

University	Peter the Great St. Petersburg Polytechnic University
Level of English proficiency	Intermediate (B1)
Educational program and field of the educational program for which the applicant will be accepted	ENGINEERING & TECHNOLOGY 2.4.5. Energy systems and complexes URBANISM & CIVIL ENGINEERING 2.1.1. Building structures, buildings and structures.
List of research projects of the potential supervisor (participation/leadership)	<p>ENI project Energy-efficient systems based on renewable energy for Arctic conditions (EFREA) Project ID KS1054, section leader.</p> <p>ENI project "Energy-efficient systems based on renewable energy for Arctic condition (EFREA) Project ID KS1054, section leader.</p> <p>The project "Digital Technologies for the Creation of Arctic Energy Structures Using Adapted New Generation Materials and Robotic Systems", implemented as part of the NCMU program in the direction of "Advanced Digital Technologies", leader.</p> <p>Scientific and innovative project F-OT-2021-235 "Theoretical foundations for the development of hydropower using hydropower complexes" of the Ministry of Innovative Development of the Republic of Uzbekistan for 2021-2025, co-leader from the Russian side.</p>
List of the topics offered for the prospective scientific research	<p>Digital transformation of ecological-socio-economic systems as the main components of the quality of life of the population</p> <p>Development of control systems for autonomous hybrid energy complexes with electrochemical storage</p> <p>Substantiation of parameters and modes of operation of power plants based on RES for developing countries</p> <p>Resource substantiation of renewable energy facilities in the context of climate change</p>
	<i>2.01. Construction & building technology</i>
	<p>Supervisor's research interests</p> <p>Problems of improving the quality of life in the new technological order of Industry 4.0</p> <p>Development of scientific and theoretical foundations for the formation of smart supply chains</p> <p>System integration of digital services, logistics and trade</p>



Research supervisor:
Victor Elistratov
Doctor of Technical Sciences,
Professor

Supervisor's main publications

Development of theoretical and technological foundations for the conversion of renewable energy, substantiation of the parameters and operating modes of objects and energy complexes based on renewable energy sources, taking into account the spatial and temporal variability of the resource potential, economic, environmental and social efficiency in the design and management of facilities and complexes for grid and autonomous energy. Methods for substantiating the parameters and rational design of constructive and space-planning solutions for buildings and structures using energy-efficient technologies and principles of solar architecture aimed at improving the efficiency of capital investments, energy and resource saving.

Digital design and construction of installations of structures and complexes using renewable

1. V V Elistratov, M V Diuldin, R S Denisov. Justification of project and operation modes of hybrid energy complexes for arctic conditions. IOP Conf. Series: Earth and Environmental Science 180 (2018) 012006, doi:10.1088/1755-1315/180/1/012006,
2. Viktor Elistratov, Irina Kudryasheva. Methodology of wind-diesel power complexes parameters justification for decentralized supply of arctic regions. - 2018 International Ural Conference on Green Energy, UralCon, 2018, 8544298, pp. 127-132.
3. Elistratov, V.V., Panfilov, A.A., Konyshev, M.A., Denisov, R.S. The Application of Adapted Materials and Technologies to Create Energy Systems Based on Renewable Energy Sources under Harsh Climatic Conditions.- Applied Solar Energy 2018, 54(6), c. 472-476/.
4. Elistratov V.V., Bogun I.V., Kasina V.I. Optimization of Wind-Diesel Power Plants Parameters and Placement for Power Supply of Russia's Northern Regions Consumers (2019) 2019 16th Conference on Electrical Machines, Drives and Power Systems, ELMA 2019 - Proceedings, № 8771647. DOI: 10.1109/ELMA.2019.8771647
5. Рамадан А., Елистратов В.В. Моделирование режимов работы сетевой ветроэлектрической установки с синхронным генератором на постоянных магнитах.- Электричество, 2019, №7, с. 11-21. DOI:10.24160/0013-5380-2019-7-11-21.
6. Alexander S. Bolshev , Viktor V. Elistratov , Alexander A. Panfilov, Aleksandr E. Kharseev/ Conceptual Analysis of

the Power of Offshore Wind Plants Designed to Operate in Arctic Conditions.- Proceedings of International Offshore and Polar Engineering Conference. 2020, Oktober, c508-514.

