 21/06/2015 - 25/06/2015]

13 International Ceramics Congress (CIMTEC-2014)

[Montecatini Terme, Tuscany, Italy, 08/06/2014 - 13/06/2014]

XII International Symposium on Self-propagating High Temperature Synthesis (SHS-2013)

[South Padre Island, TX, USA, 21/10/2013 - 24/10/2013]

International Conference "Current Problems of Chemical Physics" dedicated the 50-year anniversary of Institute of Chemical Physics NAS RA

[Yerevan, Armenia, 09/10/2012 - 12/10/2012]

Fifth International Symposium on "Non-Equilibrium Processes, Plasma, Combustion, and Atmospheric Phenomena" (NEPCAP 2012)

[Sochi (Loo), Russia, 01/10/2012 - 06/10/2012]

XI International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2011)

[Anavyssos, Attica, Greece, 05/09/2011 - 09/09/2011]

II Scientific Conference of Armenian Chemical Society, "The New Materials and Processes"

[Yerevan, Armenia, 04/10/2010 - 08/10/2010]

XXI-st International Symposium on Combustion Processes

[Międzyzdroje, Poland, 14/09/2010 - 17/09/2010]

12 International Ceramics Congress (CIMTEC-2010), Montecatini Terme, Tuscany, Ita

[Montecatini Terme, Tuscany, Italy, 06/06/2010 - 11/06/2010]

X International Symposium on Self-Propagating High-Temperature Synthesis (SHS-2009)

[Tsakhkadzor, Armenia, 06/07/2009 - 11/07/2009]

International Conference "Current Problems of Chemical Physics" dedicated the 100-year anniversary of academician A.B.Nalbandyan

[Yerevan, Armenia, 21/10/2008 - 24/10/2008]

International Conference "Nonisothermal Phenomena and Processes" dedicated the 75-year anniversary of academician A.G.Merzhanov

[Yerevan, Armenia, 27/11/2006 - 01/12/2006]

26-29 September, 2005 First Armenian-Israel workshop on Self-Propagating High Temperature Synthesis

[Yerevan, Armenia, 26/09/2005 - 29/09/2005]

LANGUAGE SKILLS

Mother tongue(s):
Armenian

Other language(s):
Russian

English

LISTENING C2 READING C2 WRITING C1

LISTENING B2 READING B2 WRITING B2

SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2

DIGITAL SKILLS

Microsoft Office, MS Word, MS Excel, MS Access, MS Power Point, HSC, CHEMIX, THERMO

ORGANISATIONAL SKILLS

Organisational skills

- Leadership (currently responsible for a team of 12 people)
- Good team leading and organisational skills gained as head of water department
- Good command of quality control process (currently responsible for quality of laboratory analyses).
- Good organisational skills related to data provision of laboratory analyses (currently responsible also for database)

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

- Good communication skills gained through my experience as head of water department
- Excellent contact skills with work colleagues, with international partners and scientists

OTHER SKILLS

Other skills

- Dancing: National dances
- Playing: Piano
- Reading
- Swimming