Mikhail Nikolaevich Mikheev (Obituary)

A. P. Aleksandrov, S. V. Vonsovskiĭ, É. S. Gorkunov, V. V. Klyuev, N. N. Krasovskiĭ, G. A. Mesyats, A. M. Prokhorov, V. D. Sadovskiĭ, P. A. Khalileev, I. M. Tsidil'kovskiĭ, and V. E. Shcherbinin

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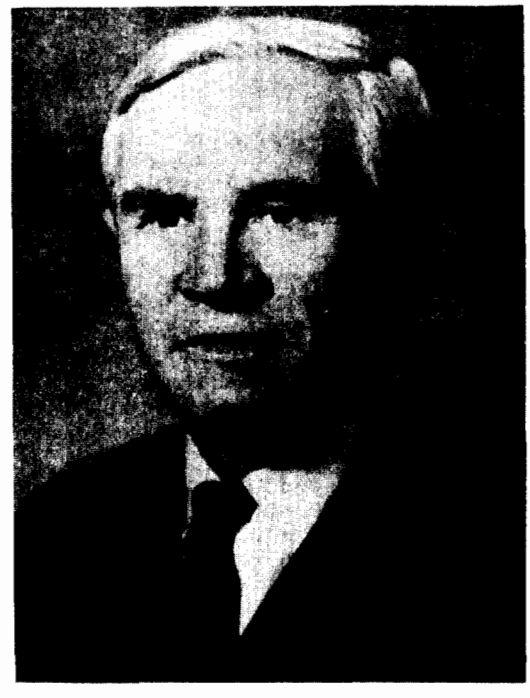
On 27 August 1989 the prominent scientist, Corresponding Member of the Academy of Sciences of the USSR, laureate of the USSR State Prize, Honored Scientist and Technologist of the USSR, and Doctor of Technical Sciences, Professor Mikhail Nikolaevich Mikheev, died after a prolonged serious illness.

M. N. Mikheev was born in 1905 to the family of a railroad worker in a settlement at the Zuevka station of the Perm' railroad. The destiny of M. N. Mikheev is typical of talented people, whose gifts were discovered due to the October conquests. Organizational abilities and great political activity in this complex period paved his road to science. In 1923, by direction of the Vyatsk district executive committee, M. N. Mikheev entered Leningrad University in the physics and mathematics department. When he was a fourth year student M. N. Mikheev was invited to be a trainee at the Leningrad Physico-Technical Institute, and in 1930, he began graduate studies. In this same year he prepared his first publication, and in 1931 he made his first invention. So began his scientific career.

The decision to create the Ural Physico-Technical Institute was made in 1932. It was on the initiative of Academician A. F. Ioffe that the new scientific institute was organized, and he recommended the 27-year-old Mikhail Mikheev for the post of institute director. He served as the director of the Institute of the Physics of Metals for more than 50 years. The names of many of the hundred first associates of the institute are now known to the entire country: Academicians I. K. Kikoin, S. V. Vonsovskiĭ, A. P. Komar, G. V. Kurdyumov, Corresponding Member Ya. S. Shur, and others. The idea of creating a USSR Academy of Sciences institute in Sverdlovsk was brought about by the need to bring together the subject matter and problems of the fundamental science of the physics of metals with the problems of the industry of the Ural region. The entire burden of responsibility for solving the problems at hand was on the shoulders of M. N. Mikheev as director and scientist.

Throughout his entire life, M. N. Mikheev combined his scientific research with the solution of the most important production problems of the great factories of the Urals. "If your scientific developments can already be put to use today, it is imperative to seek a practical application for them." That is how scientist M. N. Mikheev understood his duty, and he tried to get this from the scientific staff of the institute.

The main work of M. N. Mikheev was done in the field of applied magnetism. Mikhail Nokolaevich was one of the founders in our country of the school of nondestructive physical methods of testing. He developed a new scientific direction, magnetic structural analysis, at the juncture of the physics of magnetic phenomena and physical metallurgy. It was on the initiative and under the direction of M. N. Mikheev that fundamental research was done to establish the mechanisms linking the magnetic properties of ferromagnetic materials and their structural stress state, durability characteristics, and chemical and phase compositions. The study of the magnetic properties of heterogeneous semicrystalline ferromagnetic substances, steel and cast iron, aided in the deeper understanding and development of model concepts on the processes of magnetization and remagnetization of these systems. These studies were at the basis of new original methods and instruments for nondestructive magnetic testing. The research of M. N. Mikheev and his students, which extended over more than 50 years, made it possible to formulate and solve, using methods of magnetic structural analysis, such problems as the testing of the phase composition, structural state, and durability characteristics of rolled products, thermally and chemothermically treated steel, cast iron, and metal-ceramic products, as well as the evaluation of residual stresses in ferromagnetic materials.



MIKHAIL NIKOLAEVICH MIKHEEV
(1905–1989)

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Parallel to the scientific research done under the direction of M. N. Mikheev was continuous extensive work on the practical use of the methods of nondestructive testing. Thousands of instruments developed and manufactured on the initiative and with the great efforts of Mikhail Nikolaevich provided the country with a multi-million ruble economical effect, as well as a substantial social effect, and they will continue to serve industry for a long time to come.

A large contribution to the coordination of scientific research and experimental industrial work in the country was made by M. N. Mikheev as a member of the Bureau of the Joint Scientific Council of the USSR Academy of Sciences on the Problem of the Physics of Solids and as the first chairman of the Scientific Council of the USSR Academy of Sciences on the Problem of Nondestructive Physical Methods of Testing, which was also entrusted with the functions of the Soviet National Committee on Nondestructive Testing. From 1966 to 1985 M. N. Mikheev was the editor-in-chief of the USSR Academy of Sciences journal Defektoskopiya. Mikhail Nikolaevich paid a great deal of attention to pedagogical activity at the Ural State University. A large collective of skilled specialists grew under his direction. Many of them head scientific and production collectives in the Urals.

With his many responsibilities, Mikhail Nikolaevich never complained of fatigue. At the difficult moments of his life he knew how to make the right decisions like a true communist, placing work above his own welfare. Mikhail Nikolaevich was greatly respected not only as an authoritative scientist and specialist, but also as a person with whom contact was always interesting and pleasant. To a great extent this was fostered by his qualities of good-will, natural humor, ability to understand the person with whom he was conversing, and his readiness to offer practical help. An entire generation of colleagues working under his direction experienced true affection and deep respect for M. N. Mikheev.

The varied scientific, scientific-organizational, pedagogical, and social activity of M. N. Mikheev was recognized by state awards: five orders and medals. In 1951 M. N. Mikheev and R. I. Yanus were jointly awarded the USSR State Prize for the development and introduction into industry of new methods of testing the quality of steel products.

All those who worked with him and knew him will always fondly remember Mikhail Nikolaevich, a remarkable man, a prominent scientist, and one of the organizers of academic science in the Urals.

Translated by Christine Gallant