Khachik T. Nazaretyan

Date of birth: Aragatsotn region, Armenia, 28 April 1990
Citizenship: Republic of Armenia
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EDUCATION

01.09.2014-30.05.2016	Master student in Chemistry, Department of Chemistry, Yerevan State University
01.09.2008-30.05.2012	BSc in Chemistry, Department of Chemistry, Yerevan State University.

RESEARCH & WORKING EXPERIENCE

2014-2016	Laborant at the Laboratory of Kinetics of SHS processes, Institute of Chemical Physics, National Academy of Sciences of RA
2014 -2015	Security officer
2016-2021	Junior researcher at the Laboratory of Kinetics of SHS processes, Institute of Chemical Physics, National Academy of Sciences of RA
2021-	Researcher at the Laboratory of Kinetics of SHS processes, Institute of Chemical Physics, National Academy of Sciences of RA

AWARDS

2020 ARPA Institute Invention Competition,
IV place award

2018 ARPA Institute Invention Competition,
IV place award

2017 ARPA Institute Invention Competition,
I place award

Projects

2021 Faculty research grant (is implemented by Enterprise Incubator Foundation by the contributions from PMI Science)
"High-entropy (FeCoNiMnCu)O oxide by solution combustion synthesis and spark plasma sintering for magnetic applications"

2020 research grant from State Committee
of Science of the Republic of Armenia,
Project no. 20TTWS-2F040
"High entropy oxides by combustion synthesis and their sparkyconsolidation for magnetic and electrochemical applications"
Researcher

2019 Faculty research grant (is implemented by Enterprise Incubator Foundation by the contributions from PMI Science)
"Refractory high entropy alloys for high-temperature application"
Researcher

2019 research grant from the Armenian National Science and Education Fund (ANSEF),
(Project no. cheminorg-5246)
"Preparation of Ti6Al4V alloy by self-propagating high-temperature synthesis for 3D printing" Researcher

2019 research grant from State Committee

	of Science of the Republic of Armenia, Armenian-Belarusian project (Project no. 18BL-011) "The influence of Structure formation and properties of SHS-intermetallic materials with nanoadditives using ultrasonic activation" Researcher
2018	research grant from State Committee of Science of the Republic of Armenia, (Project no. 18T-1D051) Researcher
2015	State Committee of Science of the Republic of Armenia (Project no. 15T-1d196) Research Grant, researcher

LANGUAGES

Armenian (native), Russian (good)

COMPUTER SKILLS

MS Office, Photoshop,
MS Jade, ISMAN-Thermo software.

PUBLICATIONS, Articles

1. S. Aydinyan, H. Kirakosyan, O.Niazyan, M. Tumanyan, Kh. Nazaretyan, S. Kharatyan, Reaction pathway in the WO_3-CuO-Mg-C system at nonisothermal conditions, Armenian Journal of Physics, 2016, vol. 9, issue 1, pp. 83-88.

2. H.V. Kirakosyan, Kh.T. Nazaretyan, Kh.Gh. Kirakosyan, M.E. Tumanyan, S.V. Aydinyan, S.L. Kharatyan. "Nanosize Molybdenum Carbide Preparation by Sol-Gel Combustion Synthesis with Subsequent Fast Heating", Chem. J. Armenia, 2017, vol.70, No.1-2, pp 11-19

3. S.V. Aydinyan, Kh.T. Nazaretyan, A.G. Zargaryan, M.E. Tumanyan, S.L. Kharatyan. "Reduction Mechanism of WO_3+CuO Mixture by Combined Mg/C Reducer. Non Isothermal Conditions: High Heating Rates", J Thermal Analysis & Calorimetry, 2018, vol.133, issue 1, pp.261-269.

4. Kirakosyan, H. V., Kh T. Nazaretyan, R. A. Mnatsakanyan, Sofiya V. Aydinyan, and S. L. Kharatyan. "Solution combustion synthesis of nanostructured molybdenum carbide." Journal of Nanoparticle Research 20, no. 8 (2018): 214.

5. Khachatur V. Manukyan, Khachik Nazaretyan, Christopher E. Shuck, Hakob A. Chatilyan, Sergei Rouvimov, Suren L. Kharatyan, and Alexander S. Mukasyan. "Kinetics and Mechanism of Ignition in Reactive Al/Ni Nanostructured Materials". The Journal of Physical Chemistry C, 2018, 122 (47), pp.27082-27092.

6. Kamboj N, Aghayan M, Rubio-Marcos F, Nazaretyan K, Rodríguez MA, Kharatyan S, Hussainova I. Nanostructural evolution in mesoporous networks using in situ High-Speed Temperature Scanner. Ceramics International. 2018 Aug 1;44(11):12265-72.

7.Zakaryan MK, Nazaretyan KT, Aydinyan SV, Kharatyan SL. NiO reduction by Mg+ C combined reducer at high heating rates. Journal of Thermal Analysis and Calorimetry. 2020, pp. 1-7. doi:10.1007/s10973-020-10148-5

8. Nazaretyan KT, Kirakosyan HV, Aydinyan SV, Zakaryan MK, Abovyan LS, Kulak M, Khina B. The influence of high-energy ball milling and nanoadditives on the kinetics of heterogeneous reaction in Ni-Al system. In IOP Conference Series: Materials Science and Engineering 2021 May 1 Vol. 1140, No. 1, p. 012052. IOP Publishing, doi:10.1088/1757-899X/1140/1/012052

9. Zakaryan, M., Nazaretyan, K., Aydinyan, S., & Kharatyan, S. (2021). Joint Reduction of NiO/WO_3 Pair and $NiWO_4$ by Mg+ C Combined Reducer at High Heating Rates. *Metals*, *11*(9), 1351.

