Scientific research project (SRP) department for the postdoc track in the “Open Doors: Russian Scholarship Project”

UNIVERSITY	**MOSCOW POLYTECHNIC UNIVERSITY (Moscow Polytech)**
Department	Scientific and Technical Center “Optoelectronics” at Moscow Polytech
Department Head	Vladimir K. Nikolayev, Candidate of Economic Sciences, Senior Researcher
Scientific Research Project (SRP)	Modeling of thermal and deformation processes of silicon membranes in micro bolometric devices
SRP Research Supervisor	Arkadiy A. Skvortsov, Doctor of Physical and Mathematical Sciences, Professor, Leading Researcher of STC “Optoelectronics
Language	English, Russian

Fields of science and scientific direction(s), in accordance with the International Science Map of the Olympiad

1.02. Computer and information sciences
1.02.04 Computer science, interdisciplinary applications
1.02.05 Computer science, software engineering

1.03. Physical sciences and astronom
1.03.04 Optics
1.03.05 Physics, applied
1.03.07 Physics, condensed matter

2.02. Electrical eng, electronic eng
2.02.01 Automation & control system
2.02.05 Engineering, electrical & electronic

2.03. Mechanical engineering
2.03.02 Mechanics
2.03.03 Engineering, mechanical
2.03.04 Thermodynamics

2.11. Other engineering and technologies
2.11.02 Instruments & instrumentation
2.11.03 Microscopy
2.11.05 Spectroscopy
2.11.06 Engineering, manufacturing

5.02. Economics and business
5.02.03 Organizational Behavior and Human Resource Management
5.02.06 Management of Technology and Innovation
5.02.10 Regional and Sectoral economy Региональная и отраслевая экономика
5.02.14 Industrial relations & labor

5.03. Educational sciences
5.03.02 Education & educational research

Topics of specific scientific research projects of the department

- Grant RSF № 22-29-01373 «Scientific and technical solutions for the development of a thermal memory cell based on a metal-semiconductor contact»
- Grant RFBR № 18-29-27005 «Thermal degradation of metallization systems of ultra-large integrated circuits»
- Grant RFBR № 18-07-00564 «Search for new methods for the formation of conductive zones and channels for a promising element base of microelectronic systems»
- Grant RFBR № 16-07-01206 «Development of a new approach to the analysis of the stress-strain state of silicon-on-sapphire structures by hyperspectral holography methods»
- Grant RFBR №15-07-03575 «Development and creation of energy-saving photoluminescent laser light sources for transport systems»
- Grant RFBR №15-07-02788 «Magnetic memory in semiconductors with dislocations. Search for an element base for a quantum computer»
- Grant RFBR №14-07-00869 «Перспективные технологические процессы анализа тепловых явлений в системах металлизации полупроводниковых структур и керамик»
- Grant RFBR № 13-07-00514 «Spin-dependent states in the subsystem of structural defects in silicon single crystals»