

Sergey Solomevich, PhD

Assistant Professor of Medicine
The Warren Alpert Medical School of Brown University
Providence, RI, USA
+17342741790
ssolomevich@brown.edu

RESEARCH SUMMARY

My research focuses on the design and translational development of mechanism-based platforms for cardiovascular and inflammatory diseases. I integrate biomaterials engineering, chemical biology, lipid science, and nanotechnology to develop advanced lipid- and polymer-based therapeutics, including synthetic lipoproteins, nanoparticles, hydrogels, injectable biomaterials, and transdermal delivery systems. Using targeted LC-MS/MS-based lipidomics and metabolomics together with functional biological models, I investigate how biomaterials and bioactive lipids regulate inflammation, thrombosis, immune responses, and tissue repair to accelerate the development of next-generation therapeutics.

EDUCATION

Belarusian State University, Minsk, Belarus

Ph.D. in Polymer Chemistry 2012 - 2018

Dissertation: "Hydrogels based on modified dextran for the controlled delivery of prospidin and cisplatin", Advisor: Dr. Pavel Bychkousky

M.S. in Polymer Chemistry 2011 - 2012

B.S. in Chemistry 2006 - 2011

RESEARCH APPOINTMENTS

Brown University, Providence, RI, USA

The Warren Alpert Medical School

Assistant Professor of Medicine 2026 - Present

Brown University Health Cardiovascular Institute, Providence, RI, USA

Cardiovascular Research Center

Research Scientist 2024 - Present

University of Michigan, Ann Arbor, MI, USA

Department of Pharmaceutical Sciences

Anna Schwendeman's lab

Research Fellow 2022 - 2024

Postdoctoral Research Fellow 2021 - 2022

Belarusian State University, Minsk, Belarus

Research Institute for Physical and Chemical Problems

Laboratory of polysaccharides chemistry

Senior Researcher / Group leader 2018 - 2021

Researcher 2016 - 2018

Junior Researcher 2011 - 2016

TEACHING EXPERIENCE

Johnson & Wales University, Providence, RI, USA

Department of Chemistry

Adjunct Faculty, Instructor for General Chemistry I Laboratory 2025 - Present

University of Michigan, Ann Arbor, MI, USA

Contemporary Pharmaceutical Research (undergraduate course)

2024

Belarusian State University, Minsk, Belarus

Polymer Chemistry (undergraduate course)

Fall 2015

Polymer Materials for Medical Purposes (undergraduate course)

Spring 2014

INDUSTRIAL EXPERIENCE

The Unitechprom BSU educational and research-production unitary enterprise, Service of medicines, Minsk, Belarus

Authorized Person for Quality
Lead Chemical Engineer

2018 - 2021
2012 - 2018

RESEARCH FUNDING

Current

AHA Career Development Award (PI), 04/2026–03/2029, \$231,000. *Anti-Inflammatory Role of Omega-3 HDL in Monocyte Function and Atherosclerosis Progression.*

CPVB COBRE Pilot Project (Co-Investigator), 2025–2026, \$75,000. *Omega-3 Fatty Acids in Arrhythmic Remodeling of the Atria and Ventricles.*

Intergovernmental Personnel Act (IPA) Award, U.S. Department of Veterans Affairs, 2026–2028, \$21,765.

In Preparation

NIH R01 (Co-Investigator, Revised application in preparation). *Targeting Dicarbonyl Oxidized Phospholipids on Lipoprotein(a) to Reduce Atherothrombotic Risk.*

Prior Funding

FDA U18FD007054 – Center for Research on Complex Generics (Scholar), 08/2021–07/2022. *Federally funded translational research on complex pharmaceutical systems and advanced bioanalytical method development.*

State Research Program, Belarus (Co-PI), Active: 2021; Grant period: 2021–2025, \$235,000. *Polyelectrolyte Complexes of Chitosan and Polysaccharide Phosphates for Drug Delivery.*