7. Elistratov, V., Kudryasheva, I. Stability and reliability of power system operation due to use of renewable energy resources. 21st International Scientific Conference on Electric Power Engineering, EPE 2020, 2020, 9269222

8. Elistratov V. Energy supply of autonomous territories based on renewable energy sources . - 2020 7th International Conference on Energy Efficiency and Agricultural Engineering, EE and AE 2020 - Ruse; Bulgaria; 12 November 2020, Номер статьи 9279083 ; Номер категории CFP20V95-ART; Код 165935

9. V V Elistratov and R S Denisov. Energetic and ecological justification of RE-hybrid systems for vulnerable ecosystems. March 2021, IOP Conference Series Earth and Environmental Science 689(1):012017 . DOI: 10.1088/1755-1315/689/1/012017.

10. V. A. Bobkov and V. V. Elistratov. Simulation of Photovoltaic Module Operation Modes and Tilt Angle Optimization According to the Criterion of Maximum Electricity Generation. Applied Solar Energy, 2021, Vol. 57, No. 3, pp. 233–241.

11. Elistratov, V.; Konishchev, M.; Denisov, R.; Bogun, I.; Grönman, A.; Turunen-Saaresti, T.; Lugo, A.J. Study of the Intelligent Control and Modes of the Arctic-Adopted Wind–Diesel Hybrid System. Energies 2021, 14, 4188. <https://doi.org/10.3390/en14144188> Q1.

12. Бутузов В.А., Безруких П.П., Елистратов В.В. Российская возобновляемая энергетика. - Энергетик, 2021, №9, с. 35-39. DOI: 10.34831/EP.2021.69.51.006

13. В.В. Елистратов, М.А. Конищев, И.В. Богун, В.И. Касина. Использование ГИС-технологий при проектировании ВДЭС в северных условиях. Журнал «Сантехника, отопление, кондиционирование» (С.О.К.) № 10, 2021г., стр. 66-71.

14. Бутузов В.А., Безруких П.П., Елистратов В.В. Энергетика России на основе ВИЭ: история и современность.- Журнал С.О.К., 2021, №8, с. 52-57..

15. Елистратов В.В., Конищев М.А., Денисов Р.С., Богун И.В. Арктическая ветродизельная электростанция с интеллектуальной системой управления. – Электричество, №2, 2022, с 29-37. RSCI

16. V. Elistratov, R. Denisov, M. Konishchev. Reducing the Arctic carbon footprint through low-carbon technologies and wind power plants // AIP Conference Proceedings 2636, 050004 (2022); <https://doi.org/10.1063/5.0104405>.

17. V.V. Elistratov/ Renewable Energy Trends within the Concept of Low-Carbon Development. - Applied Solar Energy volume 58, pages594–599 (2022).

18. Елистратов В. В. Энергоснабжение объектов в Арктике с использованием возобновляемых источников энергии. – Neftegas.Ru, №1(133), 2023. С.74-79.

19. Elistratov V, Denisov R, Development of isolated energy systems based on renewable energy sources and hydrogen storage, International Journal of Hydrogen Energy, <https://doi.org/10.1016/j.ijhydene.2023.03.122> Volume 48, Issue 70, 15 August 2023, Pages 27059-27067 Q1.

20. V. V. Elistratov, M. M. Mukhammadiyev. Integrated Use of the Hydropower Sources of Uzbekistan in the Context of Climate Change.- Applied Solar Energy, 2023, Vol. 59, No. 1, pp. 87–94. DOI: 10.3103/S0003701X23600480

21. Елистратов В.В. Научно-техническое обоснование и проектирование энергокомплексов на основе ВИЭ для сложных природно-климатических условий - Электричество, 2023, № 10, с. 4–21, DOI:10.24160/0013-5380-2023-10-4-21.