


University	Peter the Great St. Petersburg Polytechnic University
Level of English proficiency	Advanced (C1)
Educational program and field of the educational program for which the applicant will be accepted	ENGINEERING & TECHNOLOGY 2.1.13. Radio engineering, including television systems and devices
List of research projects of the potential supervisor (participation/leadership)	<ol style="list-style-type: none"> <li>1. Methods for digital design of micro- and nanoelectronic component base for wireless infocommunication systems (leader).</li> <li>2. Joint Power Amplifier Optimization Together with Pre-distortion Algorithm (leader).</li> </ol>
List of the topics offered for the prospective scientific research	Analog-to-Digital Conversion Design RF devices for 5G Applications
 <p>Research supervisor: Alexander S. Korotkov, Doctor of Electrical Engineering (Dr.Sc.)</p>	<i>Engineering and Technology</i> 2.02. <i>Electrical eng, electronic eng</i>
	Supervisor's research interests Integrated circuits computer simulation and design for wireless communication systems
	Research highlights Computer simulation and design of RF, analog, and mixed integrated circuits; Integrated circuits models and analysis; Circuits theory and design.
	Supervisor's main publications:
	<p>A.S. Korotkov, T.D. Chan. Analysis of a Current-Driven Passive Mixer at an Arbitrary Intermediate Frequency with Account of Input and Output Impedances // Journal of Communications Technology and Electronics, 2023, Vol. 68, No. 1, pp. 77–87. DOI: 10.1134/S1064226923010072</p> <p>A.S. Korotkov, A. Kavruk, Approximations of High-Order Fractional Transfer Functions // Journal of Communications Technology and Electronics, 2023, Vol. 68, No. 7, pp. 777–786. DOI: 10.1134/S1064226923060086</p> <p>M.S. Enuchenko, A.S. Korotkov. Digital-to-Analog Converters Based on Delta-Sigma Modulators // Journal of Communications</p>

	<p>Technology and Electronics, 2022, Vol. 67, No. 1, pp. 1–16. DOI: 10.1134/S106422692201003X</p> <p>A.S. Korotkov, O.A. Golovan. Analysis of Diode Mixers Using Nodal Voltage Method in Generalized Matrix Form in Frequency Domain. Part 1: Transfer Function // Radioelectronics and Communications Systems, vol.65, no.2, 2022, pp.81-95. DOI: 10.3103/S0735272722020030</p> <p>A. Korotkov, D. Morozov, M. Pilipko, and M. Yenuchenko. Sigma-Delta ADC on SOI Technology for Working at High Temperatures // Radioelectronics and Communications Systems, 2020, Vol. 63, No. 11, pp. 586–595. DOI: 10.3103/S0735272720110035</p>
	<p>Supervisor’s specific requirements: Technical education, hard knowledge in mathematics, electrical engineering, solid state physics, simulation and optimization methods and modern software for microelectronic design</p>
	<p>Results of intellectual activity 1 patent and 2 state registration certificates of the IC layout in the last 5 years</p>