Belarus–Uzbekistan International Scientific Program (PI), Active: 2021; Grant period: 2021–2023, \$47,000. *Selenium Nanoparticle-Based Anticancer Therapeutics.*

Industry-Sponsored Research Grant, Double Bond Pharmaceutical (Sweden), Belarus (PI), 2020–2021, \$11,000. *Study of Temozolomide Release from Dextran Phosphates.*

Belarusian State University Research Grant (PI), 2012, \$6,000. *Gold Nanoparticles as Carriers for Anticancer Drug Delivery.*

SCIENTIFIC PUBLICATIONS

Published papers

First author: 9, Corresponding Author: 14.

37. Aharodnikau U.E., Kisliuk M.V., Yedchyk A.V., Pristromova Y.I., Bychkovsky P.M., Salamevich D.A., Cai Y., Sun Y., Shauchenka M.A., Panibrat A.V., Pavalanski E.I., Yurkshtovich T.L., Jiang G., **Solomevich S.O.** Designing Pullulan Phosphates with Tunable Structure–Property Relationships via a Multicomponent Reaction System for Potential Biomedical Applications. *Carbohydrate Polymers*. 2026, 385, 125437. ***Corresponding Author.**

36. Aharodnikau U.E., Pristromova Y.I., Bychkovsky P.M., Aslauski A.I., Khiliuta A.A., Cai Y., Baranouskaya A.V., Yedchyk A.V., Salamevich D.A., Sun Y., Shauchenka M.A., Karcheuskaya A.G., Yurkshtovich T.L., Jiang G., Song W., **Solomevich S.O.** Injectable Ca/ε-aminocaproic acid/dextran phosphate hydrogel for effective acute bleeding control. *International Journal of Biological Macromolecules*. 2025, 310(3), 143444, ***Corresponding Author.**

35. Yao M., Dickeson S.K., Dhanabalan K., **Solomevich S.**, Dennewitz C., Gailani D., Song W. Investigation of the Influence of Lipoprotein(a) and Oxidized Lipoprotein(a) on Plasminogen Activation and Fibrinolysis. *Journal of Lipid and Atherosclerosis*. 2025, 14(2), 229–235.

34. Li X., Hegarty K., Lin F., Chang J.L., Abdalla A., Dhanabalan K., **Solomevich S.O.**, Song W., Roder K., Yao C., Lu W., Carmeliet P., Choudhary G., Dennery P.A., Yao H. Endothelial Cpt1a Inhibits Neonatal Hyperoxia-Induced Pulmonary Vascular Remodeling by Repressing Endothelial-Mesenchymal Transition. *Advanced Science*. 2025, 12(11), 2415824.

33. Ren L., Zhang J., Nie L., Shavandi A., Yunusov K.E., Aharodnikau U.E., **Solomevich S.O.**, Sun Y., Jiang G. Platelet membrane-camouflaged copper doped CaO₂ biomimetic nanomedicines

for breast cancer combination treatment. *ACS Biomaterials Science & Engineering*. 2025. 10(12), 7492-7506.

32. Zhang J., Chen N., Ren L., Nie L., Yunusov K.E., Aharodnikau U.E., **Solomevich S.O.**, Sun Y., Jiang G. A red cell membrane-camouflaged nanoreactor for enhanced starvation / chemodynamic / ion interference therapy for breast cancer. *Colloids and Surfaces B: Biointerfaces*. 2025, 245, 114293.

31. Cao Y., Meng F., Cai T., Gao L., Lee J., **Solomevich S.O.**, Aharodnikau U.E., Guo T., Lan M., Liu F., Li Q., Timoshenko V., Li D., Cai Y. Nanoparticle drug delivery systems responsive to tumor microenvironment: Promising alternatives in the treatment of triple-negative breast cancer. *WIREs Nanomedicine and Nanobiotechnology*. 2024, 16(2):e1950.

