Amirkhanyan Narine

Personal Information:

Date of birth: 28 October 1987
Place of birth: Gavar, Armenia
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Education

2020 to present-Institute of Chemical Physics, Laboratory of Macrokinetics of Solid State Reactions, PhD student

2009-2011-Yerevan State University, the Faculty of Chemistry, the department of Inorganic Chemistry, Master's degree

2005-2009-Yerevan State University, the Faculty of Chemistry, the department of Chemistry, Bachelor's degree

Professional Experience

2021 September to present - A.B. Nalbandyan Institute of Chemical Physics National Academy of Sciences of RA, Laboratory of Macrokinetics of Solid State Reactions, Research Group of Advanced Material's Physical Chemistry and Engineering, Researcher

2021 July to 2021 September -A.B. Nalbandyan Institute of Chemical Physics National Academy of Sciences of RA, Laboratory of Kinetics of SHS Processes, Junior Researcher

2010 August to 2011 August- Scientific Technological Center of Organic and Pharmaceutical Chemistry, Junior Researcher

Awards

2023 - Certificate for the Best poster presentation, "Synthesis of Intermetallic Ni_3Fe compound for Magnetic Applications by Solution Combustion Synthesis Method" New Emerging Trends in Chemistry Conference (NewTrendsChem-2023), 24-28 September, 2023, Yerevan, Armenia

2022 –Certificate for the first place awarded from ARPA Institute Invention Competition - "Solution combustion synthesis as a method of preparing antiperovskite nitrides such as superconductive Ni_3CuN"

2011 - Certificate for the first place awarded from ARPA Institute Invention Competition - "Novel porous Ni Zr-based biomaterials for orthopedic applications"

Research Grants

- HESC research grant - 24WS-2F013 - "Ultra–High–Temperature Complex Borides: A New Class of Materials for Extreme Environments", PI, 45 000 000 AMD, 2024-2027
- Horizon Europe research grant - The European Commission BEETHOVEN Project 101129912 - "Substitution of Rare-Earths for Advanced Novel Magnets in Energy and Transport Applications", Investigator, 6 759 523.25 Eur (252 250 Eur), 2024-2028
- HESC research grant - 1-22/23LCG-2F001 - "Bioinspired nacre-like architectured high entropy MAX phases for renewable energy", Investigator, 176 000 000 AMD, 2023-2028
- PHD support program-2022 implemented by Enterprise Incubator Foundation (EIF) with support of Philip Morris International (PMI) Science - "Preparation of Nanoscale Ni-Co Composite Material by Solution Combustion Syntheses Method" - 4 320 000 AMD
- Faculty Research Funding Program implemented by Enterprise Incubator Foundation (EIF) with support of Philip Morris International (PMI) Science - "Preparation of Superconductive Ni_3CuN Antiperovskite Nitride as a Battery Material", PI, 8 820 000 AMD, 2022
- SC research grant - 21T-1D227 - "Nanoscale Antiperovskite Magnetic Materials: Synthesis and Function", Investigator, 13 800 000 AMD, 2021-2023
- SC research grant - 20TTSG-2E003 - "Bamboo-like hierarchical microstructure inspiring silicon and boron carbides by combustion synthesis with reactions thermokinetic coupling approach", Investigator, 55 000 000 AMD, 2020-2023

Computer Skills

MS Word, MS Excel, MS Access, MS PowerPoint, Photoshop, Isman Thermo Software, ImageJ, MS Jade, HSC-5, Prefix, Origin, Chemix, Internet, ImageJ

Language Skills

Armenian - fluent, native, Russian – C1, English – B1

Publications: Articles

2024- N. Amirkhanyan, M. Zakaryan, S. Kharatyan, A. Yeghishyan, M. Zhukovsky, A. Aprahamian, K. Manukyan, Stabilization of metastable γ-co: Combustion synthesis and rapid

processing, Materials Chemistry and Physics, 319, (2024), 129368, (IF=4.6), https://doi.org/10.1016/j.matchemphys.2024.129368

2024- N. Amirkhanyan, Solution Combustion Synthesis and Kinetic Measurements in $Ni(NO_3)_2$–$C_6H_8O_7$ System. Preparation of Nickel Powder, International Journal of Self-Propagating High-Temperature Synthesis,33(2), 2024, 100-108, (IF=0.6), https://doi.org/10.3103/S10613862247000318

