



Artem Pogodin

Date of birth: 08/09/1988

Nationality: Ukrainian

Sex: Male

CONTACT

Universytetska Str., 10,
88000 Uzhhorod, Ukraine
(Home)

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WORK EXPERIENCE

2023 – CURRENT Uzhhorod, Ukraine

Associate professor of the Department of Inorganic Chemistry Uzhhorod National University

Teaching of Inorganic Chemistry and Materials Chemistry. Supervision of research work of students

2021 – CURRENT Uzhhorod, Ukraine

Senior researcher of the Department of Inorganic Chemistry Uzhhorod National University

Performing research in experimental, solid state chemistry and material science

2018 – 2021 Uzhhorod, Ukraine

Senior researcher of «Research Institute of Physics and Chemistry of Solid States» Uzhhorod National University

Performing research in experimental, solid state chemistry and material science.

2016 – 2018 Uzhhorod, Ukraine

Researcher of «Research Institute of Physics and Chemistry of Solid States» Uzhhorod National University

Performing research in experimental, solid state chemistry and material science.

2013 – 2016 Uzhhorod, Ukraine

Junior Researcher Uzhhorod National University

Performing research in experimental, solid state chemistry and material science.

EDUCATION AND TRAINING

2016 Uzhhorod, Ukraine

Doctor of Philosophy (Ph. D.) Uzhhorod National University

Performing research in experimental, solid state chemistry and material science. Thesis title: The Cu_2S – CuBr(I) –“ P_2S_5 ” system: phase equilibrium, obtaining and properties of intermediate phases (Pohodin Artem Ihorovych)

Address Pidhirna Str.46, 88000, Uzhhorod, Ukraine | **Website** <https://www.uzhnu.edu.ua/en/> | **Final grade** Doctor of Philosophy (Ph. D.)

2010 – 2013 Uzhhorod, Ukraine

Postgraduate studies Uzhhorod National University

Performing research in experimental, solid state chemistry and material science.

Address Pidhirna Str.46, , 88000, Uzhhorod, Ukraine | **Website** <https://www.uzhnu.edu.ua/en/>

2009 – 2010 Uzhhorod, Ukraine

● **Master of Science in Chemistry** Uzhhorod National University

Guided scientific research in the Inorganic Chemistry.

Address Pidhirna Str.46,, 88000, Uzhhorod, Ukraine | **Website** <https://www.uzhnu.edu.ua/en/>

2005 – 2009 Uzhhorod, Ukraine

● **Bsc degree in Chemistry** Uzhhorod National University

Address Pidhirna Str.46,, 88000, Uzhhorod, Ukraine | **Website** <https://www.uzhnu.edu.ua/en/>

LANGUAGE SKILLS

MOTHER TONGUE(S): Ukrainian

Other language(s):

English

Listening B1

Spoken production A2

Reading B1

Spoken interaction A2

Writing A2

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user

DIGITAL SKILLS

VESTA software | Rietveld Refinement | Microsoft Office | Miktex Latex | ZView | CorelDraw Graphics Suite
Findit | Origin 2015 | Powder cell 2.4 | AMSCOPE

SOCIAL SKILLS AND COMPETENCES

Good ability to research team work

ORGANISATIONAL SKILLS AND COMPETENCES

Experience in project management

TECHNICAL SKILLS AND COMPETENCES

Experience in written and oral presentation of scientific results

ADDITIONAL INFORMATION

2013 – CURRENT

● **Additional information**

h-index=12, 90 papers in international journals, indexed in Scopus database, 455 citations;
120 patents of Ukraine, more than 60 oral or poster presentations at international conferences.

PUBLICATIONS

● **List of selected publications Q1 and Q2 level (Scimago)**

- Pogodin A., Filep M., Malakhovska T, Vakulchak V, Komanicky V., Vorobiov S., Izai V., Satrapinsky L., Shender I., Bilanych V., Kokhan O., Kúš P. Microstructural, mechanical properties and electrical conductivity of $\text{Ag}_{7-x}\text{Ge}_x\text{S}_5\text{I}$ -based ceramics. Ionics. 2024. Vol.30. P. 3339 – 3356. <https://doi.org/10.1007/s11581-024-05513-5>
- Pogodin A., Filep M., Malakhovska T, Komanicky V., Vorobiov S., Bilanych V., Kokhan O. Obtaining of disordered highly ionic conductive $\text{Ag}_{7+x}(\text{P}_{1-x}\text{Si}_x)\text{S}_6$ single crystalline materials. Materials Research Bulletin. 2024. Vol. 179. No. 112953. <https://doi.org/10.1016/j.materresbull.2024.112953>
- Pogodin A., Filep M., Malakhovska T., Vakulchak V., Komanicky V., Vorobiov S., Izai V., Satrapinsky L., Shender I., Bilanych V., Kokhan O., Kúš P. Recrystallization and heterovalent substitution effects on mechanical and electrical parameters of $\text{Ag}_{6+x}(\text{P}_{1-x}\text{Ge}_x)\text{S}_5\text{I}$ -based ceramics. Journal of the European Ceramic Society. 2024. Vol. 44(6). P. 4097-4110. <https://doi.org/10.1016/j.jeurceramsoc.2023.12.093>
- Pogodin A.I., Pop M.M., Shender I.A., Filep M.J., Malakhovska T.O. Vakulchak V.V., Kokhan O.P., Bletska D., Rubish V.M., Lisý V., Tóthová J. Band structure and optical properties of low temperature modification of Ag_7PS_6 single crystal. Journal of Materials Science: Materials in Electronics. 2023. Vol. 34. № 1508. <https://doi.org/10.1007/s10854-023-10916-7>

