

## DOCUMENTS OF THE GENERAL FACULTY

**REPORT OF THE MEMORIAL RESOLUTION COMMITTEE FOR  
BOB E. SCHUTZ**

The special committee of the General Faculty to prepare a memorial resolution for Professor Bob E. Schutz, Department of Aerospace Engineering and Engineering Mechanics, has filed with the secretary of the General Faculty the following report.



Alan W. Friedman, Secretary  
General Faculty and Faculty Council  
The University of Texas at Austin  
Arthur J. Thaman and Wilhelmina Doré Thaman Professor of English and Comparative Literature

**IN MEMORIAM  
BOB E. SCHUTZ**

Professor Bob Ewald Schutz was born on September 8, 1940 in San Antonio, Texas, the son of Ernest and Lola Schutz. Dr. Schutz died on June 7, 2015, surrounded by his family. He is survived by Barbara, his wife of forty-six years, his sons Will and John, his daughter-in-law Domi, and grandchildren Bianca, Clara, and Anthony. In addition to his immediate family, an extended family of his former colleagues and students will remember him with gratitude and fondness.

Bob earned three degrees in aerospace engineering at UT Austin: the B.S. in 1963, the M.S. in 1966, and the Ph.D. in 1969. He joined the faculty of the Department of Aerospace Engineering at UT Austin in 1969 and held the Joe J. King Chair in Engineering at the time of his passing. He also held the title of FSX Professor of Space Applications and Exploration. He was a founding member and served as the Associate Director of the UT Austin Center for Space Research for a period of 42 years.

Bob's contributions had a great impact on the areas of satellite geodesy, satellite laser ranging, precision orbit determination, and statistical estimation theory. He was a Fellow of the International Association of Geodesy, a Fellow of the American Geophysical Union, a Fellow of the American Astronautical Society, and a Fellow of the American Institute of Aeronautics and Astronautics. He served as the 1990-91 President of the Geodesy Section of the American Geophysical Union and was the recipient of the American Astronautical Society 2008 Brouwer Award. He served as an Associate Editor of the journal *Celestial Mechanics* and Associate Editor for Geodesy of the American Geophysical Union's publication *EOS*. He was a founding member of the International Laser Ranging Service and served for an extended period on its Governing Board. He published over 150 papers in refereed journals and more than 100 in refereed conference proceedings. Additionally, Dr. Schutz co-authored four books and made more than 350 oral presentations at technical meetings. Many of his former students currently serve in important roles in space research and application efforts. He was inducted into the National Academy of Engineering in 2014.

As a pioneer in the area of space geodesy, Dr. Schutz had a long and sustained record of accomplishments. His work focused on developing techniques for using accurate measurements of satellite motion to study changes in the Earth's dynamic system. In these studies, he made major and sustained contributions to the development of the capability for accurate determination of satellite orbit and attitude. These contributions supported a number of National Aeronautics and Space Administration (NASA) and international Earth-orbiting missions that require centimeter-level orbit accuracy and comparable accuracy in attitude knowledge.

During his career, Dr. Schutz also made significant contributions to the use of satellite altimeters for studying ocean dynamics and polar ice sheet change. His leadership in the field of geodesy and precision orbit and attitude determination led to his selection as Science Team Lead for the NASA Ice, Cloud, and Land Elevation Satellite (ICESat) Mission. Dr. Schutz led the effort responsible for meeting the highly demanding orbit and

attitude requirements for this mission, and was also responsible for the development and implementation of the calibration instrumentation required for validating the laser altimeter range measurement. These significant accomplishments received specific recognition from NASA. The success of the ICESat mission in measuring polar ice mass change was instrumental in a project start for ICESat-2 and, as in many areas of the space geodesy field, his students play significant roles in the implementation of the follow-on mission.

His research in laser ranging played a role in improved measurement of the tectonic plate motion, the Earth's rotation rate and polar motion, and the models for the Earth's gravity field. These important results from modern laser and Global Positioning System (GPS) space geodesy systems are illustrative of his more than three decades of unique contributions to the field of satellite geodesy. His career contributions provided significant improvement in both theory and computational methodology for using highly accurate space geodesy measurements to understand the dynamic changes that the Earth is undergoing.

The contributions of Dr. Schutz to the undergraduate and graduate academic and research programs in Aerospace Engineering at UT Austin have helped to make our program in space engineering one of the strongest in the world. He is sorely missed.

This memorial resolution was prepared by a special committee consisting of Professors Byron Tapley (chair), Wallace Fowler, and Srinivas Bettadpur.

Distributed to the Dean of the Cockrell School of Engineering on July 17, 2018, and posted under "Memorial Resolutions" at <https://wikis.utexas.edu/display/facultycouncil/Wiki+Home>.