

**Viktor Leopol'dovich Bonch-Bruevich (Obituary)**

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Viktor Leopol'dovich Bonch-Bruevich, an outstanding theoretical physicist who worked in the field of theoretical semiconductor physics, passed away on April 9, 1987.

V. L. Bonch-Bruevich (Bonch) was a man of action: a hard worker with a great deal of get-up-and-go he participated in numerous conferences, did a lot of consulting, had many students and friends, had some enemies too,—generally lived in the thick of scientific life. Thus it is very hard to think of him in past tense.

Viktor Leopol'dovich played an outstanding role in the evolution of semiconductor theory in our country. In Moscow, during the years of active development of semiconductor physics, he became a center about which the turbulent life of theoretical semiconductor physics came to swirl. Bonch founded a seminar on semiconductor theory, then the only one of its kind, where the “semiconducting and solid state” gurus of the time came to speak. It was both an honor and a hazard to give a talk at that seminar as the criticism was often pointed, if not downright “merciless.” An atmosphere of active scientific research reigned around Bonch with his eager participation. All this became possible, certainly, because of his encyclopedic knowledge of theoretical physics, his ceaseless attention to all new ideas and advances and their immediate application to semiconductor theory.

Largely because of Viktor Leopol'dovich's efforts semiconductor theory became an independent branch of theoretical physics—therein in our opinion lies his main achievement.

Viktor Leopol'dovich often and gladly cooperated with experimentalists at various levels of expertise. For instance, he was invited by S. G. Kalashnikov to the Institute of Radio and Electronics at the USSR Academy of Sciences for the “enlightenment” of experimentalists and played a significant role in that regard.

Bonch's lectures educated generations of semiconductor physicists, and not only Soviet ones. These brilliantly conceived lectures contained everything: profound exposition of the fundamentals, the latest advances and prospects of theoretical and experimental physics.

Everybody is familiar with the enormous variety of Viktor Leopol'dovich's scientific translations—their importance to Soviet scientists is hard to overestimate.

Bonch was generous in the extreme, both in science and in everyday life. Once somebody gained his attention Bonch was “by definition” ready to help. Many are indebted to Viktor Leopol'dovich for constructive assistance which determined the rest of their lives: Bonch's existence put the life of others on an even keel.

Viktor Leopol'dovich Bonch-Bruevich was born on January 8, 1923, in Moscow. His studies at Moscow State University were interrupted by the war: in 1941 he volun-



VIKTOR LEOPOL'DOVICH  
BONCH-BRUEVICH  
(1923–1987)

teered into the Red Army, serving at the front first as part of a communist battalion and then in landing combat troops. After demobilization he graduated from the physics department at Moscow State University and completed graduate study at the Physical Chemistry Institute of the USSR Academy of Sciences under F. F. Vol'kenshtein. He later taught at the Moscow Communications Institute and from 1955 onwards, worked at the semiconductor physics department at Moscow State University.

Together with F. F. Vol'kenshtein Viktor Leopol'dovich carried out groundbreaking research into the theory of chemadsorption and catalysis on semiconductor surfaces. He obtained classic results on many-particle foundations of crystal band theory using retarded Green's functions. Viktor Leopol'dovich (simultaneously with other researchers) carried out pioneering studies of heavily doped semiconductors. Perhaps the best known of Viktor Leopol'dovich's papers addressed instabilities in semiconductors. In his last years V. L. Bonch-Bruevich became more and more interested in the theory of disordered semiconductors and the problem of sto-

chastic self-oscillations in semiconductors.

He always worked on the most pressing problems in semiconductor theory; each research cycle led to a book.

V. L. Bonch-Bruevich ably represented Soviet science abroad at numerous international conferences. During 1979 he held the Gauss Professorship at Göttingen University. He was awarded an honorary Doctor of Natural Science degree by Humboldt University (Berlin, East Germany).

Viktor Leopol'dovich served on the editorial boards of

many journals and publishing houses.

V. L. Bonch-Bruevich lived for only 64 years, but his life was intense and productive.

We will always remember our teacher, friend and colleague, noted scientist, and a sensitive responsive man—Viktor Leopol'dovich Bonch-Bruevich.

Translated by A. Zaslavsky