- Pogodin A., Filep M., Malakhovska T., Vakulchak V., Komanicky V., Vorobiov S., Izai V., Satrapinsky L., Shender I., Bilanych V., Kokhan O., Kúš P. Crystallite size and recrystallization effect on electrical parameters of highly ion-conductive $\text{Ag}_7\text{Si}_{0.4}\text{Ge}_{0.6}\text{S}_5\text{I}$ ceramics. *Journal of Materials Science: Materials in Electronics*. 2023. Vol. 34. № 1865. <https://doi.org/10.1007/s10854-023-11364-z>
- Pogodin A., Filep M., Malakhovska T., Vakulchak V., Komanicky V., Vorobiov S., Izai V., Shender I., Bilanych V., Kokhan O., Kúš P. Recrystallization effect on mechanical parameters and increasing of Ag^+ ionic conductivity in $\text{Ag}_7(\text{Si}_{1-x}\text{Ge}_x)\text{S}_5\text{I}$ ceramic materials. *Solid State Sciences*. 2023. Vol. 140. № 107203. <https://doi.org/10.1016/j.solidstatesciences.2023.107203>
- Pogodin A., Filep M., Malakhovska T., Vakulchak V., Komanicky V., Vorobiov S., Izai V., Satrapinsky L., Shender I., Bilanych V., Kokhan O., Kúš P. Influence of recrystallization process on ionic conductivity of $\text{Ag}_{6.75}\text{P}_{0.25}\text{Ge}_{0.75}\text{S}_5\text{I}$ based ceramic materials. *Ceramics International*. 2023. Vol. 49 (21). P. 33764-33772. <https://doi.org/10.1016/j.ceramint.2023.08.068>
- Pogodin A., Pop M., Shender I., Filep M., Malakhovska T., Kokhan O., Izai V., Kúš P., Rubish V. Anionic framework descriptors and microstructure affects on optical parameters of $\text{Ag}_{7+x}(\text{P}_{1-x}\text{Ge}_x)\text{S}_6$ single crystals. *Optical Materials*. 2023. Vol. 145. № 114407. <https://doi.org/10.1016/j.optmat.2023.114407>
- Studenyak I.P., Pogodin A.I., Shender I.A., Studenyak V.I., Filep M.J., Symkanych O.I., Kokhan O.P., Kúš P. Electrical properties of ceramics based on $\text{Ag}_7\text{TS}_5\text{I}$ (T = Si, Ge) solid electrolytes. *Journal of Solid State Chemistry*. 2022. Vol. 309. № 122961. <https://doi.org/10.1016/j.jssc.2022.122961>
- Pogodin A.I., Studenyak I.P., Shender I.A., Pop M.M., Filep M.J., Malakhovska T.O., Kokhan O.P., Kopčanský P., Babuka T.Y. Crystal structure, ion transport and optical properties of new high-conductivity $\text{Ag}_7(\text{Si}_{1-x}\text{Ge}_x)\text{S}_5\text{I}$ solid solutions. *Journal of Materials Science*. 2022. Vol. 57. P. 6706–6722. <https://doi.org/10.1007/s10853-022-07059-1>
- Studenyak I.P., Pogodin A.I., Studenyak V.I., Kokhan O.P., Azhniuk Y.M., Solonenko D., Daróczy L., Kökényesi S., Zahn D.R.T. Structural, electrical and optical properties of ion-conducting $\text{Na}_6\text{PS}_5\text{Cl}$, $\text{Na}_6\text{PS}_5\text{Br}$, and $\text{Na}_7\text{P}_6\text{S}_6$ compounds. *Journal of Physics and Chemistry of Solids*. 2021. Vol. 159. № 110269. <https://doi.org/10.1016/j.jpcs.2021.110269>
- Cherniushok O., Parashchuk T., Tobola J., Luu S.D.N., Pogodin A., Kokhan O., Studenyak I., Barchiy I., Piasecki M., Wojciechowski K.T. Entropy-induced multivalley band structures improve thermoelectric performance in $\text{p-Cu}_7\text{P}(\text{S}_x\text{Se}_{1-x})_6$ argyrodites. *ACS Applied Materials and Interfaces*. 2021. Vol. 13 (33). P. 39606 – 39620. <https://doi.org/10.1021/acsami.1c11193>
- Studenyak I.P., Pogodin A.I., Filep M.J., Symkanych O.I., Babuka T.Y., Kokhan O.P., Kúš P. Influence of heterovalent cationic substitution on electrical properties of $\text{Ag}_{6+x}(\text{P}_{1-x}\text{Ge}_x)\text{S}_5\text{I}$ solid solutions. *Journal of Alloys and Compounds*. 2021. Vol. 873. № 159784. <https://doi.org/10.1016/j.jallcom.2021.159784>
- Kavaliukė V., Šalkus T., Balčiūnas S., Banyš J., Pogodin A.I., Kokhan O.P., Studenyak I.P. Electrical properties of $(\text{Cu}_{1-x}\text{Ag}_x)_7\text{GeS}_5\text{I}$ crystals investigated by impedance spectroscopy. *Solid State Ionics*. 2021. Vol. 363, № 115593. <https://doi.org/10.1016/j.ssi.2021.115593>
- Studenyak I.P., Pogodin A.I., Studenyak V.I., Filep M.J., Kokhan O.P., Kúš P., Azhniuk Y.M., Zahn D.R.T. Structure, electrical conductivity, and Raman spectra of $(\text{Cu}_{1-x}\text{Ag}_x)_7\text{GeS}_5\text{I}$ and $(\text{Cu}_{1-x}\text{Ag}_x)_7\text{GeSe}_5\text{I}$ mixed crystals. *Materials Research Bulletin*. 2021. Vol. 135. №111116. <https://doi.org/10.1016/j.materresbull.2020.111116>
- Studenyak I.P., Pogodin A.I., Luchynets M.M., Filep M.Y., Kohutych A.A., Malakhovska T.O., Kokhan O.P., Sabov M.Y., Kúš P. Influence of heterovalent substitution on structural, electrical and thermoelectric properties of $\text{Cu}_{7-x}\text{PS}_{6-x}\text{Br}_x$ solid solutions. *Journal of Physics and Chemistry of Solids*. 2021. Vol. 150. № 109855. <https://doi.org/10.1016/j.jpcs.2020.109855>
- Studenyak I.P., Pogodin A.I., Shender I.A., Bereznyuk S.M., Filep M.J., Kokhan O.P., Kúš P. Preparation and electrical conductivity of $(\text{Cu}_{0.5}\text{Ag}_{0.5})_7\text{SiS}_5\text{I}$ -based superionic ceramics. *Journal of Alloys and Compounds*. 2021. Vol. 854, № 157131. <https://doi.org/10.1016/j.jallcom.2020.157131>
- Studenyak I.P., Pogodin A.I., Luchynets M.M., Studenyak V.I., Kokhan O.P., Kúš P. Impedance studies and electrical conductivity of $(\text{Cu}_{1-x}\text{Ag}_x)_7\text{GeSe}_5\text{I}$ mixed crystals. *Journal of Alloys and Compounds*. 2020. V.817, №152792. <https://doi.org/10.1016/j.jallcom.2019.152792>
- Studenyak I.P., Pogodin A.I., Studenyak V.I., Izai V.Yu., Filep M.J., Kokhan O.P., Kranjčec M., Kúš P. Electrical properties of copper- and silver-containing superionic $(\text{Cu}_{1-x}\text{Ag}_x)_7\text{SiS}_5\text{I}$ mixed crystals with argyrodite structure. *Solid State Ionics*. 2020. V.345. №115183. <https://doi.org/10.1016/j.ssi.2019.115183>
- Pogodin A.I., Filep M.J., Malakhovska T.O., Sabov M.Yu., Sidey V.I., Kokhan O.P., Studenyak I.P. The copper argyrodites $\text{Cu}_{7-n}\text{PS}_{6-n}\text{Br}_n$: Crystal growth, structures and ionic conductivity. *Solid State Ionics*. 2019. V.341. №115023. <https://doi.org/10.1016/j.ssi.2019.115023>
- Liubachko V., Oleaga A., Salazar A., Kohutych A., Glukhov K., Pogodin A., Vysochanskii Yu.. Cation role in the thermal properties of layered materials $\text{M}^{1+}\text{M}^{3+}\text{P}_2(\text{S}, \text{Se})_6$ ($\text{M}^{1+} = \text{Cu}, \text{Ag}$; $\text{M}^{3+} = \text{In}, \text{Bi}$). *Physical review materials*. 2019. V.3, 104415. <https://doi.org/10.1103/PhysRevMaterials.3.104415>