30. Ren L., Sun Y., Zhang J., Nie L., Shavandi A., Yunusov K.E., Aharodnikau U.E., **Solomevich S.O.**, Jiang G. Red blood cell membrane-coated functionalized Cu-doped metal organic framework nanoformulations as a biomimetic platform for improved chemo-/chemodynamic/photothermal synergistic therapy. *International Journal of Pharmaceutics*. 2024, 123811.

29. Zhang J., Sun Y., Ren L., Chen L., Nie L., Shavandi A., Yunusov K.E., Aharodnikau U.E., **Solomevich S.O.**, Jiang G. Red blood cell membrane-camouflaged polydopamine and bioactive glass composite nanoformulation for combined chemo/chemodynamic/photothermal therapy. *ACS Biomaterials Science & Engineering*. 2024, 10(1):442-454.

28. Elzoghby A.O., Samir O., Soliman A., **Solomevich S.**, Yu M., Schwendeman A., Nasr M.L. Bioengineered Nanodiscs: Game Changer Nano-Therapeutics and Structural Biology Tools. *Nano Today*. 2023. 102026.

27. Liu T., Sun Y., Jiang G., Zhang W., Wang R., Nie L., Shavandi A., Yunusov K.E., Aharodnikau U.E., **Solomevich S.O.** Porcupine-inspired microneedles coupled with an adhesive back patching as dressing for accelerating diabetic wound healing. *Acta Biomaterialia*. 2023, 160, 32-44.

26. **Solomevich S.O.**, Oranges C.M., Kalbermatten D.F., Schwendeman A., Madduri S. Natural Polysaccharides and their Derivatives as a Potential Source for Hydrogel-Based Drug Delivery Systems for Peripheral Nerve Regeneration. *Carbohydrate Polymers*. 2023, 315, 120934.

25. Gao X., Jiang G., Ruan L., Sun Y., Yunusov K., Jing Y., Aharodnikau U.E., **Solomevich S.O.** Electrospun Porcine Acellular Dermal Matrix and Polycaprolactone Composite Nanofibrous Scaffolds for Accelerating Wound Healing. *Fibers and Polymers*. 2023, 24(2), 589-601.

24. Wang R., Wang H., Jiang G., Sun Y., Liu T., Nie L., Shavandi A., Yunusov K.E., Aharodnikau U.E., **Solomevich S.O.** Transdermal delivery of allopurinol on acute hyperuricemic mice via polymer microneedles for regulation of serum uric acid levels. *Biomaterials Science*. 2023, 11 (5), 1704-1713.

23. **Solomevich S.O.***, Aharodnikau U.E., Dmitruk E.I., Nikishau P.A., Bychkovsky P.M., Salamevich D.A., Jiang G., Pavlov K.I., Sun Y., Yurkshtovich T.L. Chitosan – dextran phosphate carbamate hydrogels for locally controlled co-delivery of doxorubicin and indomethacin: from computation study to in vivo pharmacokinetics. *International Journal of Biological Macromolecules*. 2023, 228, 273-285. ***Corresponding Author.**

22. Jiang G., Li P., Ruan L., Sun Y., Yunusov K.E., Aharodnikau U.E., Wang R., Gao X., **Solomevich S.O.** Design of 3D polycaprolactone/ε-polylysine modified chitosan fibrous scaffolds incorporation of bioactive factors for accelerating wound healing. *Acta Biomaterialia*. 2022, 152, 197-209.

21. Zeng Z., Jiang G., Sun Y., Aharodnikau U.E., Gao X., Liu T., Yunusov K.E., **Solomevich S.O.** Rational design of flexible microneedles coupled with CaO₂@PDA-loaded nanofiber films for skin wound healing on diabetic rats. *Biomaterials Science*. 2022, 10(18), 5326-5339.

20. Wang R., Ruan L., Jiang G., Li P., Aharodnikau U.E. Yunusov K.E., Gao X., **Solomevich S.O.** Fabrication of curcumin-loaded silk fibroin and polyvinyl alcohol composite hydrogel films for skin wound healing. *ACS Applied Bio Materials*. 2022, 5(9), 4400–4412.

