

## Biographical Sketch - Samuel B. Trickey

14 Aug. 2025

### Professional Preparation

B.A. (1962 - Physics) Rice University  
M.Sc. (1966 - Computational physics) Texas A&M University  
Ph.D. (1968 - Theoretical physics) Texas A&M University  
Postdoc - None

### Appointments

1979-present Professor, Physics and Chemistry, Univ. Florida (Emeritus, July 2005 - present)  
1999-2004 Director, Quantum Theory Project, Univ. Florida (max. two terms)  
1991-1996 Exec. Director, Info. Tech. and Services, Office of the Provost, Univ. Florida  
1986-1990 Director, Info. Tech., Liberal Arts and Sciences, Univ. Florida  
1977-1979 Professor and Dept. Chair, Physics, Texas Tech Univ.  
1973-1977 Assoc. Professor, Physics, Univ. Florida  
1968-1973 Asst. Professor, Physics, Univ. Florida  
1965-1968 NASA Ph.D. stipend research asst. (Physics), Texas A&M Univ.  
1962-1964 Research Scientist, Mason & Hanger - Silas Mason Corp. (Pantex U.S.A.E.C.).

### Research

Sam Trickey is Professor (Emeritus since July 2005) of Physics and Chemistry, Univ. Florida. A density functional theory (DFT) and predictive materials simulation expert, central themes of his research career are the study of matter under extreme conditions: high pressures, ultra-thin films, warm dense matter, atoms in ultra-high magnetic fields, etc. A related area is high-reliability calculation of magnetic states, especially spin-crossover.

He has had individual investigator funding from the National Science Foundation, Dept. of Energy, and U.S. Army Research. He also is co-Principal Investigator of the Center for Molecular Magnetic Quantum Materials, an Energy Frontier Research Center of the Dept. of Energy.

In the last 15 years, he has led a group at Florida developing finite-temperature DFT, particularly in its orbital-free form. The effort has made major progress on orbital-free non-interacting and exchange-correlation free energy functionals. With colleagues in México, he has pushed orbital-free exchange-correlation functionals to unexpected accuracy levels. See the group's web page <https://ofdft.phys.ufl.edu>

Earlier, he and collaborators did pioneering predictive calculations on crystalline phase transitions in simple metals, rare gas crystals, and the stability of ultra-thin films such as double-layer graphene and Lithium.

To date he has published 226 peer-reviewed papers and edited four research books.

He co-authored the original WIEN code (now WIEN2k), the GTOFF gaussian orbitals periodic code, PUPIL (a multi-scale simulation framework), PROFESS@QuantumEspresso (for orbital-free finite-T simulation), and KGEC (Kubo-Greenwood conductivity for QuantumEspresso).

### *Honors*

Prof. Trickey was honored as Teacher of the Year in the Univ. of Florida College of Arts and Sciences (1973-74), the first physical science faculty member to be so recognized.

In 1980 he was elected as Fellow of the American Physical Society and selected as Outstanding Referee by that organization in 2012.

Because of his fluency in Spanish, engagement with the Mexican-American community, and involvement in workshops and conferences throughout Latin America, he is a Life Member of the National Assoc. of Hispanic Physicists.

In 2016, he was honored to be named as a Miembro Correspondiente (foreign member) of the Academia Mexicana de Ciencias.

### *Service*

Prof. Trickey has served as a co-organizer for the Sanibel Symposia since 1969.

He was Specialist Editor (Condensed Matter) for *Computer Physics Communications* during 1991-2016.

During 1977-79 he was Chair, Dept. of Physics and Eng. Physics, Texas Tech Univ. During 1986-1990 he was Director of Information Technology for U. Florida's College of Liberal Arts and Sciences. Subsequently (1991-1996) he was U. Florida's first chief information officer.

He was elected Director, Quantum Theory Project for the allowed two terms, 1999-2004.

As to community service, he was co-founder of Alachua County Organization for Rural Needs (ACORN) and also of Welcoming Gainesville and Alachua County. He is a Board member (and was President for the allowed two terms) of the National Farm Worker Ministry, and was Commodore of Gulf Atlantic Yacht Club.