- Mys O., Martynyuk-Lototska I., Pogodin A., Dudok T., Adamenko D., Krupych O., Skab I., Vlokh R. Acousto-optic interaction between circularly polarized optical eigenwaves: example of AgGaS₂ crystals. Appl. Opt. 2019. V.58, P. 6012-6018. <https://doi.org/10.1364/AO.58.006012>
- Studenyak I.P., Luchynets M.M., Izai V.Yu., Pogodin A.I., Kokhan O.P., Azhniuk Yu.M., Zahn D.R.T. Structural and optical properties of (Cu₆PS₅Br)_{1-x}(Cu₇PS₆)_x mixed crystals. Journal of Alloys and Compounds. 2019. V. 782, P 586-591. <https://doi.org/10.1016/j.jallcom.2018.12.214>
- Studenyak I.P., Pogodin A.I., Kokhan O.P., Kavaliukè V., Šalkus T., Kežionis A., Orliukas A.F. Crystal growth, structural and electrical properties of (Cu_{1-x}Ag_x)₇GeS₅I superionic solid solutions. Solid State Ionics. 2019. V.329. P 119-123. <https://doi.org/10.1016/j.ssi.2018.11.020>
- Studenyak I.P., Kranjčec M., Izai V.Yu., Studenyak V.I., Pogodin A.I., Kokhan O.P. Phase transition and optical absorption edge in (Cu₆PS₅Br)_{1-x}(Cu₇PS₆)_x mixed crystals. J. Alloys and Compounds. 2018. Vol.735. P. 417-421. <https://doi.org/10.1016/j.jallcom.2017.11.144>
- Liubachko V., Shvalya V., Oleaga A., Salazar A., Kohutych A., Pogodin A., Vysochanskii Yu.M. Anisotropic thermal properties and ferroelectric phase transitions in layered CuInP₂S₆ and CuInP₂Se₆ crystals. Journal of Physics and Chemistry of Solids. 2017. V.111. P. 324-327. <https://doi.org/10.1016/j.jpcs.2017.08.013>