19. Feng M., Jiang G., Sun Y., Aharodnikau U.E., Yunusov K.E., Liu T., Zeng Z., **Solomevich S.O.** Integration of metformin-loaded mesoporous bioactive glass nanoparticles and free metformin into polymer microneedles for transdermal delivery on diabetic rats. *Inorganic Chemistry Communications*. 144, 109896.

18. Wang R., Jiang G., Aharodnikau U.E., Yunusov K., Sun Y., Liu T., **Solomevich S.O.** Recent Advances in Polymer Microneedles for Drug Transdermal Delivery: Design Strategies and

Applications. *Macromolecular Rapid Communications*. 2022, 43(8), 2200037. **Wiley Top Downloaded Article in 2022.**

17. Yunusov K.E., Sarymsakov A.A., Shukurov A.I.O., Todjiyev J.N., Atakhanov A.A.U., Guohua J., **Solomevich S.O.** Sodium-Carboxymethylcellulose/Polyphenol-Gossypol-Carboxymethylcellulose Copolymer Films for Ocular Drug Delivery: Preparation and Physico-Chemical Properties. *Asian Journal of Chemistry*. 2022, 34(12), 3085 – 3092.

16. Yurkshtovich T.L., Yurkshtovich N.K., Golub N.V., Kosterova R.I., Pristromova Y.I., **Solomevich S.O.**, Bychkovsky P.M. Rheological properties and in vitro hydrolytic stability of the carboxymethylcellulose–dioxidine composition. *Proceedings of the National Academy of Sciences of Belarus, Chemical Series*. 2022, 58(1), 7–16.

15. **Solomevich S.O.***, Cherkasova A.V., Salamevich D.A., Aharodnikau U.E., Bychkovsky P.M., Yurkshtovich T.L. Millimeter-sized chitosan/dextran phosphate capsules and calcium/dextran phosphate beads for regulating prospidine release. *Materials Letters*. 2021, 293, 129720. ***Corresponding Author.**

14. **Solomevich S.O.**, Dmitruk E.I., Aharodnikau U.E. Salamevich D.A., Bychkovsky P.M., Golub N.V., Yurkshtovich T.L. Characterization of H₃PO₄/HNO₃–NANO₂ oxidized bacterial cellulose and its usage as a carrier for the controlled release of cephalexin. *Cellulose*. 2021, 28, 9425–9439.

13. Gofman I.V., Nikolaeva A.L., Khripunov A.K., Ivan'kova E.M., Shabunin A.S., Yakimansky A.V., Romanov D.P., Popov A.L., Ermakov A.M., **Solomevich S.O.**, Bychkovsky P.M., Baranchikov A.E., Ivanov V.K. Bacterial Cellulose-Based Nanocomposites Containing Ceria and Their Use in the Process of Stem Cell Proliferation. *Polymers*. 2021; 13(12).

12. Yunusov, K.E., Sarymsakov, A.A., Turakulov, F.M., Rashidova S.Sh., Yurkshtovich T.L., Kokhan A.V., Yurkshtovich N.K., Alinovskaya V.A., Bychkovskii P.M., Golub N.V., **Solomevich S.O.*** Synthesis of Selenium Nanoparticles Stabilized with Sodium Carboxymethylcellulose for Preparation of a Long-Acting Form of Prospidine. *Russ J Appl Chem*. 2021, 94, 1259–1266. ***Corresponding Author.**

11. **Solomevich S.O.**, Dmitruk E.I., Bychkovsky P.M., Salamevich D.A., Kuchuk S.V., Yurkshtovich T.L. Biodegradable polyelectrolyte complexes of chitosan and partially crosslinked dextran phosphate with potential for biomedical applications. *International Journal of Biological Macromolecules*. 2021, 169, 500–512. ***Corresponding Author.**

