


University	Peter the Great St.Petersburg Polytechnic University
Level of English proficiency	“Upper Intermediate”
Courses and fields of studies offered for applicants	2.7.1 Biotechnology of food products, medicinal and biologically active substances
Projects for potential academic supervision	1. Bioconversion of plant raw materials. 2. Industrial microorganism cultivation to obtain the target products (biofuel, organic fertilizers, useful organic compounds, food and animal feed additives).
Topics offered for prospective researches	Biotechnological recycling of food industry by-products.
 <p>Research supervisor: Nadezhda T. Zhilinskaya, Candidate of Biological Science (S.M.Kirov Military Medical Academy, St. Petersburg - Leningrad), associate professor (University of Low Temperature and Food Technologies, St. Petersburg)</p>	<i>Biology</i>
	<i>Supervisor's research interests:</i>
	<ul style="list-style-type: none"> • Biotechnological recycling of food industry by-products. • Morphology and cytology of animals, plants and microorganisms. • Biochemistry of animals, plants and microorganisms. • Food raw material and food product safety.
	<i>Study program highlights:</i>
	<p>Biotechnological recycling of food by-products take an important role due to environmental problems associated with the disposal of food waste, the possibility to obtain new valuable products and create complex waste-free industrial technologies.</p> <p>Research in the field of biotechnological recycling of food by-products could contribute to the development of international scientific relations and cooperation between scientists from different countries, new international projects in the field of food additive and raw material safety, food ecology.</p>
	<p><i>Supervisor's specific requirements:</i></p> <p>A postgraduate student should be competent in laboratory research methods that are using in the following fields of science: bioorganic chemistry, analytical chemistry, biological chemistry, microbiology, plant morphology and physiology, microorganism morphology and physiology, biotechnology.</p> <p>Experimental data accumulation, storage, processing, visualization - using Microsoft Excel, GraphPad Prism, etc. software.</p> <p>Data obtained statistical processing - using actual methods and statistical criteria (e.g. t-test, ANOVA, Python, AI).</p> <p>English level: “Upper Intermediate”.</p>
	<i>Supervisor's publications:</i>
	<u><i>On the proposed topic of scientific research:</i></u>
	<p>1. Zhilinskaya, N., Wang, R., Ivanchenko, O., Balanov, P., Smotraeva, I. Biotechnological recycling of byproducts in the rice soft beverage industry: A preliminary research // E3S Web Conf. Volume 247, 2021. International Conference on Efficient Production and Processing (ICEPP-2021). Article Number 01006. – 5 p. (Scopus). https://doi.org/10.1051/e3sconf/202124701006</p> <p>2. Timoshenkova I., Barsukova N., Moskvicheva E.,</p>

	<p>Irishkin E., Zhilinskaya N., Moskvichev A. Use of hemp flour for the production of gluten-free confectionery// Journal of Hygienic Engineering and Design. 2021. V. 33. Pp. 130-137. (Scopus). https://keypublishing.org/jhed/wp-content/uploads/2021/02/06.-JHED-Volume-33-FPP-Full-paper-Irina-Timoshenkova.pdf</p> <p>3. Zhilinskaya Nadezhda, Mammet Atayev, Olga Ivanchenko, Tatiana Kuznetsova, Nargul Musta and Alexandr Blandov. Comparative study of micronutrient content in soft rice beverages based on green and black tea // The 2nd International Conference “Sport and Healthy Lifestyle Culture in the XXI Century” (SPORT LIFE XXI). BIO Web of Conferences 48, 02009 (2022). (WoS). https://www.bio-conferences.org/articles/bioconf/pdf/2022/07/bioconf_shlc2022_02009.pdf</p> <p>4. Svetlana Eliseeva, Alla Smolentceva, Nadezhda Zhilinskaya, Natalya Barsukova, Natalia Kushcheva. Evaluation of the antioxidant status and design of the diet for sports nutrition // The 2nd International Conference “Sport and Healthy Lifestyle Culture in the XXI Century” (SPORT LIFE XXI). BIO Web of Conferences 48, 01022 (2022). (WoS). https://www.bio-conferences.org/articles/bioconf/pdf/2022/07/bioconf_shlc2022_01022.pdf</p> <p>5. Olga I Vanchenko, Anna Gargalyk, Nadezhda T. Zhilinskaya, Petr Balanov, Irina Smotraeva. The use of orange peel in the technology of drinks fermentation // The 2nd International Conference “Sport and Healthy Lifestyle Culture in the XXI Century” (SPORT LIFE XXI). BIO Web of Conferences 48, 02002 (2022). (WoS). https://www.bio-conferences.org/articles/bioconf/pdf/2022/07/bioconf_shlc2022_02002.pdf</p> <p>6. Zhexenbay Nurshash, Nabiyeva Zhanar, Kizatova Maigul, Zhilinskaya Nadezhda, Barsukova Natalia. Influence Of Cheese Containing Low-Esterified Beet Pectin On Heavy Metals Accumulation In Rats’ Tissues // Journal of Pharmaceutical Negative Results, 4756–4760. 2022. (Scopus). https://www.pnrjournal.com/index.php/home/article/view/9823/13700</p>
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