PREFACE: HEAT TRANSFER IN CONDENSATION AND BOILING, PART 1

July 18, 2014, marks the 100th anniversary of the birth of Professor Samson S. Kutateladze, a world-renowned scientist, the author of the hydrodynamic theory of boiling crisis, the founder of scientific schools in the fields of thermophysics and fluid mechanics, and an Academician of the Russian Academy of Sciences.

Professor Kutateladze started his research career in 1932 at the Polzunov Central Boiler and Turbine Institute in Leningrad (now Saint Petersburg), where he was hired as a laboratory assistant. His early research work was focused on studies of heat transfer during phase transitions and was based on the hydrodynamic similarity theory. At the age of 25 he published a monograph entitled “Fundamentals of Heat Transfer under State Transformations of Matter,” a pioneering contribution to the heat transfer literature. Professor Kutateladze’s early works laid the foundation for understanding the nature of the boiling crisis. He went on to publish 20 monographs and about 300 articles, and in 1964 he became the director of the Institute of Thermophysics in Novosibirsk.

Over the course of his long and successful research career, Professor Kutateladze won a number of honorary awards. He is a recipient of the prestigious Polzunov Prize of the Russian Academy of Sciences. In 1969, he was awarded the Max Jacob Memorial Award for his studies on boiling and turbulent boundary layers, which was presented to him at the 4th International Heat Transfer Conference in Paris.

In 1994, the Institute of Thermophysics of the Siberian Branch of the Russian Academy of Sciences was renamed The Kutateladze Institute of Thermophysics; a nearby street bears his name as well. Memorial plaques honoring Kutateladze have been placed on the Polzunov Institute building in Saint Petersburg and the Institute of Thermophysics building in Novosibirsk. A bronze bust of Kutateladze was unveiled at the Institute of Thermophysics to mark the centennial of his birthday.
Interfacial Phenomena and Heat Transfer is honoring Professor Kutateladze with a special collection of articles entitled “Heat Transfer in Condensation and Boiling,” which is also the title of Kutateladze’s second monograph that was published in 1949. The articles will be published in three journal issues, starting with the present one. The scope is limited to studies on condensation, boiling, and two-phase channel flows. The accepted articles represent leading research groups from China, Germany, India, Italy, Japan, Switzerland, and the United States and reflect recent developments in several research directions pioneered by Kutateladze.

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