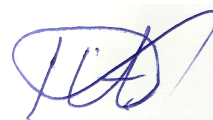
GRANTS

- "New ferroic, chalcogenide crystals for highly efficient acousto-optic control of optical radiation" / "Technology of growth, production and properties of Tl₃BX₄ Tl₃BX₃ and TlBX₂ (B=As, P, In, X=S, Se) single crystals" (2014-2016, state registration number 0114U004324/0114U005093), Junior Researcher, Ukraine;
- "Order-disorder processes in new amorphous superionic conductors based on compounds with the argyrodite structure" (2015–2017, state registration number 0115U001100), Junior Researcher, Researcher, Ukraine;
- "New functional materials in A^{I,III}-B^{IV,V}-Se systems (A^{I,III}-Tl,Cu,Ag,In, B^{IV,V}-Sn,Pb,Sb,Bi): phase diagrams, technology, properties" (2017-2019, state registration number 0117U000380), Researcher, Senior researcher, Ukraine;
- "Development and research of new composite and ceramic materials based on copper- and silver-containing argyrodites" (2018-2020, state registration number 0118U000171), Senior researcher, Ukraine;
- "Thermoelectric materials based on modified Thallium(I)- and Copper(I)-containing chalcogenides" (2017-2020, state registration number 0117U007146), Researcher, Senior researcher, Ukraine;
- "Effective ecology friendly thermoelectric materials in multicomponent selenide systems" (2020-2022, state registration number 0120U102245), Senior researcher, Ukraine;
- "New superionic conductors based on argyrodites for highly efficient solid electrolytic energy sources" (2021-2023, state registration number 0121U109484), Senior researcher, Ukraine;
- "New highly efficient Ag⁺ conductive materials based on compounds of the argyrodite structure" (2021-2023, state registration number 0121U107680), Senior researcher, Ukraine;
- "Ecology friendly Ag conductive solid electrolytes for the latest energy storage systems" (2022-2024, state registration number 0122U000934), Senior researcher, Ukraine;
- "Development of the technology of growing and modification of wire silicon crystals" (2019, state registration number 0119U103212), Senior researcher, Ukraine.

AWARDS

- Laureate of the Prize of the President of Ukraine for young scientists (Decree of the President of Ukraine of 17.11.2016 No 509/2016),
- "Scholar of the Cabinet of Ministers of Ukraine for young scientists" (2016-2018, 2020-2022, 2022-Current).

Uzhhorod, 14/09/2024



Artem Pogodin