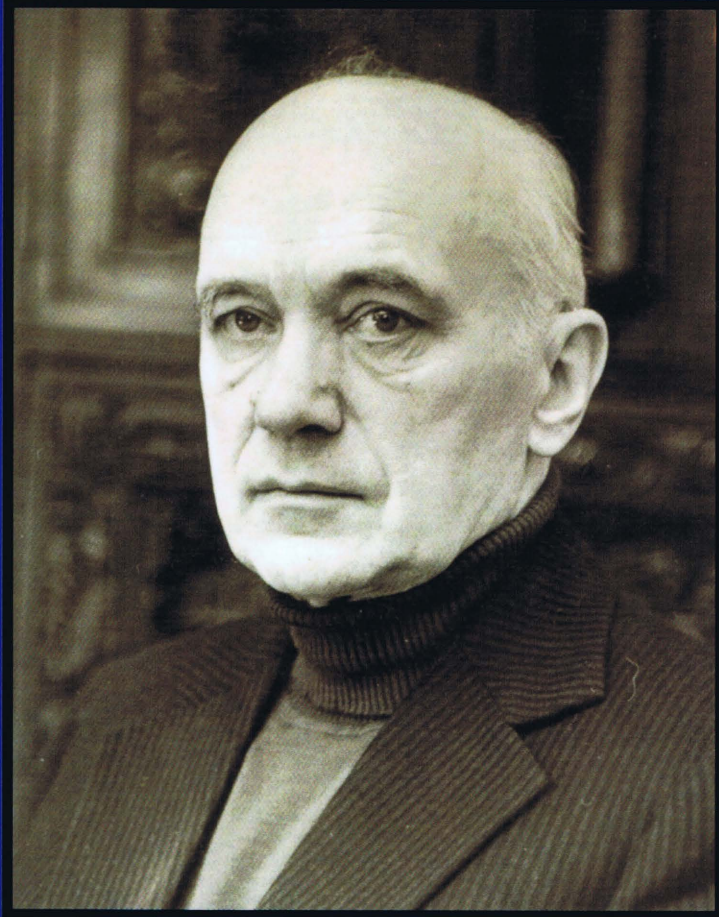


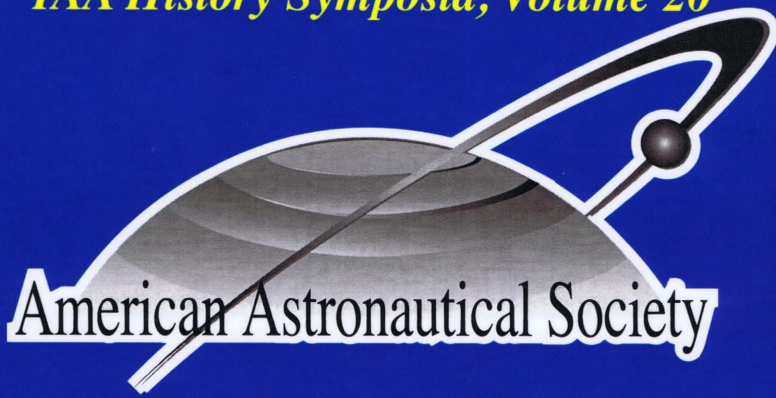
# History of Rocketry and Astronautics

Otfrid G. Liepack, Editor



**AAS History Series, Volume 30**

*IAA History Symposia, Volume 20*





# **History of Rocketry and Astronautics**

**AAS History Series, Volume 30**  
**International Academy of Astronautics Symposia**

### **Front Cover Illustration:**

Boris Viktorovitsch Rauschenbach (1915–2001): Academician Rauschenbach was born in 1915 in St. Petersburg by parents of German descent. He was the leader and designer of guidance, navigation and attitude control systems for manned and unmanned Earth orbit, Lunar and interplanetary spacecraft in the Korolev team at OKB-1, and later NPO Energia, from 1956 on. His leading role as the main specialist of guidance and navigation systems for spacecraft in the U.S.S.R. was bolstered when he became professor at the Moscow Physical Technical Institute.

Boris Rauschenbach was also intensively engaged in various scientific and cultural organizations, and published articles on art and culture. He served as an editor for the large Russian space encyclopaedia *Kosmonautica Encyclopedia*, and was to publish a large number of articles on the history of the U.S.S.R. space activities. His paper together with V. N. Sokolsky published in this volume of the IAA History Symposia Proceedings was to become his last international paper on U.S.S.R. space history. (See also the In Memoriam section in this volume, beginning on page 309)

(Photo Credit: Russian Academy of Science).

