obituaries

electronic engineer, a power engineer, a mechanical engineer and a civil engineer. He was a man of extraordinary talent with whom it was a delight to associate. Brookhaven will not be the same without him.

JOHN BLEWETT
Brookhaven National Laboratory

Norbert Rosenzweig

PHYSICS TODAY *learned only recently of Norbert Rosenzweig's death last year on 10 October. The following obituary was submitted to us by James E. Monahan of Argonne National Laboratory.*

Born in Vienna, Austria on 6 January 1925, Rosenzweig studied as an undergraduate at Rutgers University and earned his PhD in 1951 from Cornell University.

ROSENZWEIG

He was a member of the physics division at Argonne National Laboratory from 1951 to 1970. During this time his research interests were primarily focussed on the statistical properties of nuclear and atomic spectra. The experimental verification of his derivation of the level-density dependence of a nucleus on its shell structure (the "Rosenzweig effect") was one of the first indications that observable shell effects persist to high excitation energies. He was also one of the principal contributors to the development of the random-matrix model of the nucleus.

In addition to his research, Rosenzweig was genuinely interested in teaching and he was widely recognized to be an outstanding teacher. At various times during his tenure at Argonne he accepted temporary teaching appointments at Brandeis University, State University of New York, Stony Brook, and Northwestern University. In 1970 he became professor of physics at State University of New York, Albany. His most recent research had included studies of the properties of electrons in small metal particles.

Arpad Bardocz

Arpad Bardocz, general director of Physik Instrumente (Munich), died 14 February at the age of 68.

He studied at the Technical University of Budapest and earned his PhD in physics (spectroscopy) there in 1935. His career in spectroscopy began on the faculty of mechanics of the University's Institute of Theoretical Physics, where he earned his *docent* in 1943. He then developed an interest in molecular spectroscopy and made the transition with enthusiasm at a time when scintillation spectroscopy was beginning to blossom as an important new field.

Bardocz continued his active participation in research at the Institute for Plasma Physics of the Max Planck Society in Munich. He was a member of numerous scientific societies and published more than a hundred scientific and technical papers. He held many patents for spectroscopic instruments and also participated in the development of numerous national and international standards. Bardocz had the profound respect of his colleagues and associates.

M. L. MITNYAN
Ecole Polytechnique, Montreal

William P. Bucher

William P. Bucher, a research physicist at the US Army Ballistic Research Laboratory, Aberdeen Proving Ground, Maryland, died in an automobile accident on 11 February at the age of 47.

While Bucher's major research was in experiments on the scattering and polarization of fast neutrons, his interests and contributions encompassed several fields. After receiving a BS in electrical engineering from the University of Maryland, he did graduate work in nuclear physics at the University of Virginia where he earned a PhD in 1959. Bucher continued his research activities in neutron physics at the Bartol Research Foundation of the Franklin Institute, 1959–61. After a year of teaching at North Carolina State College, he spent two years as a guest professor at the University of Hamburg and at DESY.

Bucher had worked since 1965 at the US Army Ballistic Research Laboratory. He had recently completed an extensive set of measurements of the small-angle scattering of 7- to 14-MeV neutrons from medium and heavy-weight nuclei using a new technique that he had developed. □