

PEOPLE OF SOVIET SCIENCE

ABRAM FILIPPOVICH CHUDNOVSKII ON THE OCCASION OF HIS SIXTIETH BIRTHDAY AND THE THIRTY-FIFTH ANNIVERSARY OF HIS SCIENTIFIC AND PEDAGOGICAL ACTIVITIES



September 28, 1970 marked the 60th birthday and the 35th Anniversary of the scientific and pedagogical activities of the prominent Soviet thermophysicist, Doctor of Physicomathematical Sciences, Prof. Abram Filippovich Chudnovskii.

After graduating in 1932 from the physics department of the Odessa State University, A. F. Chudnovskii worked in the physics department of the Leningrad Polytechnic Institute, where he rose from assistant to professor. In 1938 he successfully defended, at the Agrophysical Institute, his candidate's dissertation devoted to the thermal characteristics of soils. The agrophysical subject strongly attracted the young scientist and his doctoral dissertation, which he defended in 1946, pertained to the same field.

The range of scientific interests of A. F. Chudnovskii is extremely broad and diverse. He is associated with the thermal physics of soils and the atmospheric boundary layer, heat transfer in dispersed media, thermal and thermoelectric properties of semiconductors, with the use of mathematical statistics and the detailed characterization of meteorological parameters, and also with the development of methods, instruments, and various measuring and regulating devices (mainly semiconductor devices). A. F. Chudnovskii has devoted particular attention to thermal processes in such complex and diverse media as soils and the regolith. He established the basic regularities relating the thermal characteristics of soils with their density, moisture content, dispersion, and mineralogical composition, and on this basis a general theory of heat propagation in soil, taking account of the variability of thermal characteristic with depth was created. A. F. Chudnovskii is responsible for the development of such basic scientific problems as the creation of the most effective method of obtaining thermal characteristics, the statement and solution of associated problems of conductive and molecular heat conduction in a turbulent atmosphere, the simultaneous closed solution of equations of heat and mass transfer for the soil-air system, the creation of an original theory of intrasoil condensation (with consideration of internal sources), and also a theory of surface evaporation of natural soil during irradiation.

Translated from *Inzhenerno-Fizicheskii Zhurnal*, Vol. 19, No. 4, pp. 756-757, October, 1970.

© 1973 Consultants Bureau, a division of Plenum Publishing Corporation, 227 West 17th Street, New York, N. Y. 10011. All rights reserved. This article cannot be reproduced for any purpose whatsoever without permission of the publisher. A copy of this article is available from the publisher for \$15.00.

Of great scientific and applied value are the experimental results of A. F. Chudnovskii. The most significant of these are: the establishment of the dependence of the thermophysical characteristics of dispersed media on their properties and state (temperature, density, moisture content, composition, mineralogical structure); the establishment of the temperature dependence of the thermal conductivity of the main types of semiconductors in solid, liquid, and transient states; and the determination of the principal physical regularities of energy- and electrotransfer in molecular and ionic crystals.

A. F. Chudnovskii and his pupils have made a great contribution to the development of various instruments, measuring systems, and information-measuring and regulating devices and systems, which have found use in agriculture, industry, and laboratory practice.

A. F. Chudnovskii has written more than 150 published works, including 12 monographs that have gained wide recognition: *The Physics of Heat Transfer in Soil*, *Heat Transfer in Dispersed Media*, *Thermophysical Characteristics of Dispersed Media*, *Electronics and Cybernetics in Agricultural Meteorology*, *Physics of the Atmospheric Boundary Layer* (together with D. L. Laikhtman), the major work *Soil Physics* (jointly with S. V. Nerpin), and others.

A. F. Chudnovskii is an attentive educator of scientific cadres. More than 50 of his graduate students have become candidates and doctors of sciences.

A. F. Chudnovskii is a member of the editorial board of a number of domestic and foreign journals, including *Inzhenerno-Fizicheskii Zhurnal* and the *International Journal of Heat and Mass Transfer*.

We wish the celebrant health and new scientific achievements for the good of the Soviet Motherland.