2024- H. Kirakosyan, K. Nazaretyan; N. Amirkhanyan, H. Beglaryan, S. Aydinyan, A novel pathway of solution combustion synthesis of silicon carbide and SiC based composite whiskers AIP Conf. Proc., 2989, 2024, 040009

2023- N. Amirkhanyan, Y. Grigoryan, M. Zakaryan, A. Kharatyan, H. Gyulasaryan, A. Harutyunyan, Preparation of the Ferromagnetic Intermetallic Compound Ni_3Fe by Solution Combustion Synthesis, Journal of Contemporary Physics (Armenian Academy of Sciences), 58 (3), (2023) 299-304, (IF=0.6)

2023- M. Zakaryana, N, Amirkhanyanb, K. Nazaretyan , S. Kharatyan, K. Manukyan, Combustion synthesis mechanism of the $Ni(NO_3)_2$ + hexamethylenetetramine solutions to prepare nickel nanomaterials, Combustion and Flame Journal, 257 (2023) 113049. (IF=4.4)

2023- N. Amirkhanyan, H. Kirakosyan, M. Zakaryan, A. Zurnachyan, M. Rodriguez, L. Abovyan, S. Aydinyan, Sintering of silicon carbide obtained by combustion synthesis, Ceramics International, 49(15) 2023, 26129-26134. (IF=5.532)

2023-A. Arzumanyan, N. Amirkhanyan, Y. Grigoryan, S. Kharatyan, DTA/TG Study of the Interaction in the Nickel Nitrate Hexahydrate–Hexamethylenetetramine System, Russian Journal of Physical Chemistry B, 17(1) 2023, 122-127. (IF=1.4)

2022-M. Zakaryan, A. Zurnachyan, N. Amirkhanyan, H. Kirakosyan, M. Antonov, M. Rodriguez, S. Aydinyan, Novel Pathway for the Combustion Synthesis and Consolidation of Boron Carbide, Materials,15(14) 2022, 1-13. (IF=1.4)

2020-N. Amirkhanyan, S. Kharatyan, Kh. Manukyan, A. Aprahamian, Thermodynamics and kinetics of solution combustion synthesis: $Ni(NO_3)_2$+fuels systems, Combustion and Flame Journal, 221 (2020) 110-119. (IF=4.185)

2012-L. Apresyan, N. Amirkhanyan, R. Grigoryan, N. Sarkisyan,, K. Manukyan, S.L. Kharatyan, R.M. Aroutiounian, G.H. Gasparyan. In vitro study on biocompatibility of new porous NiZr alloy as potential biomaterial", New Armenian Medical Journal, 6(1) (2012)20-25. (IF=0.121)

2010-K. Manukyan, N. Amirkhanyan, S. Aydinyan, V. Danghyan, R. Grigoryan, N. Sarkisyan, G. Gasparyan, R. Aroutiounian, S. Kharatyan, Novel NiZr-based porous biomaterials: Synthesis and in vitro testing, Chemical Engineering Journal 162 (2010) 406-414. (IF=3.621)

Publications: Abstracts & Conference Proceedings

2024-N. Amirkhanyan, M. Zakaryan, K. Manukyan , S. Kharatyan, The kinetics and mechanism of solution combustion synthesis in Ni(NO3)2 + hexamethylenetetramine and Co(NO3)2 + hexamethylenetetramine systems, XVI International Symposium on SHS 2024 Book of Abstracts, 86, Armenia,Yerevan, 9-13 September

2024- M. Zakaryan, N. Amirkhanyan, K. Manukyan, S. Kharatyan, Solution Combustion Synthesis of Ni_3CuN Complex Nitride: Reaction Mechanism, XVI International Symposium on SHS 2024 Book of Abstracts, 16, Armenia,Yerevan, 9-13 September

2023-Կիրակոսյան Հ., Ամիրխանյան Ն., Զաքարյան Մ., Զուռնաչյան Ա., Այդինյան Ս., "Բամբուկանման հիերարխիկ միկրոկառուցվածքով սիլիցիումի եվ բորի կարբիդների ստացումն այրման ռեժիմում՝ ռեակցիաների ջերմակինետիկական զուգորդման մոտեցմամբ", 137, 17-23 նոյեմբեր, Հայաստան, երևան

