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YAKOV MOISEYEVICH SEREBRIYSKY ON THE 100 ANNIVERSARY

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June 22, 2013, marked the 100 anniversary of an outstanding aerodynamicist, Yakov Moiseyevich Serebriysky—Doctor in Technical Sciences, Professor, and Winner of USSR Lenin and State awards, as well as three awards named after N. E. Zhukovsky. Being a great scientist with multiple research interests, Ya. M. Serebriysky made a significant contribution to the development of Russian aerospace science and engineering. His main research interests cover high-speed aerodynamics and the development of supercritical airfoils and wings, which have been fundamental in the formation of modern different-purpose aircrafts.

Ya. M. Serebriysky was admitted to TsAGI in 1935, while a student at the Moscow Aviation Institute and, at the same time, a part-time student at the Department of Mathematics, Moscow State University. His earlier works on flexible wing theory (Ph.D. thesis, 1939) and the effect of ground proximity on wing aerodynamics revealed the distinctive genius of the young researcher. In 1943, he defended, with honors, a doctoral thesis on an ingenious method of calculating flow over an arbitrary airfoil in incompressible fluid and became the youngest Doctor of Science in post-WWII history at TsAGI.

Integration of aviation into the area of high subsonic speeds led to the necessity of overcoming the so-called wave crisis caused by an abrupt increase of wing drag due to local supersonic zones and shock waves close to the wing surface. The well-known cube law developed by Ya. M. Serebriysky, and published in a fundamental work on wave drag (in cooperation with S. A. Khristianovich, 1944) gave a simple and accurate estimation of the airfoil wave drag in the presence of a local supersonic zone. The results of the work on the root effect at subsonic and supersonic speeds made a significant contribution to swept wing theory. Ya. M. Serebriysky's research on this and other topics in theoretical and physical aerodynamics, heat transfer, and power boundary layer control systems had a decisive influence on the development of Russian aircraft over many generations, including modern and advanced aircraft with a high level of aerodynamic efficiency.

A broad interest in many scientific areas as well as his deep scientific knowledge made Yakov Moiseyevich Serebriysky generally recognized in the academic and aerospace engineering community. In addition to his work at TsAGI, Professor Serebriysky

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gave lectures at the Moscow Aviation Institute and Moscow Institute of Physics and Technology. Being a brilliant teacher and a man of great erudition, he was always surrounded by his students. More than 30 Ph.D. theses were undertaken and defended successfully under his supervision. For many years he worked for the Academic Board and the Science and Engineering Board of TsAGI in the area of aerodynamics, as a member of the editorial board of the Russian version of *TsAGI Science Journal* (*Uchenye Zapiski TsAGI*), and as a leader of a research team. His fruitful academic career and his great contributions to aerospace engineering have been honored by prestigious state awards. The great contributions of Professor Serebriysky in the area of aerodynamics serve as examples of his devotion to the advancement of science in Russian.