10. **Solomevich S.O.**, Dmitruk E.I., Bychkovsky P.M., Nebytov A.E., Yurkshtovich T.L., Golub N.V. Fabrication of oxidized bacterial cellulose by nitrogen dioxide in chloroform/cyclohexane as a highly loaded drug carrier for sustained release of cisplatin. *Carbohydrate Polymers*. 2020, 248, 116745. ***Corresponding Author.**

9. **Solomevich S.O.**, Bychkovsky P.M., Yurkshtovich T.L., Golub N.V., Mirchuk P.Y., Revtovich M.Y., Shmak A.I. Biodegradable pH-sensitive prospidine-loaded dextran phosphate based hydrogels for local tumor therapy. *Carbohydrate Polymers*. 2019, 226, № 115308. ***Corresponding Author.**

8. Yurkshtovich T.L., Golub N.V., **Solomevich S.O.**, Kosterova R.I., Yurkshtovich N.K., Alinovskaya V.A., Bychkovsky P.M. Acid-basic properties and biological activity of starch phosphate in the form of microgels. *Colloid Journal*. 2019, 81(3), 401–408. ***Corresponding Author.**

7. Yurkshtovich T.L., Golub N.V., **Solomevich S.O.**, Yurkshtovich N.K., Bychkovsky P.M., Kosterova R.I., Alinovskaya V.A. Influence of the composition of etherifying mixture and nature of polysaccharide on the acid properties of phosphorous acid cationites. *Russian Journal of Physical Chemistry A*. 2019, 93(9), 1809–1816. ***Corresponding Author.**

6. Bychkovsky P.M., Yurkshtovich T.L., Golub N.V., **Solomevich S.O.**, Yurkshtovich N.K., Adamchik D.A. Biological films based on oxidized bacterial cellulose: obtaining, structure, properties. *Polymer Science, Series B*. 2019, 61(4), 434–442. ***Corresponding Author.**

5. **Solomevich S.O.**, Bychkovskii P.M., Yurkshtovich T.L., Golub N.V. Influence of the properties of modified dextran hydrogel polymer network on the kinetics of the release of prospidin antitumor agent. *Russian Journal of Applied Chemistry*. 2016, 89(8), 1302–1308. ***Corresponding Author.**

4. **Solomevich S.O.**, Bychkovsky P.M., Yurkshtovich T.L., Golub N.V., Alinovskaya V.A., Kosterova R.I. Synthesis of pH-sensitive hydrogels of modified dextran with phosphate and carbamate groups. *Proceed of national academy of science of Belarus. Chemical series*. 2015, 4, 68–72. ***Corresponding Author.**

3. Yurkshtovich T.L., **Solomevich S.O.**, Golub N.V., Alinovskaya V.A., Kosterova R.I., Bychkovskii P.M., Kladiev A.A. Sorption of the antitumor drug prospidinum on microgels of polysaccharide phosphates. *Colloid Journal*. 2014, 76(5), 628–636. ***Corresponding Author.**

2. Bychkovski P.M., Yurkshtovich T.L., Golub N.V., Alinovskaya V.A., Kosterova R.I., **Solomevich S.O.**, Kladiev A.A., Istomin Yu.P., Aleksandrova E.N., Krasnyi S.A., Petrovskaya N.A., Revtovich M.Yu., Shmak A.I., Kvacheva Z.B. Preparation and antitumor activity of a gel-forming prospidine formulation. *Pharmaceutical Chemistry Journal*. 2013, 47(7), 387–392.

1. Bychkovsky P.M., Kladiev A.A., **Solomevich S.O.**, Schegolev S.Yu. Gold nanoparticles: synthesis, properties, biomedical applications. *Russian Journal of Biotherapy*. 2011, 10(3), 37–46.

Papers in preparation

7. Yoon H., **Solomevich S.**, Salamevich D., Zou B., Todorov K., Sellke F.W., Kabakov A., Usheva A. Metabolomics and Bioinformatics Readout of the Ischemic Myocardium Response to DPP4 Inhibition with Linagliptin in a Porcine Model.

