

IN MEMORIAM

WILLIAM (BILL) CARL SCHIEVE

William (Bill) Carl Schieve was born on April 28, 1929, in Portland, Oregon, to Rudolph Ray and Emily Auld Schieve. Bill's father was born in Oregon and his mother in Wisconsin. Ray Schieve was a superintendent of public works in Oregon.

Bill graduated from Grant High School in Portland, Oregon, in 1947. He ran track and was an honor student. He entered Reed College in 1947 where he majored in physics. He graduated from Reed in 1951 and then entered graduate school at Lehigh University in Bethlehem, Pennsylvania, where he earned a Bachelor of Science and a PhD. While working on his PhD degree at Lehigh University, 1956-60, Bill was also a Bartol Research Foundation Fellow. He received his PhD in October 1959 with his thesis entitled "The Equations of Motion of Point Singularities of the Electromagnetic and Charge Symmetric Scalar Meson Fields." His supervising professor was Peter Havas.

On December 27, 1951, Bill married Florence M. Gilleland in Portland, Oregon. Florence, born in California, is the daughter of Eugene B. and Marjorie B. Gilleland. In 1956, Bill and Florence had a daughter, Catherine Florence Schieve, and their son, Eric, was born in 1958.

During 1960-66, Bill worked as a principal Investigator at the US Naval Radiological Defense Laboratory, Nucleonics Division, in San Francisco, California. In 1964-65, he was Visiting Scientist at the University of Brussels, Service de Chimie-Physique in Belgium.

He then returned to the US Naval Radiological Defense Laboratory in San Francisco where, during 1966-67, he served as Head of the Theoretical Group. In 1964, Bill was awarded a silver medal by the lab for his research. In 1967, Bill joined the Department of Physics and the

Center for Statistical Mechanics and Thermodynamics (later renamed the Center for Complex Quantum Systems) at The University of Texas at Austin as an Associate Professor. From April 1969 to September 1972, Bill served as Acting Director of the Center, during which time the Director was Ilya Prigogine. In 1979, he was promoted to Full Professor, and he remained at UT Austin until his retirement.

In 1986, Professor Schieve received an American Society for Engineering (ASEE) Education Summer Award at Navy Operational Support Center (NOSC) for work on the non-linear and stochastic dynamics of the superconducting quantum interference device. In 1987, Bill was the recipient of the Humboldt Prize, “Senior Distinguished US Scientist Award,” and subsequent to that spent January-September 1987 and summer 1988 at the Max Planck Institute for Quantum Optics in Garching, FRG. There he worked on chaos theory in Superconducting Quantum Interference Devices (SQUID), particularly the effects of noise, both quantum and classical, resulting in a semi-classical perturbation analysis of the mean field description of the laser.

In 1989, he again received the ASEE award at NOSC, where he began a series of papers on a new non-linear dynamics model of the Hopfield Neural Network. A seminal result was his showing how a large network by means of the “slaving” principle could be viewed as effectively a one or two or few simple neuron dynamical system. He later helped obtain the simplest example of chaos in such a system.

He was a Visiting Professor at the University of Ulm in the summers of 1996, 1997, and 1999, sponsored by the State of Baden-Württemberg. Bill also had close collaborations with faculty at the University of Brussels, Service de Chimie-Physique, and spent several summers there between 1969 and 1974.

Bill organized and ran numerous conferences and workshops that included topics such as Dissipative Structures in Social and Physical Sciences, Irreversibility in Quantum Mechanics and Quantum Optics, and Modelling Complex Systems (in honor of Robert Herman).

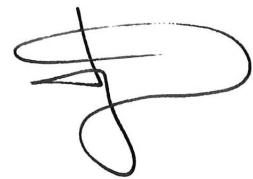
Bill co-authored 164 articles and edited five books in the field of non-equilibrium statistical mechanics and chaos, including: *Lectures in Statistical Physics*; *Self-Organization and Dissipative Structures*; *Classical Relativistic Many-Body Dynamics*; *Instabilities, Bifurcations, and Fluctuations in Chemical Systems* (with colleague, Linda E. Reichl).

Quantum Statistical Mechanics (Cambridge Press, 2009), his book with Lawrence P. Horwitz, is frequently referenced. Bill also co-authored with his student Matthew A. Trump the book *Classical Relativistic Many-Body Dynamics* (Kluwer Academic Publishers, 1999).

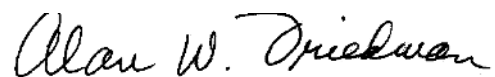
Bill supervised the PhD dissertations of more than twenty-seven students, a number of whom went on to become leaders in their fields.

Following retirement in 2009, Bill and Florence moved to Fredericksburg, Texas, where they enjoyed a small farm and visitors from around the world.

Bill died September 19, 2020, in Fredericksburg. He is survived by his wife Florence Schieve; two children: son, Eric and his wife Michelle Schieve, and daughter Catherine Schieve and her husband Warren Burt; and four grandchildren: Jessica Morkin, Eugenie Schieve, Erica Alexander, and Jaimie Lycan.



Jay Hartzell, President
The University of Texas at Austin



Alan W. Friedman, Secretary
The General Faculty

This memorial resolution was prepared by a special committee consisting of Professors Linda E. Reichl (Chair), Melvin Oakes, and Harry L. Swinney.