10. H.V. Kirakosyan, Kh. Nazaretyan, S.V. Aydinyan, S.L. Kharatyan. The Mechanism of Joint Reduction of MoO_3 and CuO by Combined Mg/C Reducer at High Heating Rates. J. Compos. Science, 2021, v. 5(12), p. 318. doi.org/10.3390/jcs5120318

11. Nazaretyan K., Kirakosyan H., Zakaryan M., Abovyan L., Volobujeva O., Aydinyan, S. (2022). The Interaction Pathway in the Mechano-Ultrasonically Assisted and Carbon-Nanotubes Augmented Nickel–Aluminum System. *Metals*, 2022, 12(3), 436.

CONFERENCES & SYMPOSIUMS

1. S. Aydinyan, H. Kirakosyan, O.Niazyan, M. Tumanyan, Kh. Nazaretyan, S. Kharatyan, Reaction pathway in the WO_3-CuO-Mg-C system at nonisothermal conditions, Abstract, ISTC International workshop " Ionizing and Non-Ionizing Radiation Influence on Structure and Biophysical Properties of Living Cells", Tsakhkadzor, 25-28 Sepetember, 2015, pp.94-95.

2. Kh. Nazaretyan, H. Kirakosyan, S. Aydinyan, S. Kharatyan. “Preparation of Nanosize Mo_2C by Combining Solution Combustion Synthesis with Subsequent Fast Heating”, Abstract, Journal of Thermal Analysis and Calorimetry (JTAC), 2017, june 6-9, Budapest, Hungary, p.58.

3. Kh. Nazaretyan, A. Zargaryan, S. Aydinyan, S. Kharatyan, Study of reduction mechanism of WO3+CuO mixture by combined Mg/C reducer – influence of high heating rate. Abstract, Journal of Thermal Analysis and Calorimetry (JTAC), 2017, june 6-9, Budapest, Hungary, p.206.

4. Kh. Nazaretyan, H. Kirakosyan, S. Aydinyan, S. Kharatyan. “Nanosized molybdenum carbide synthesized by Solution Combustion Synthesis with Subsequent thermal treatment”, XIV International Symposium on Self-Propagating High Temperature Synthesis, 25-28 September, 2017, Tbilisi, Georgia

5. Kh. Nazaretyan, H. Kirakosyan, S. Aydinyan. “Copper molybdate reduction by combined Mg/C reducer”, V Scientific Conference of the Armenian Chemical Society (with international participation), Erevan, 2017, oct. 3-7

6. H. Kirakosyan, Kh. Nazaretyan, Sofiya Aydinyan, Manvel Tumanyan, Suren Kharatyan. A New Synthesis Pathway for Molybdenum Carbide Nanopowder by Solution Combustion. The

International Conference Dedicated to the 50th Anniversary of Self-Propagating High Temperature Synthesis (SHS-50), Chernogolovka, Russia, 2017, nov. 20-21.

7. H.V. Kirakosyan, Kh.T. Nazaretyan, S.L. Kharatyan, Novel approach for Cu-Mo pseudoalloys preparation, V International Conference "Current problems of chemical physics", 25-29 September, 2018, Yerevan, Armenia.

8- M.K. Zakaryan, Kh.T. Nazaretyan, O.M. Niazyan, S.L. Kharatyan, Kinetics of Nickel Oxide Reduction by Mg/C Combined Reducer at Non-Isothermal Conditions, V International Conference "Current problems of chemical physics" 25-29 September, 2018, Yerevan, Armenia, pp. 78-79.

9. Kh. Nazaretyan, H. Kirakosyan, S. Aydinyan, "Preparation of Mo-Cu pseudoalloy from $CuMoO_4$ precursor by combining sol-gel method and SHS", XV International Symposium on Self-Propagating High Temperature Synthesis, 16-20 September, 2019, Russia, Moscow, pp.165-168.

10. Kh. Nazaretyan, M. Zaqaryan, S. Aydinyan, S. Kharatyan "Joint Reduction of $NiO+WO_3$ Oxides by Combined Mg/C Reducer. Synergetic Effect", XV International Symposium on Self-Propagating High Temperature Synthesis, 16-20 September, 2019, Russia, Moscow, pp. 546-548

11. Kh. Nazaretyan, H. Kirakosyan, S. Aydinyan, "Solution combustion synthsis of copper molybdate nanopowder", VI Scientific Conference of the Armenian Chemical Society, Erevan, 2019, oct. 7-12

12. Kh. Nazaretyan, H. Kirakosyan, S. Aydinyan, "Preparation of Ti-Al-V alloy by self-propagating high-temperature synthesis", VI Scientific Conference of the Armenian Chemical Society, Erevan, 2019, oct. 7-12

13. Kh T Nazaretyan, H V Kirakosyan, S V Aydinyan, M K Zakaryan, L S Abovyan, M Kulak, B Khina, The influence of high-energy ball milling and nanoadditives on the kinetics of heterogeneous reaction in Ni-Al system, Modern Materials and Manufacturing (MMM-2021), April 27-29, Tallinn, Estonia

RESEARCH SKILLS

Synthesis and characterization of nanomaterials, combustion synthesis (CS) of biomaterials, metals and alloys and characterization by X-ray diffraction, scanning electron microscope, gas-chromatography, chemical analysis method. I have been worked with some physico-chemical methods for materials characterization, such as by X-ray diffraction, scanning electron microscope, gas-chromatography, chemical, adsorption, spectrophotometric analysis and thermal analysis methods.\