

## PELAGEYA YAKOVLEVNA KOCHINA: A 70-TH BIRTHDAY TRIBUTE

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Pelageya Yakovlevna Kochina will go down in the history of Russian science and culture as one of the first woman scientists of the Soviet age.

Her circle of scientific interests is extremely broad. She has worked productively in the fields of dynamic meteorology, tide theory, and the theory of elasticity. Her contribution to the theory of flow in porous media has been particularly important.

P. Ya. Kochina is equally interested in theoretical and practical problems. Some of her results are used in hydroelectric engineering, others in the planning of petroleum and natural gas production.

An indefatigable servant of science, Hero of Socialist Labor, professor, Doctor of Physicomathematical Sciences, the first woman Academician in mechanics, and a remarkable human being—the scientific community of our country warmly congratulates Pelageya Yakovlevna Kochina on her seventieth birthday and wishes her good health and further creative successes.

### PELAGEYA YAKOVLEVNA KOCHINA—A BIOGRAPHICAL NOTE

P. Ya. Kochina (née Polubarinova) was born on 13 May 1899 in Astrakhan. She studied first at the Astrakhan girl's high school and later at a high school in Petrograd, where she was awarded a gold medal. In 1916 she entered Prof. Bestuzhev's academy for women, which after the Revolution was incorporated in Leningrad University. In 1921 she graduated from the Department of Physics and Mathematics with a degree in mathematics.

After a brief spell as a librarian in 1918, from 1919 to 1927 she worked in the Leningrad Main Geophysical Observatory as a computer and assistant physicist responsible for the theoretical geophysics section, while simultaneously teaching in various Leningrad institutes (Institute of Communications Engineers, Institute of the Civil Air Fleet).

In 1933 she became a professor of mathematics, in 1940 a Doctor of Physicomathematical Sciences, in 1946 she was elected a corresponding member of the Academy of Sciences of the USSR, and in 1958 a full member of the Academy.

Since 1935 Kochina has worked in the AS USSR, first in the Steklov Mathematical Institute, then, from 1939, in the Institute of Mechanics, and since 1959 in the Institute of Hydrodynamics of the Siberian Division AS USSR.

At the same time, she has taught in a number of Moscow institutes: the Hydromelioration, Dirigible-Building, and Gubkin Petroleum Institutes and, more recently, at Novosibirsk University.

Kochina is a member of the National Committee of the USSR on Theoretical and Applied Mechanics and the Soviet National Committee of the International Association for Hydraulic Research. She has participated on a number of occasions in the work of international congresses on applied mechanics, hydraulics and geophysics in France, Italy, and Switzerland.

Her public activities are well known. She was elected a deputy of the Supreme Council of the RSFSR and a member of the city soviets of Moscow, Leningrad, and Novosibirsk, and she is a member of the Soviet committee of the International Democratic Federation of Women. In 1959 she attended a conference of Italian women in Rome.

Kochina is a member of the editorial boards of the periodicals Prikladnaya Matematika i Mekhanika and Zhurnal Prikladnoi Mekhaniki i Tekhnicheskoi Fiziki [Journal of Applied Mechanics and Technical Physics]. She headed the interdepartmental commission on the utilization and conservation of the water resources of Siberia. She has presided over the organizing committees of a series of conferences arranged by the Siberian Division of the AS USSR on the water problems of Siberia.

In recent years Kochina has devoted considerable attention to the popularization of the science of water resource management. This is the subject of her popular book (1964, 2), articles in the science magazine Nauka i zhizn (1962, 1), and a series of newspaper articles.

Her scientific and teaching activities and public service have won her three Orders of Lenin, an Order of the Red Banner of Labor, and various medals. On 13 March 1969 the Presidium of the Supreme Soviet USSR awarded her the title Hero of Socialist Labor together with a fourth Order of Lenin and a "hammer and sickle" gold medal.

Kochina is interested in both the theoretical and the practical problems of reclamation, hydroengineering, water resource management, and the oil industry. Her contributions to the theory of flow in porous media have been particularly important. In addition to studying problems of percolation and seepage in the exact hydrodynamic formulation, she has been much occupied with developing a hydraulic theory of percolation in stratified soils and flows with a free surface. She has more than 140 publications to her credit.

Her principal results are contained in two monographs. The first of these, "Some problems of the plane motion of subsurface waters," appeared in 1942 and was awarded a State prize in 1946. The second, "Theory of motion of subsurface waters," published in 1952, has become a standard reference for specialists in hydromechanics in the Soviet Union and abroad.\*

Since the end of the thirties, Kochina has also spent much time on the history of science. She is a student of the life and work of S. Kovalevskaya.

In 1948 she prepared and edited the collection S. V. Kovalevskaya. Scientific Works, for which she translated six of the scientist's works and compiled an account of her scientific activities. In the same year she wrote a fuller biography of Kovalevskaya for the series "People of Russian Science." Her research reveals Kovalevskaya to have been an outstanding scientist and confirms her claim to have been the leading Russian woman of her time, a fighter for the right of women to work in every sphere of human activity.

Since the creation of the Institute of Hydrodynamics of the Siberian Division, AS USSR, Kochina has been in charge of the Department of Applied Hydromechanics. As chairwoman of the commission on the utilization and conservation of the water resources of Siberia, she has worked hard to solve the problems associated with the development of western Siberia. Many of the results obtained by the Department of Applied Hydrodynamics have already found practical application and are being used by various research institutes and planning agencies. The work of Kochina and her colleagues at the Institute of Hydrodynamics is summarized in the monograph "Mathematical methods in irrigation problems." The monograph "Development of Research in the Theory of Flow in Porous Media in the USSR (1917-1967)" has Kochina as editor and contributor. These books are to appear very shortly.

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\*A more detailed review of Kochina's scientific research and a list of publications together with a systematic account of her work on flow in porous media may be found in the periodical Prikladnaya Matematika i Mekhanika, no. 2, 1969.