2023- Н. Амирханян, "Получение метастабильного кобальта синтезом горением растворов", Академический форум молодых ученых, 1-4 ноября, 2023, Россия, Москва

2023- H. Kirakosyan, K. Nazaretyan, N. Amirkhanyan, H. Beglaryan, S. Aydinyan, SiC Based Composite Whiskers preparation by combining solution combustion synthesis and self-propagating high temperature synthesis, New Emerging Trends in Chemistry Conference (NewTrendsChem-2023), 24-28 September, 2023, Yerevan, Armenia, p.109 (poster presentation)

2023- M.K. Zakaryan, N.H. Amirkhanyan, Solution Combustion Synthesis of the Ni_3CuN Antiperovskite Battery Material, New Emerging Trends in Chemistry Conference (NewTrendsChem-2023), 24-28 September, 2023, Yerevan, Armenia, p.70 (oral presentation)

2023-N.H. Amirkhanyan, M.K. Zakaryan, Synthesis of Intermetallic Ni_3Fe compound for Magnetic Applications by Solution Combustion Synthesis Method, New Emerging Trends in Chemistry Conference (NewTrendsChem-2023), 24-28 September, 2023, Yerevan, Armenia, 107, (poster presentation)

2023- H. Kirakosyan, K. Nazaretyan, N. Amirkhanyan, H. Beglaryan, S. Aydinyan, Silicon carbide whiskers by solution combustion synthesis with subsequent fast heating, Modern Materials and Manufacturing (MMM-2023), 25–27 April, 2023, Tallinn, Estonia

2022-N. Amirkhanyan, M.Zakaryan, A.Harutyunyan, Synthesis of Nanoscale Antiperovskite Complex Nitrides for Catalytic and Magnetic Applications, 15th International Ceramics Congress, 20-24 June, 2022 Italy (poster presentation)

2022- M. Zakaryan, N. Amirkhanyan, H. Kirakosyan, A. Zurnachyan, S. Aydinyan, Combustion Synthesis of Nanoscale Boron and Silicon Carbides", 15th International Ceramics Congress, 20-24 June, 2022 Italy(oral presentation)

2021-N. Amirkhanyan, H. Kirakosyan , M. Zakaryan, A. Zurnachyan, S. Aydinyan, Self-Propagating High-Temperature Synthesis of Silicon Carbide Using Reactions Thermokinetic Coupling Approach, 2nd European Conference on Silicon and Silica Based, 4-8 October, 2021, Hungary, 118 (oral presentation)

2019-N. Amirkhanyan, S. Kharatyan, K. Manukyan, Kinetic Measurements for solution combustion synthesis, XV International Symposium on Self-Propagation High-temperature Synthesis, 16-20 September, 2019, Moscow, Russia (poster presentation)

2011-K. Kirakosyan, N. Amirkhanyan, A. Yegishyan, K. Manukyan, S. Kharatyan, New technology for porous alloys fabrication, Tenth International Conference on Material Chemistry (MC10), 4-7 July, 2011, Manchester, UK

2011-K. Kirakosyan, N. Amirkhanyan, A. Yegishyan, K. Manukyan, S. Kharatyan, J. Bossert, Combusion synthesis of porous Zirconium alloy with controlled properties, XI International Symposium on Self-Propagation High-temperature Synthesis, 2011, Athens, Greece

2009-N. Amirkhanyan, K. Asatryan, V. Danghyan, K. Manukyan, S. Kharatyan, The effect of Co_3O_4 amount on the combustion process in the Zr-Co_3O_4 system", X International Symposium on Self-Propagation High-temperature Synthesis, 6-11 July, 2009, Tsakhadzor, Armenia, pp 259-260

2009-N., Amirkhanyan, V. Danghyan, Y. Grigoryan, O. Niazyan, K. Manukyan, S. Kharatyan, Phase formation mechanism at chemically activated combustion of Zr+Ni mixtures, X International Symposium on Self-Propagation High-temperature Synthesis, 6-11 July, 2009, Tsakhadzor, Armenia, pp. 143-144