

	<p>ULASEVICH, Sviatlana A. PhD in Physical Chemistry</p>
<p>Research interests</p>	<p>The main research interests concern biomimetic materials and the development of bioactive materials based on functional coatings based on titanium dioxide and polymer systems, as well as the study of their principles of functioning and biological response. Functional coatings and stimuli-responsive dynamic systems have been developed to create microdosing systems for the controlled release of drugs, active chemicals, as well as to regulate and control the growth of osteoblast cells. The sonochemical fabrication of functional materials and coatings.</p>
<p>Features of the PhD program</p>	<ul style="list-style-type: none"> ✓ Interdisciplinary research in fields of chemistry and biology ✓ Fabrication of biocompatible materials ✓ The use of sonochemical methods for the formation of materials
<p>List of the supervisor's research projects (participation/supervision)</p>	<ul style="list-style-type: none"> ✓ Project leader of RSF project No. 19-79-10244 "Microdosing and micromanipulatory systems for biomedical purposes based on mesoporous titanium dioxide modified with polyelectrolyte membranes" (internal number 390365) (supervision) ✓ Executor of RFBR Grant No. 20-53-00043, Executor: "New pH-sensitive self-assembling nanocontainer structures based on inorganic polymers and molecular complexes", 2020–2022 (participation)
<p>List of potential thesis topics</p>	<ul style="list-style-type: none"> ✓ Fabrication of antibacterial biomimetic materials based on calcium phosphates ✓ Development of 3D structures for cell proliferation ✓ Fabrication of bioactive coatings that stimulate cell growth ✓ Fabrication of stimuli-responsive biocompatible coatings ✓ Elaboration of systems for targeted drug delivery
<p>Publications in the last five years</p>	<p>19 (Scopus / Web of Science / RSCI)</p>
<p>Key publications</p>	<ol style="list-style-type: none"> 1. Ulasevich, S. A.; Brezesinski, G.; Mohwald, H.; Fratzl, P.; Schacher, F. H.; Poznyak, S. K.; Andreeva, D. V.; Skorb, E. V. (2016): Light-Induced Water Splitting Causes High-Amplitude Oscillation of pH-Sensitive Layer-by-Layer Assemblies on TiO₂. <i>Angew. Chem. Int. Ed.</i>, 55, 13001–13004. - DOI: 10.1002/anie.201604359. (SJR=5.44, IF =12.257, Q1 2020) 2. Kopf, J., Ulasevich, S. A., Baidukova, O., Zhukova, Y., Dunlop, J. W. C., Fratzl, P., Rikeit, P., Knaus, P., Poznyak, S. K., Andreeva, D. V., Skorb, E. V. (2016): Ultrasonically

	<p>produced porous sponge layer on titanium to guide cell behavior, <i>Adv. Eng. Mater.</i>, 18, 476-483. - DOI: 10.1002/adem.201500456. (SJR= 0.92, IF =2.319, Q1)</p> <p>3. Ulasevich, S. A., Koshel, E. I., Kassirov, I. S., Brezhneva, N., Shkodenko, L., Skorb, E. V. (2020). Oscillating of physicochemical and biological properties of metal particles on their sonochemical treatment. <i>Materials Science and Engineering: C</i>, 109, 110458. - DOI: 10.1016/j.msec.2019.110458 (SJR= 1.15, IF= 5.07, Q1)</p> <p>4. Ulasevich, S. A., Gusinskaia, T. A., Semina, A. D., Gerasimov, A. A., Kovtunov, E. A., Iakovchenko, N. V., Olga Yu. Orlova, Skorb, E. V. (2020). Ultrasound-assisted fabrication of gluten-free dough for automatic producing dumplings. <i>Ultrasonics Sonochemistry</i>, 105198. - DOI: 10.1016/j.ultsonch.2020.105198 (SJR= 1.49, IF = 7.279, Q1)</p> <p>5. Ulasevich, S., Ryzhkov, N. V., Andreeva, D. V., Ozden, D. S., Piskin, E., & Skorb, E. V. (2020). Light-to-Heat Photothermal Dynamic Properties of Polypyrrole-Based Coating for Regenerative Therapy and Lab on a Chip Applications. <i>Advanced Materials Interfaces</i>, 7(21), 2000980. - DOI: 10.1002/admi.202000980 (SJR= 1.55, IF = 4.948, Q1)</p>
Key IPs	<ul style="list-style-type: none"> ✓ Method for electrochemical deposition of hydroxyapatite on certain areas of the titanium surface / S.A. Ulasevich, S.K. Poznyak, A.I. Kulak, S.A. Karpushenkov, O. N. Musskaya, L.A. Lesnikovich. BY 20347 C1 2016.08.30 ✓ Composition for the preparation of electrolyte for plasma electrolytic oxidation of titanium implant / S.A. Karpushenkov, S.K. Poznyak, A.I. Kulak, L.S. Karpushenkova, S.A. Ulasevich, O. N. Musskaya. BY 20321 C1 2016.08.30
Supervisor's specific requirements	<ul style="list-style-type: none"> ✓ Strong background in physical chemistry ✓ Basic / advanced programming skills
Code of the subject area of the PhD program	<p>1.4.1 Inorganic Chemistry</p> <p>1.4.4 Physical Chemistry</p>