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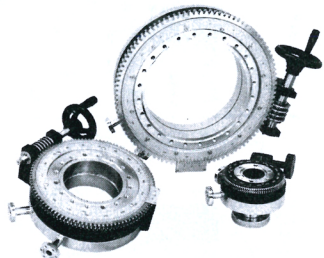
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advantages of structuring least-squares estimation problems in a recursive setting.

Through his influence on former students and colleagues and his numerous publications, Swerling leaves enduring professional contributions achieved by few. He is sorely missed by all who knew him.

**HAROLD P. SMITH JR**

*University of California, Berkeley*

**GENE GOLDSTEIN**

*Raytheon Electronic Systems*

*El Segundo, California*

## George Michael Volkoff

George Michael Volkoff, a theoretical physicist who, with J. Robert Oppenheimer, pioneered the physics of neutron stars, died on 24 April in Vancouver, British Columbia, Canada, after a series of strokes.

Born in Moscow, Russia, on 23 February 1914, George and his family emigrated to Canada when he was 10 years old. A few years later, his father, an engineer, could not find appropriate work in Canada, so the family relocated to Harbin, Manchuria, where his father taught at a Russian technical school. George returned to Vancouver in 1930 to attend the University of British Columbia (UBC). There, he earned his BA in physics in 1934. In the meantime, his mother died in Manchuria, and his father returned to Russia in 1936, only to be caught up at once in the maelstrom of the Stalinist purges.

George was a brilliant student. As a graduate student at the University of California, Berkeley, he wrote his first—and most famous—paper, "On Massive Neutron Cores," with Oppenheimer as coauthor. In this paper, published only a decade after the advent of quantum mechanics and a few years after the discovery of the neutron and the beginning of nuclear physics, George gave detailed calculations of stellar collapse—during a supernova—into a neutron star. After earning his PhD in physics at Berkeley in 1940, he investigated more topics in nuclear physics, including early work on tensor forces with Eugene Wigner at Princeton University.

George returned to UBC in 1940 as an assistant professor in the physics department and, apart from his war work, remained there for the rest of his career. In 1946, he was made a member of the Order of the British Empire. He also was awarded an honorary doctorate (in 1945) by UBC for his work on the theory of Canada's CANDU reac-



GEORGE MICHAEL VOLKOFF

tors during World War II.

On returning to UBC after the war, he supervised the very first student to receive a PhD in any subject from UBC: Tom Collins, who later became an accelerator physicist with Fermilab. George also initiated a successful program in nuclear magnetic resonance studies. From 1961 to 1970, he was the head of the physics department, eventually becoming the dean of science from 1970 to 1979.

At the beginning of the cold war, he carried out important work as a liaison with Russian scientists, translating the talks, as they occurred, of the first Russian visitors to the early Rochester conferences. He also translated into English innumerable physics articles written in Russian.

George served as president of the Canadian Association of Physicists from 1962 to 1963. Although he had postulated the existence of neutron stars well before their discovery as pulsars, recognition of his work in this area came slowly. In the meantime, two of his initial colleagues, Oppenheimer and Hartland Snyder, had died. However, in 1994, George's earlier work on neutron stars was largely acknowledged by his appointment as an officer of the Order of Canada.

In his long career in physics, George developed a worldwide network of friends and admirers. He had a great gift for friendship, wide cultural interests, and a passion for music and mountains. And, with his wife and daughters, George provided hospitality to those with whom he interacted. He will be widely mourned and missed.

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