

Professor Arkady Tsinober



Professor Arkady Tsinober passed away on December 11 2020. He was born in Kiev on January 29 1937. His family escaped the Nazi occupation of Kiev and, when World War II ended, they moved to Riga. After graduating from high school in Riga in 1954, he was admitted to the famous Lomonosov Moscow State University, Faculty of Mechanics and Mathematics, from which he graduated with Honors in 1959. In 1960, upon his return to Riga, he began his career at the Institute of Physics of the Latvian Academy of Sciences. He defended his PhD dissertation in 1965 and his Dr. Sci. dissertation (equivalent to Habilitation in the West) in 1975. In the same year, he applied for repatriation to Israel and, as could be expected, his application was denied and he became a “refusenik”. By that time, he already enjoyed an international scientific recognition. After waging a three-year war with the former Soviet authorities, with the support of his friends and colleagues in Israel and in the West, he obtained permission to leave the Soviet Union in 1978. Upon arrival in Israel, he was offered a full professor position at Tel Aviv University.

At Moscow State University, he studied under Kolmogorov, Obukhov, Monin, Yaglom, Zeldovich and other luminaries of Soviet Hydrodynamics. During that period, he developed an addiction to turbulence. At Tel Aviv, he put his energy and enthusiasm toward building new laboratories from scratch. Those were dedicated to studies of turbulence in stratified flows, investigations of the fascinating phenomena of the double-diffusive convection, and various application of MHD flows. As he was very familiar with the latter from his work at the Latvian Institute of Physics, he adapted high-accuracy tools of turbulent vorticity measurements in MHD flows to classical hydrodynamics by using water as a working fluid instead of liquid metals. The pinnacle of this research was the emergence of a multi-sensor hot-wire probe (with 21 wires!) capable of measuring a full velocity vector and all velocity gradients in flows in wind tunnels. This effort was spearheaded towards conducting the most advanced experiments elaborating physics of atmospheric turbulence. Arkady was engaged in every facet of this research, from planning the experiments and blueprinting the sensors to, literally manufacturing the sensors using a microscope and manipulators of his own design.

Arkady communicated and collaborated with many scientists around the world. He published nearly 200 papers and 4 books, two in the former Soviet Union on MHD flows and MHD turbulence and two in the West dealing with the basic physics of turbulence. In 1999–2006, he served as Tel Aviv University Chair in Basic Research in Turbulence, and in 2006–2009, he was Marie Curie Chair in Fundamental and Conceptual Aspects of Turbulent Flows. In 1999, he was a Visiting fellow of Wolfson College, Cambridge University, UK, and in 2006, he was a Pauli Fellow at Wolfgang Pauli Institute (WPI), Vienna, Austria. He served as an Associate editor of the section on Turbulence at Applied Mechanics Reviews starting in 2000.

He held an appointment as a member of the Scientific Panel on Fluid Mechanics for ICIAM 2011 at the 2011 International Congress on Industrial and Applied Mathematics.

He organized and supervised numerous scientific seminars: 1971–75, Latvian Seminar on MHD Turbulent Flows, 1993–2006, Israel Seminar on Turbulence, 2006–2009, Turbulence seminars, Institute for Mathematical Sciences and Department of Aeronautics, Imperial College, London. He always considered these seminars an important task for the scientific community and especially for students. For the same reason, he was strongly involved in the Organization of International Meetings.

During his “refusenik” period in 1975-1978, he organized a seminar on Jewish Culture and was a driving force behind the production of a Samizdat (i.e., unofficial and self-published) journal “The Jewish Thought”.

Arkady was survived by his wife, son and brother.

Eliezer Kit, Tel Aviv University
Boris Galperin, University of South Florida

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