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**Proceedings of the Thirty-Fourth History Symposium of  
the International Academy of Astronautics**

**Rio de Janeiro, Brazil, 2000**

**Otfrid G. Liepack, Volume Editor**

**Donald C. Elder, Series Editor**

**AAS History Series, Volume 30**

**A Supplement to Advances in the Astronautical Sciences**

**IAA History Symposia, Volume 20**

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AMERICAN ASTRONAUTICAL SOCIETY

AAS Publications Office  
P.O. Box 28130  
San Diego, California 92198

Affiliated with the American Association for the Advancement of Science  
Member of the International Astronautical Federation

*First Printing 2009*

ISSN 0730-3564

ISBN 978-0-87703-549-7 (Hard Cover)

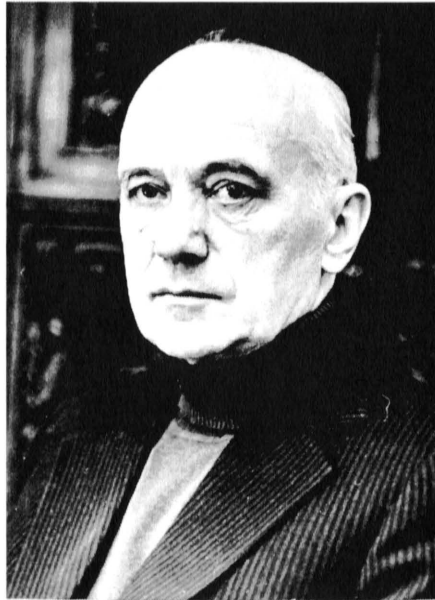
ISBN 978-0-87703-550-3 (Soft Cover)

Published for the American Astronautical Society  
by Univelt, Incorporated, P.O. Box 28130, San Diego, California 92198  
Web Site: <http://www.univelt.com>

Printed and Bound in the U.S.A.

## **In Memoriam: Boris Viktorovitsch Rauschenbach (1915–2001)**

Academician Boris V. Rauschenbach was born on 18 January 1915 in St. Petersburg to parents of German descent. Rauschenbach started studies at the Leningrad Institute of Civil Air Engineers in 1932 and moved in 1936 to Moscow. After completion of his studies Rauschenbach joined the team of S. P. Korolev at RNII working on the stabilization of guided missiles, and soon became a lead engineer. When Korolev was arrested this work came to a stop, but Rauschenbach managed to publish the RNII results in 1940, a report that became the first theoretical work on the stabilization of rockets by means of automatic control devices.



**Boris Viktorovitsch Rauschenbach (1915 – 2001).**  
(Photo: Courtesy of Russian Academy of Science)

In 1942, Boris Rauschenbach suffered the same destiny as most Russian-Germans and was arrested and sent to a labor camp at Nizhny Tagil in the Ural Mountains. Thanks to his excellent scientific qualifications, he was permitted to continue theoretical studies during his detainment. In 1948, he returned to RNII in Moscow after interventions by the new head of the institute, M. V. Keldysch, and in the same year he completed his doctor's degree in physics. He became the head of the development of the dynamics and flight control systems of the

Buryan and Buran cruise missiles. These research activities lead him into studies on guidance and navigation of spacecraft in earth orbit and interplanetary flight. In 1956, he joined S. P. Korolev at OKB-1 (later named NPO Energy) as the leader and designer of guidance, navigation and attitude control systems for manned and unmanned spacecraft. In 1959, Lunar 3 took the first pictures of the far side of the moon using control systems designed by Boris Rauschenbach. Projects to follow using control systems design by Boris Rauschenbach were the Mars, Venera, Zond, Zenith and Molniya spacecraft, and later the docking systems for the Soviet space stations.

Boris Rauschenbach was also a teacher, and in 1959 he became professor at the Moscow Physical Technical Institute. Later, in 1978, he left NPO Energy to become the Dean of the Mechanics Department of the Institute. In later years, Boris Rauschenbach was also intensively engaged in various national and international scientific and cultural organizations, and published articles on art and culture. He served as an editor for the large Russian space encyclopaedia *Kosmonautica Encyclopedia* (1985) and in 1994 he published the well-known biography *Hermann Oberth: The Father of Spaceflight*. He was also a very strong advocate for improved political and living conditions for the Russian-Germans.

He received many distinguished awards over the years, including the Lenin-Order, the Demidow-Award and the Distinguished Service Cross of the Federal Republic of Germany. He was a Member of the Academy of Sciences of the Russian Federation, Member of the Tsiolkovsky Academy of Cosmonautics and the International Academy of Astronautics (IAA).

Boris Rauschenbach was a full Member of the IAA, and a Member of the IAA History Committee from 1990 until his death in 2001. He wrote regular papers for the IAA History Symposia from 1968 on biographies of Soviet space leaders (i.e. Keldysh and Korolev) and the development of astrodynamics in the early space era of the Soviet Union.

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