



*Российская Академия Наук*

# From the first women physicists to members of the Russian Academy of Sciences

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**Glagoleva-Arkadieva**  
*Alexandra Andreevna*  
(1884-1945)

In 1910 she graduated from the phys-math Faculty of MHWC, where she received the position of assistant in the Department of Physics. In 1913, she passed the exams to the State Commission at the Moscow University, which allowed her to start teaching (1918) at the phys-math Faculty MSU, and since 1920, to conduct scientific researches in the electromagnetism laboratory. In 1930 she became a professor at Moscow University. She was the founder of the department of general physics for natural sciences faculties and managed it from 1932 to 1939 [1].

**P.N. Lebedev (1866-1912)** Professor of Moscow University, the head of the physical laboratory and the skilled experimenter, was the founder of the first scientific physical school in Russia.



A group of physicists-employees of P.N. Lebedev laboratory  
(Source: V L Ginzburg, *Physics-Uspekhi* 2009, 52(6), c 531)

Russian women did not have access to higher education until 1918, when separate training at all levels was canceled. The diplomas of women educated in foreign universities were difficult to confirm in Russia. In 1900, the Moscow higher women's courses (MHWC) were reopened, but they did not issue a higher education diplomas, and their program was not equivalent to the university one.



**Chuprova Maria Alexandrovna**,  
(1881- the end of the 30s).  
Doctor of Phys-Math Sciences,  
daughter of a Professor of Moscow  
University A.I. Chuprov.

In 1904, she graduated from the phys-math Faculty of MHWC, then for two years she studied in the W. Röntgen laboratory at the University of Munich.

Her older sister Olga (b.1869) graduated from Geneva University (1898) with Dr. of natural sciences diploma. The other sister Elena (b.1877), graduated from Berlin University, and later married her colleague zoologist Richard Heymons, lived in Germany and all her life was his scientific assistant [2].

In 1933, the phys-math faculty **MSU** was divided into Physics faculty and Faculty of Mechanics and Mathematics, the tasks of which included the training of scientific researchers and university teachers.



The entire life of *Valentina Ivanovna Iveronova* (1908–1983) was associated with Moscow University. She graduated from the phys-math faculty of MSU (1929) and began to teach at the department of roentgen-structure analysis. Her doctoral dissertation was the first one on physics in the USSR, defended by a woman. Since 1948 she was MSU professor. Her fields of scientific interests were roentgen-structure analysis, X-ray scattering, solid physics, physics of metals and alloys. In 1951–1969 Iveronova headed the Department of General Physics for Physicists - the largest department of Moscow University. Generation of students studied the general physical workshops by her manual [3,4].

*Rakobolskaya Irina Vyacheslavovna* (1919-2016) enrolled the physical faculty of Moscow University in 1938. In October 1941 she joined the Red Army, in April 1946 she returned to the 4th course of the nuclear department of the physics faculty. Head of the Laboratory of Ultrahigh Energy Cosmic Radiation (1968-1991), Dean of the faculty of advanced training of university teachers in natural sciences (1966–1990), Professor at department of cosmic rays and space physics since 1977, founder of the public organization “Council of Women of Moscow State University” [3,4].



# Women in Russian Academy of Science – all fields of science [5]



**Gorbunova Julia.** Academician, Doctor of **Chemical Sciences**, Head of the Laboratory, Institute of General and Inorganic Chemistry of the Russian Academy of Sciences. She is developing materials for the near-infrared range for use in optical computers

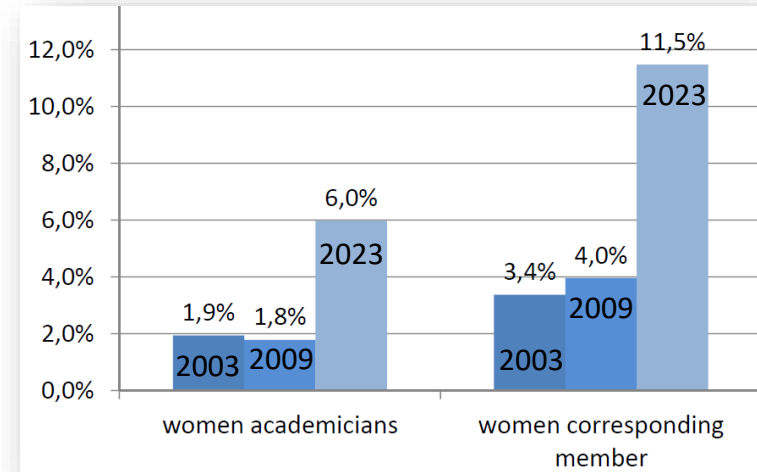


**Goryacheva Irina.** Academician, Doctor of Physical and Mathematical Sciences, Head of the Tribology Laboratory, Institute of Problems of Mechanics of the Russian Academy of Sciences, Scientific achievements were made in the field of studying the influence of physical, **mechanical** and geometric properties of the surface and thin surface layers on the processes of friction and wear

**Lavrik Olga** Academician, Doctor of **Chemical Sciences**, Head of the Laboratory, Institute of Chemical Biology and Fundamental Medicine SB RAS.

She studies complex supramolecular DNA replication and repair systems and their contribution to human health and longevity

The increase of women number is due to Russian Academy of Science reconstruction. Medical Academy and Agriculture Academy were joined with RAS in 2013 year



The number of women in Russian Academy of Science per years – all fields of science

# Women corresponding member in Russian Academy of Science – Physics [5]

Three women were corresponding member in Russian Academy of Science in Physics, and only ***Arefieva Irina*** is alive



***Prozorova Lyudmila***

08.10.1928 - 27.04.2016

She was a specialist in the field of low-dimensional magnetism, nonlinear spin dynamics of magnetically ordered crystals, magnetic resonance, antiferromagnetism, application of magnetic resonance methods in condensed matter physics. It detected negative nonlinear attenuation, propagation of spin wave packets, and magnon interaction.



***Ryazhskaya Olga***

12.05.1941 - 10.10.2021

She was one of the authors of a highly transparent liquid scintillator designed to detect neutrinos from collapses of stellar nuclei in our Galaxy. She supervised the design and construction of the hundred-ton Collapse detector in the Artemovsk salt mine, the LSD neutrino detectors and the 1000-ton LVD in Italy.



***Arefieva Irina***

She is the author of the covariant field theory of the open superstring. She obtained estimates of the formation time of the quark-gluon plasma and the total multiplicity of the formed particles depending on the properties of colliding heavy ions within the holographic approach.



# Women deputy directors in institutes of Russian Academy of Science – Physics [5]



***Svetlana Kotova.***

Deputy Director for Scientific Work of the Samara Branch of the P.N. Lebedev Physical Institute of the Russian Academy of Sciences.

Her fields of scientific interests are coherent optics and optoelectronics, including laser tweezers, modulation of optical radiation, liquid crystals, optical measurements, optical information processing, H-index 12.

<http://fian.smr.ru/en/>



***Galina Chucheva***

Deputy Director for Scientific Work of the Fryazino Branch of the V.A. Kotelnikov Institute of Radio Engineering and Electronics of the Russian Academy of Sciences

Her fields of scientific interests are physics and electronics of the semiconductor-dielectric interface and the element base of microelectronics, the electrophysical properties of metal–dielectric–semiconductor structures, including structures with an ultrathin dielectric, H-index 7.

[https://fireras.su/index.php?main=abt\\_e.htm](https://fireras.su/index.php?main=abt_e.htm)

Kotelnikov Institute of Radioengineering  
and Electronics of RAS



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