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## SCIENTIFIC AND PEDAGOGICAL ACTIVITY

### PYOTR MUKHACHEV IN 1887-1935

#### Summary

The purpose of the article is to highlight the main life milestones and creative path, to summarize the priority scientific achievements of a talented engineer and teacher, one of the founders of technical education in Ukraine and research institutions in the field of metallurgy, Honored Professor P. M. Mukhachev. Research methods: general scientific - analysis and synthesis, classification; historical -

problem-chronological, comparative-historical, biographical, retrospective. The analysis of the main stages of the professional activity of the outstanding scientist and teacher gave grounds to assert that he was one of the founders of higher education in the field of locomotive engineering and metallurgy, for several years he was the head of the Kharkov Technological Institute of Emperor Alexander III, led the courses of fire-resistant construction. His professional activity led to the emergence of new academic subjects at the university, primarily steam locomotive engineering, internal combustion engines, electrical engineering and others.

After the October revolution, the scientist and teacher was forced to leave the Kharkov Institute of Technology. His activities were related to teaching, consulting companies. Already at an advanced age, Pyotr Matveyevich headed the Institute of Metals established in Kharkov for several years. He managed to ensure the formation and sustainable development of the first research institution - the Kharkov Institute of Metals, and later, the Ukrainian Research Institute of Metals (UkrRIMet). P. M. Mukhachev managed to attract the most qualified scientists to work at the Institute, both on a permanent basis and part-time: chemists, metallurgists, metal scientists, economists, mining engineers who lived in the city of Kharkov.

Under the leadership of Pyotr Matveyevich, the staff of the Institute managed to determine the main directions of scientific activity and its place in the technical progress of the metallurgical industry. The Institute's staff carried out many of the most important original works in the field of casting and metallurgy: research of sintering processes, development of new grades of cast iron and steel, more economical rolled profiles, research on energy consumption at rolling mills, production of transport metal, heat treatment, metal science, foundry, production and labor organization, safety in ferrous metallurgy, development of more advanced methods of process control and metal quality research, pure iron production technology, antifriction cast iron, continuous casting machines and technology, etc.

Kharkiv Research Institute of Metals has been the flagship of scientific research in the world metallurgy since its opening in 1928 and to this day. In a historically short time, unprecedented achievements in world history were achieved, which made

it possible to transform the country from a backward into a world leader in the production of ferrous metals in 10-12 years.

Under the leadership of Pyotr Matveyevich, the foundations of numerous scientific schools were laid, which after a fairly short time led to the emergence of a whole constellation of innovative researchers. The results of their work, which were put into production, led to a sharp increase in the quantity and quality of the metal produced. The authors of the works were subsequently awarded state awards, State Prizes of the USSR and Ukraine, prizes of the Council of Ministers of the USSR.

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