6. **Solomevich S.**, Dhanabalan K., Salamevich D., Song W. EPA and DHA Mediate Differential Thrombogenesis and Antiplatelet Effects via HDL Modulation.

5. Xie F., **Solomevich S.**, Dobson H.E., Schwendeman A., Moon J. Nanodisc-based Therapy Induces Antigen-specific Immune Tolerance against Type 1 Diabetes.

4. Kim A., Xu J., Xu C., **Solomevich S.**, Schwendeman A., Moon J. Tolerogenic Nanodisc Vaccination for the Treatment of Experimental Autoimmune Encephalomyelitis.

3 Phoo M., **Solomevich S.**, Schwendeman A. Transendothelial Migration of HDL.

2. **Solomevich S.**, Shah N., Hernandez A., Song W. Role of High-Density Lipoproteins in Sepsis: Mechanisms, Clinical Evidence, and Therapeutic Development.

1. **Solomevich S.**, Shao K., Dhanabalan K., Salamevich D., Song W. Targeted Plasma Profiling Reveals Systemic Metabolic Changes in Familial Hypercholesterolemia.

Submitted papers

3. Ding Y., Zhang X., Junka A., Nie L., Ali T., Aharodnikau U.E., **Solomevich S.O.**, Jiang G., Sun Y. *Durian-Inspired Core-Shell Microneedles Loaded with CaO₂@Cu(II)-PDA Nanoparticles for Synergistic Chemo-Photothermal Therapy of Breast Cancer*. ACS Biomaterials Science & Engineering. In revision, 2026.

2. Dhanabalan K., Li H., Yancey P.G., **Solomevich S.**, Li J., Li Y., Huang J., Dennewitz C., Wang C., Tao H., Smith L., Gailani D., Salamevich D., Shao K., Du J., Martin K., Hwa J., Davies S.S., Linton F.M., Song W. Dysfunctional HDL Promotes Platelet Apoptosis and Thrombosis in Familial Hypercholesterolemia. Preprint available on medRxiv, 2025.

1. Reutovich M. Yu., **Solomevich S.O.**, Yurkshtovich T.L., Bychkovsky P.M., Shauchenka M.A., Ivashkevich O.A., Tzerkovsky D.A., Patseika A.I., Shmak A.I., Kladiev A.A., Song W., Krasny S.A. First Intraperitoneal Administration of Hydrogel-Immobilized Prospidine in Gastric Cancer Patients with Peritoneal Dissemination: Pharmacokinetics, Pharmacodynamics, and Safety Study. ***Corresponding Author.**

PATENTS

3. Song W., **Solomevich S.** A new therapeutic approach for treating elevated lipoprotein (a). U.S. Prov Pat Appl 63/649,919.

2. Moon J.J., Schwendeman A., Xu C., **Solomevich S.**, Nam J. Nanoparticle compositions associated with peptides. #UM41715.101, US 63/522,816, 2023 (*licensed*).

1. Bychkovsky P.M., Yurkshtovich T.L., Golub N.V., **Solomevich S.O.**, Yurkshtovich N.K., Drepakov E.G., Tagil I.I., Artyukevich V.I., Tkachenko A.A., Khripunov A.K., Smyslov R.Yu., Migunova A.V. The method of obtaining oxidized bacterial cellulose. Eurasian patent # 033140, application # 201800262, 04.04.2018.

ORAL PRESENTATIONS

12. Cardiac & Vascular Biology Research Seminar. 1-hour oral presentation: High-Throughput Mass Spectrometry for Lipidomics and Metabolomics: Platform Development and Applications in Cardiovascular Research. 09/20/2024, Providence VA Medical Center.

11. XXI Mendeleev Congress on General and Applied Chemistry, Saint Petersburg, 2019.

10. 8th International conference on chemistry "Sviridov readings", Minsk, 2018.

