OBITUARIES

To notify the community about a colleague's death, subscribers can visit **www.physicstoday.org/obituaries**, where they can submit obituaries (up to 750 words), comments, and reminiscences. Each month recently posted material will be summarized here, in print. Select online obituaries will later appear in print.

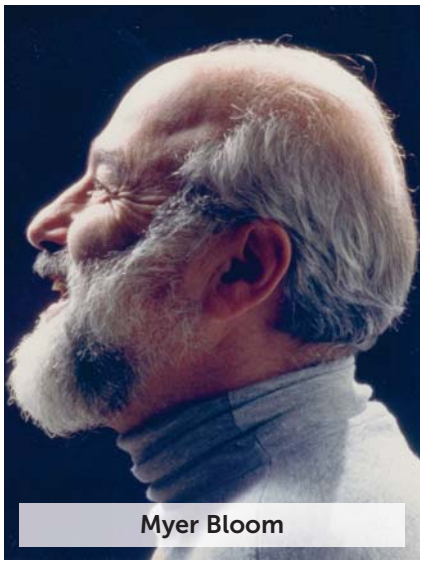
Myer Bloom

Myer Bloom, who had spent most of his professional life as a physicist at the University of British Columbia (UBC) in Canada, died on 9 February 2016 in Vancouver. He made fundamental contributions to the use of solid-state NMR techniques in studying gases, liquids, and solids, and he applied those techniques to more-complex states of matter, such as soaps, liquid crystals, lipid bilayers, and biological membranes. He was renowned for his capacity to combine provocative and original thinking with a high level of physical intuition and ability.

Born into a Jewish family in Montreal on 7 December 1928, Myer obtained his BSc in physics from McGill University in 1949 and a PhD in nuclear magnetic resonance from the University of Illinois at Urbana-Champaign (UIUC) in 1954 under Charles Slichter. He spent 1954–56 as a postdoc at the Kamerlingh Onnes Laboratory at the University of Leiden; that experience greatly influenced his special way of conducting science. From 1956 to his retirement in 1993, he was affiliated with UBC.

At Leiden, Myer carried out the first NMR studies of fluid and solid molecular hydrogen and hydrogen deuteride. With Jan van Kranendonk he showed how nuclear spins relax in antiferromagnetic crystals. At UBC, Myer set up a research program to study molecular solids; he and his group were able to measure relaxation times over a broad temperature range, and from analyzing their results they extracted information about molecular interactions. They also obtained the first measurements of the transitions between ortho, para, and meta nuclear-spin symmetries in solid methane. Myer's further groundbreaking work involved studies of relaxation in a pure helium-3 gas in two and three dimensions.

Another fundamental result from Myer's early career was the proposal and observation of the transverse Stern–Gerlach effect in a beam of neutral spin-½ particles. Myer developed the idea with Karl Erdman, and it took five years of work before Myer, Eric Enga, and Hin Lew could report the experimental confirmation on neutral potassium atoms.



Myer Bloom

In the early 1970s, Myer ventured into a new research area on pulsed magnetic induction in nuclear quadrupole resonance and the then-new spin-echo techniques. His efforts were inspired by his early work with Erwin Hahn while Myer was a student at UIUC. Myer realized that spin echoes provided the foundation for a novel approach to solid-state NMR studies of biological systems in which protons could be substituted by deuterons.

Using that approach, Myer, in collaboration with Ian Smith, managed to obtain the first deuterium NMR spectrum of a biological membrane. The technique is possibly Myer's most important and influential scientific contribution, since it can be applied in a range of fields. It allows recording of an essentially undistorted Fourier-transform deuterium spectrum, and research groups around the world working in membrane biophysics and biochemistry have since used it routinely. A later refinement made it possible not only to obtain the spectrum from a powder sample but, more importantly, to use the powder spectrum to reconstruct the spectrum for an oriented sample—the so-called de-Paking technique. That led to direct information about acyl-chain structure and dynamics and how they are influenced by sterols and proteins, among other molecules.

Based on that groundbreaking work and fueled by a deep insight into the theoretical underpinnings of NMR techniques, Myer and his group contributed substantially over three decades to our understanding of the physics of biological membranes. Among the more important contributions are experimental and theoretical studies of lipid–protein interactions, a theory for the evolution of membranes, and the development of a systematic procedure to study the total NMR spectrum of whole cells, which is relevant to cancer research.

In the last part of his university career, Myer established an international research program of excellence under the aegis of the Canadian Institute for Advanced Research. The interdisciplinary program rallied leading scientists worldwide to pursue and coordinate research in fundamental studies of soft materials, including biological systems.

Myer was diagnosed with Parkinson's disease in the mid 1990s, and very much in the spirit of his holistic approach to life, he started studying the science of the disease by attending seminars with medical doctors and working on models of dopamine transport in tissues and cells. Although the physical limitations imposed by the disease made his life difficult, his mental faculties remained intact, and he kept his strong curiosity about the world around him. During the last few years of his life, he was able to complete his memoirs, published as *Lucky Hazards: My Life in Physics* (ISSS Press, 2014); he was helped by his sister, Bernice Kastner; his good friend and early student, Walter Hardy; and Hardy's wife, Christina Kaiser.

Myer was a role model: He was a wonderful mentor to his many students and an exceptional colleague and collaborator with a diverse group of scientists from around the world. He made those of us in his greater scientific family feel like close members of his own family. He would invite us to accompany him and his wife and children when they would dine out, ski, or hike in the Vancouver area.

A unique human being and real mensch, Myer demonstrated that interpersonal relationships are the foundation

of both science and life. Although he entered physics because of "lucky hazards," he took the ball and created a wonderful legacy.

Ole G. Mouritsen
University of Southern Denmark
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Richard Pierre Von Herzen

Richard Pierre Von Herzen, a pioneer in geophysical instrumentation, died of vascular disease in Portola Valley, California, on 28 January 2016. Dick was a remarkably creative and influential scientist, a considerate colleague, and a thoughtful mentor. He helped establish the disciplines of deep-sea geothermics and marine hydrogeology and published seminal studies on those and related topics.

Born in Hollywood, California, on 21 May 1930, Dick completed a BS in geophysics at Caltech in 1952. After serving in the US Army, he earned an MA in geology from Harvard University in 1956 and a PhD in marine geophysics from the

Richard Pierre Von Herzen

Scripps Institution of Oceanography in 1960, with Russell Raitt as his adviser. Dick spent most of his professional career at the Woods Hole Oceanographic Institution (WHOI), where he made numerous contributions, particularly in instrument development. Dick sailed on about 45 oceanographic expeditions, 15 as chief or co–chief scientist. Among other recognitions, he was awarded the Maurice Ewing Medal by the American Geophysical Union in 1998 and the Hans Pettersson Medal from the Royal Swedish Academy of Sciences in 1999.

Dick is perhaps best known for developing and applying tools, including multipenetration probes, to measure the flow of heat through the seafloor and laboratory instruments to determine the thermal conductivity of sediments and rocks. Dick led the development of microelectronic systems for those tools and pushed the limits of available technology. In addition, he freely shared instruments and ideas with a broad community, including many young researchers and students, and he encouraged others to build on his achievements.

Dick's work was at the center of ideas that developed into the modern theory of plate tectonics, which explains many aspects of Earth's history, properties, and processes. His seafloor heat-flux measurements showed elevated values close to seafloor ridges, which are often near the center of ocean basins; the ridges were interpreted to be "spreading centers" where new lithosphere is created. Those