

	<p>USPENSKAYA, Mayya V. Doctor of Science</p>
<p>Research interests</p>	<p>Chemistry of polymers (polymerization processes, composition-structure-property relationships, development of methods for obtaining polymer composites with specified performance characteristics)</p>
<p>Features of the PhD program</p>	<p>Postgraduate training is carried out on the basis of the National Research Center for Bioengineering http://bioengineering.ifmo.ru/ Of particular interest is the development of new medical materials intended for contact with the environment of a living organism and necessary for regenerative medicine. Even more interest is directed to specialized biocompatible, bioresorbable materials for the development of new directions in medicine - cell and tissue engineering, the creation of artificial implants. The laboratories are equipped with high-tech modern equipment. http://bioengineering.ifmo.ru/ru/87817/equipment_list/</p>
<p>List of the supervisor's research projects (participation/supervision)</p>	<ul style="list-style-type: none"> ✓ Development and application of a personalized medicine method based on structural and bioinformatic analysis of protein mutations associated with hereditary diseases to optimize drug search, head of the project, 2021-2024 ✓ Composite biomaterials and technologies for ecophotonics and medicine, head of the project, 2020 ✓ Investigation of the properties of fibrous materials obtained from aqueous and aqueous-organic solutions of biopolymers, head of the project, 2019-2021 ✓ Investigation of the operational and physicochemical properties of wound dressings based on a modified polyacrylic composite, head of the project, 2014-2015 ✓ Molecular modeling of biodegradable polyelectrolytes and new polyelectrolyte complexes based on them for biomedical applications, head of the project, 2014 ✓ Investigation of composite materials based on biopolymers for promising medical applications, head of the project, 2013-2019 ✓ Development of a method for the synthesis of biodegradable tetrazole-containing superabsorbents (B-SAP), head of the project ✓ Development of a method for the synthesis of biodegradable superabsorbent materials, obtaining samples of these materials, head of the project
<p>List of potential thesis topics</p>	<ul style="list-style-type: none"> ✓ Development of nanofiber materials based on biopolymers for targeted drug delivery

	<ul style="list-style-type: none"> ✓ Creating edible biopolymer coatings to extend the shelf life of foods ✓ Development of biodegradable polymer composites for packaging ✓ Development of oil sorbents for the conditions of the Far North ✓ Development of technology for applying edible functional biopolymer coatings to food ✓ Synthesis and 3D-printing of biocomposite three-dimensional scaffolds for use in tissue engineering ✓ Investigation of the influence of plasticizers and fillers on the properties of polymer composites ✓ Development of thermosensitive polymer composite materials
Publications in the last five years	136 (Scopus / Web of Science)
Key publications	<ol style="list-style-type: none"> 1. Thi Hong Nhung V., Morozkina S., Snetkov P., Uspenskaya M. Nasal Drug Delivery Systems for the Treatment of Diseases of the Central Nervous System and Tuberculosis//Nano- and Microfabrication Techniques in Drug Delivery, 2023, Vol. 2, pp. 429-466 2. Osetrov K., Uspenskaya M., Olekhovich P. The model pH-controlled delivery system based on gelatin-tannin hydrogels containing ferrous ascorbate: iron release in vitro//Biomedical Physics and Engineering Express, 2023, Vol. 9, No. 2, pp. 025010 3. Osetrov K., Uspenskaya M., Zaripova F., Olekhovich R. Nanoarchitectonics of a Skin-Adhesive Hydrogel Based on the Gelatin Resuscitation Fluid Gelatinol®//Gels, 2023, Vol. 9, No. 4, pp. 330 4. Bkhar M., Olekhovich R., Kremleva A., Sitnikova V., Kovach Y., Zverkov N., Uspenskaya M. Influence of Electrospinning Setup Parameters on Properties of Polymer-Perovskite Nanofibers//Polymers, 2023, Vol. 15, No. 3, pp. 731 5. Bkhar M.A., Olekhovich R.O., Kremleva A.V., Sitnikova V.E., Kovach Y.N., Zverkov N.A., Uspenskaya M.V. Properties Optimization of Electrospun Polymer: Organic-Free Perovskite Nanofibers by Controlling Solution Concentration//Journal of Polymer Research, 2023, Vol. 30, No. 6, pp. 203
Key IPs	<ul style="list-style-type: none"> ✓ Patent on the method for determining concentration of lead (II) in aqueous solutions, 2020 ✓ Patent on the method for determining bactericidal properties of substances, 2019
Supervisor's specific requirements	Higher professional education in the relevant specialty
Code of the subject area of the PhD program	1.4.7 Macromolecular Compounds 2.6.11 Methodology and Processing of Synthetic and Natural Polymers and Composites