9. All-Russian scientific conference with international participation "II Baikal Materials Science Forum", Ulan-Ude, 2015.
8. 8th International symposium «Molecular mobility and order in polymer systems». – St. Petersburg, 2014. – P. 145.
7. International scientific and practical conference "New achievements in the study of polysaccharides and the prospects for their use in medicine, agriculture and other industries" (Narochanski readings - 10), Naroch (Belarus), 2014.
6. The republican scientific and practical conference with the training seminar "Medicinal products of the Republic of Belarus" at the 21st International Specialized Exhibition "Healthcare of Belarus-2014", Minsk, 2014.
5. International youth scientific forum "Lomonosov", Moscow, 2010, 2012, 2013.
4. International Scientific and Technical Conference "Polymer Composites and Tribology", Gomel, 2013.
3. XIV Symposium on intermolecular interaction and molecular conformations, Ivanovo (Russia), 2012.
2. Symposium of the non-profit partnership of institutes of the Russian Academy of Sciences "Orkhimed": "Development of medicinal and physiologically active compounds based on natural substances", St. Petersburg, 2010.
1. 5th Saint-Petersburg young scientists conference «Modern problems of polymer science», Saint-Petersburg, 2009.

POSTERS

13. PUFA-Enriched HDL Modulation of Platelet Aggregation and Inflammation. Solomevich S., Dhanabalan K., Lu J., Salamevich D., Song W. Brown University Health's 32nd Annual Research Day, Providence, RI, USA, 2025.
12. Reactive Dicarbonyl Scavenging Reduces Lipoprotein(a) Driven Inflammation and Fibrinolysis Impairment. Shah N., Solomevich S., Dhanabalan K., Cao V., Shao K., Salamevich D., Song W. Brown University Health's 32nd Annual Research Day, Providence, RI, USA, 2025.
11. Targeted Metabolomic Profiling Reveals Distinct Pathway Alterations in Familial Hypercholesterolemia. Solomevich S., Shao K., Dhanabalan K., Salamevich D., Song W. ASPC 2025 Congress on CVD Prevention, Boston, MA, USA, 2025.
10. Solomevich S., Shao K., Dhanabalan K., Cao V., Salamevich S., Song W. Targeted Metabolomic Profiling Reveals Distinct Pathway Alterations in Familial Hypercholesterolemia. Department of Medicine Annual Research Forum, Alpert Medical School, Brown University, Providence, RI, USA, 2025.
9. Solomevich S., Yu M., Schwendeman A. Development of Synthetic High-Density Lipoproteins for Treatment of Infection Complications. Fredrickson Lipid Research Conference, Nashville, TN, USA, 2023.
8. CBTP symposium, Ann Arbor, MI, USA, 2022.
7. 15th International Saint Petersburg Conference of Young Scientists «Modern problems of polymer science», Saint Petersburg, Russia, 2019.
6. 4th Russian Conference on Medicinal Chemistry with international participants «MedChem Russia 2019», Ekaterinburg, Russia, 2019.
5. Belarusian-Russian scientific-practical conference with international participation "Domestic anticancer drugs", Minsk, Belarus, 2013.
4. International scientific and practical conference "Fundamental and applied problems of obtaining and applying biologically active natural compounds", Naroch, Belarus, 2013.
3. International scientific and practical conference "Belarusian Medicines", Minsk, Belarus, 2012.
2. Fifth All-Russian Karginisky Conference "Polymers 2010", Moscow, 2010.
1. Third Annual International Conference "Nanotechnology in Oncology", Moscow, 2010.

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

1. American Heart Association (Council on Arteriosclerosis, Thrombosis, and Vascular Biology), 2024 – Present.

PROFESSIONAL SERVICE

Review Editor in *Frontiers in Bioengineering and Biotechnology* and *Frontiers in Molecular Biosciences* for Nanobiotechnology (<https://loop.frontiersin.org/people/2368406/overview>).

