
OBITUARY

In Memory of Vitaly Adol'fovich Schweigert (August 30, 1955–April 3, 2001)



Vitaly Adol'fovich Schweiger, an eminent theoretical physicist and expert in the fields of gas discharge physics, dusty plasmas, and solid-state physics, died of brain cancer on April 3, 2001, being just 45 years old, full of energy, and at the height of his scientific achievements.

Vitaly Schweigert was born August 30, 1955, in the town of Krasnokutsk, Kazakhstan. After graduating with honors from the Physics Department at Novosibirsk State University in 1977, he worked for more than 20 years in Novosibirsk at the Institute of Theoretical and Applied Mechanics of the Russian Academy of Sciences. In 1983, he defended his candidate's dissertation and, in 1997, his doctoral dissertation. Both dissertations were devoted to numerical simulations of gas discharges. Vitaly Schweigert was one of the first scientists to demonstrate the potentialities of numerical simulations in gas discharge physics and one of the pioneers in developing multidimensional kinetic codes based on Boltzmann equation solvers and the Monte Carlo and particle-in-cell techniques. Vitaly Schweigert applied these codes to study the fundamental effects

related to the nonlocality of the electron energy distribution functions in gas discharges. His ability to efficiently simulate very complicated physical systems with disparate time and space scales was extraordinary.

The scientific productivity of Vitaly Schweigert exploded in the past decade when he applied his simulation capabilities to other areas, such as the physics of fullerenes, the formation of atomic clusters and dusty crystals, the structure of two-dimensional Wigner crystals, quantum dots, phase transitions, vortex matter in mesoscopic superconductors, and the design of semiconductor devices.

Vitaly Schweigert was a creative person who generated a lot of ideas. As a result of sharing his ideas and numerical codes with other scientists, he co-authored more than fifty articles during the last five years. In total, he published 156 papers in the leading scientific journals. His recent papers (1996–2000) on mesoscopic superconductivity and dusty plasmas were widely recognized and often quoted, each of them receiving, on average, 30–40 citations.

Vitaly Schweigert's computational ability was in high demand by many experimental and theoretical groups in Russia, USA, Germany, Belgium, and the Netherlands. Owing to those numerous collaborations, Vitaly Schweigert had more than thirty co-authors around the world. His remarkable research was supported by numerous funding agencies in Russia and abroad.

The colleagues and friends of Vitaly Schweigert knew him as a sincere and honest man who was devoted to science. His warm and generous personality, his considerable expertise, and his enthusiasm for life will be sorely missed by his family, friends, and colleagues.

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(in total, 37 signatures)*