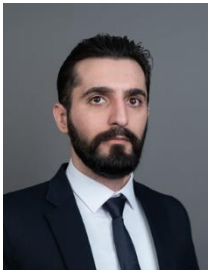


University	Peter the Great St. Petersburg Polytechnic University
Level of English proficiency	Fluent
Courses and fields of studies offered for applicants	2.4.7. Turbomachines and reciprocating engines
Topics offered for prospective researches	<ul style="list-style-type: none"> -Optimization of turbine efficiency in traditional power plants, nuclear power plants, and emerging energy systems -Integration of renewable energy systems (such as solar, wind, and hydropower) into existing power grids and industrial processes -Advanced Computational Fluid Dynamics and Mathematical Modeling for --Optimizing Power Plant Efficiency -Advanced cycles in power generation, such as Supercritical CO2 (S-CO2), Organic Rankine Cycle (ORC), and their applications in combined cycle power plants -Sustainability strategies and innovations in the oil and gas industries, including carbon capture and storage technologies -Turboexpander technology for energy recovery and efficiency improvement in industrial processes -Autonomous Turbine Installations with External Heat Supply -Development of Waste Heat Recovery Systems -Water desalination -Hydrogen production technologies
 <p>Research supervisor: Basati Panah Mehdi, Ph.D (Peter the Great St. Petersburg Polytechnic University)</p>	<i>Energy & fuels</i>
	<p>Supervisor's research interests</p> <p>My scientific interests are centered around pushing the boundaries of energy technology advancements. Specifically, I am passionate about optimizing turbine performance across various energy sectors and exploring sustainable energy solutions using innovative materials and technologies. My research aims to contribute to more efficient and environmentally responsible energy systems.</p>
	<p>Study program highlights</p> <p>Our program emphasizes rigorous coursework and hands-on research in modern laboratories. Students engage in collaborative projects addressing real-world challenges in energy and mechanical engineering, preparing them for impactful careers.</p>
	<p>Supervisor's specific requirements:</p> <p>Admission requires a robust academic background in engineering, demonstrated research experience or a keen interest in energy systems, proficiency in English and Russian, and potentially GRE scores. We seek candidates committed to innovation, adept at problem-solving, and passionate about driving sustainable energy solutions forward.</p>
	<p>Supervisor's Publications</p> <p>In the last 5 years, M. Basati Panah has published more than 15 research papers in journals indexed in Web of Science, Scopus, and RSCI. Below is a list of 5 of the most significant publications:</p>

Basati Panah M., Rassokhin V.A., Barskov V.V., Matveev Y.V., Laptev M.A., Gong B., Chu V.C. "Increasing the efficiency and reliability of gas turbine power plants through the use of additive technologies." *Safety and Reliability of Power Industry*, 2022; 15(2): 102-110. <https://doi.org/10.24223/1999-5555-2022-15-2-102-110>.

Chu V., **Basati Panah M.**, Rassokhin V.A., Barskov V.V., Laptev M.A. "Application of highly efficient bimetallic recuperators for small gas turbine plant powering up to 100 kW." *Izvestiya MGTU MAMI*, 2023.

Basati Panah M., Rassokhin V.A., Barskov V.V., Okunev E.I., Laptev M.A., Kortikov N.N., Chu V., Gong B. "Influence of cooling of high temperature vane systems on efficiency gas turbine units regarding working substance specific heat capacity dependence on temperature." *Izvestiya MGTU MAMI*, 2022; 16(2): 115-124. doi: 10.17816/2074-0530-106231.

Basati Panah M., Rassokhin V.A., Barskov V.V., Matveev Y.V., Laptev M.A., Gong B., Chu V.C. "Effect of kinetic energy loss characteristics on efficiency of gas turbine units." *Gazovaya Promyshlennost*, 2023; 1(2): 82-89.

Basati Panah, M. "Analysis of the influence of the degree of regeneration on the efficiency of a gas turbine plant." *Energia-2022. Thermal power engineering, SEVENTEENTH ALL-RUSSIAN (NINTH INTERNATIONAL) SCIENTIFIC AND TECHNICAL CONFERENCE OF STUDENTS, POSTGRADUATES AND YOUNG SCIENTISTS, Ivanovo, 2022. EDN MVOVIP.*

Mammadov A., **Basati Panah M.**, Barskov V.V., Chu V.C., Pham T.Q. , *Thermodynamic optimization of hybrid nuclear and gas turbine combined cycle power plants, International scientific conference: modern technologies and economics of energy*, 2024.

Arafat Sk.Y., **Basati Panah M.**, Barskov V.V., Chu V.C., Pham T.Q., *Optimizing gas turbine performance in combined cycle power plants: evaluating cooling system efficacy for enhanced efficiency and power output, A novel passive cooling approach: utilizing flexible heat transfer for enhanced thermal performance in portable computing devices, International scientific conference: modern technologies and economics of energy (Международная научная конференция современные технологии и экономика энергетики)*, 2024.

Beliakova M. A., **Basati Panah M.**, *Evaluating the economic viability of magnetic bearing compressors in gas distribution stations, International scientific conference: modern technologies and economics of energy (Международная научная конференция современные технологии и экономика энергетики)*, 2024.

Chernova L.A., **Basati Panah M.**, *Financial and energy benefits of mitigating turbine blade corrosion, International scientific conference: modern technologies and economics of energy (Международная научная конференция современные технологии и экономика энергетики)*, 2024.

Dmitriev A.K., **Basati Panah M.**, *A novel passive cooling approach: utilizing flexible heat transfer for enhanced thermal performance in portable computing devices, International*

	<i>scientific conference: modern technologies and economics of energy (Международная научная конференция современные технологии и экономика энергетики), 2024.</i>
	Impacts of Supervisor's research <i>He actively engages in scientific supervision, having overseen the defense of master's theses and graduation projects. His scholarly portfolio includes over 10 published articles.</i>