Journal reviewer for:

- Advanced Functional Materials;
- Journal of Controlled Release;
- Journal of Nanobiotechnology;
- Carbohydrate Polymers;
- Small;
- Materials Today Bio;
- Acta Biomaterialia;
- Cell Biomaterials;
- European Journal of Pharmaceutics and Biopharmaceutics;
- Materials Letters;
- International Journal of Biological Macromolecules;
- Scientific Reports;
- Pharmaceuticals;
- Polymers;
- Nanomedicine: Nanotechnology, Biology, and Medicine;
- Journal of Biomaterials Science: Polymer Edition;
- Gels;
- Journal of Polymers and the Environment;
- Journal of Functional Biomaterials;
- Materials (MDPI);
- International Journal of Molecular Sciences;
- Journal of Nanoparticle Research;
- Biomedicine & Pharmacotherapy;
- Coatings (MDPI);
- Journal of Porous Materials;
- Polymer Bulletin;
- Drug Delivery and Translational Research;
- Fibers and Polymers.

MENTORSHIP AND TRAINEE SUPERVISION

Doctoral Students

Uladzislau Aharodnikau, PhD student, Belarusian State University, Co-advisor, 2021.

Master's Students

Junhao Zhu, M.S. Biotechnology, Brown University, Co-mentor, 2025–present.

Egor Dmitruk, M.S. student, Belarusian State University, Co-advisor, 2019-2020.

Alexander Nebytov, M.S. student, Belarusian State University, Co-advisor, 2019-2020.

Undergraduate Thesis Students

Aleksandra Cherkasova, Undergraduate student, Belarusian State University, Thesis advisor, 2019-2021.

Andrei Belkevich, Undergraduate student, Belarusian State University, Thesis advisor, 2020-2021.

Students

Neelam Shah, Sc.B. Applied Mathematics–Biology, Brown University, Co-mentor, 2025–present.

Olivia Qi, M.S. Biotechnology, Brown University, Co-mentor, 2025–present.

Research Trainees

Ziyi Lu, Research Assistant, University of Michigan, Research co-mentor, 2023-2024.

AWARDS

- Career Development Award, American Heart Association, 2026.
- UMPDA Professional Development Award, University of Michigan, Ann Arbor, MI, 2024.
- Certificate of honor of the Ministry of Education of the Republic of Belarus, Minsk, Belarus, 2020.

- Certificate of honor of the Ministry of Health of the Republic of Belarus, Minsk, Belarus, 2020.
- Certificate of honor of the Belarusian State University, Minsk, Belarus, 2019.
- Diploma of the Director of the Research Institute of Physical Chemical Problems of BSU in connection with the 40th anniversary of the founding of the BSU "Research Institute of Physical and Chemical Problems", Minsk, Belarus, 2019.
- Certificate of honor of the Republican Unitary Enterprise "Management Company of the Belfarmprom Holding", 2018.
- XIV All-Russian scientific-practical conference with international participation "Domestic antitumor drugs", the winner diploma for the best poster paper, Moscow, Russia, 2017.
- International youth forum on science and innovation the BRICS and EAEU, Diploma I place breakthrough technologies in medicine, nomination "Best Product Innovation", Moscow, Russia, 2015.
- All-Russian scientific conference with international participation "II Baikal Materials Science Forum", diploma for the report, Ulan-Ude - oz. Baikal, Russia, 2015.
- Republican contest "100 ideas for Belarus", winner of competition, Minsk, Belarus, 2015.
- Republican competition of innovative projects, Diploma (3rd place) in the nomination "The best youth innovation project", Minsk, Belarus, 2014.
- International youth scientific forum "Lomonosov-2013", diploma for the best report of the section "Chemistry", Moscow, Russia, 2013.
- International youth scientific forum "Lomonosov-2011", diploma for the best report at the XVIII International Conference of Students, Graduate Students and Young Scientists, Moscow, Russia, 2011.
- Republican contest of scientific works of students of higher educational institutions of the Republic of Belarus, laureate diploma, Minsk, Belarus, 2010.