

search Council Unit for Work on Molecular Structure of Biological Systems, under the direction of Perutz, and another MRC-funded group led by Fred Sanger took residence in the newly established MRC Laboratory for Molecular Biology.

In close collaboration with Brian Hartley, also at the MRC Lab for Molecular Biology, David commenced structural studies of the digestive enzyme chymotrypsin. He recruited Brian Matthews and Paul Sigler to join him on that project. By 1967, they had successfully determined the structure of chymotrypsin, only the third protein to be structurally characterized. That work ultimately led to the elucidation of the catalytic mechanism (the specific atomic details of how catalysis occurs) for the large class of serine protease enzymes.

In 1977, David left Cambridge to take up a professorship in the biophysics section of the physics department at Imperial College London. He continued to work on structures of important proteins. It was during that time that I had the great fortune to pursue my doctoral work under David's direction. He inspired his colleagues with the enormous passion he showed for his work. He was deeply committed to his students and strove

not only to provide them with excellent training opportunities, but also to create an environment rich in learning and scientific interaction. Morning coffee and afternoon tea times with David in the "interaction room" provided opportunities for stimulating conversations on the nuances of data processing, data refinement and model building, and critical discussions on new structures from recent journal articles that littered the coffee table.

David played a key role in the formation of the British Crystallographic Association, of which he was president from 1984 to 1987. In 1991, he was persuaded to become the head of the physics department at Imperial College. However, due to ill health, he retired in 1994 and moved with his wife to North Devon, where he continued his scientific activities by giving lectures and writing papers. In 2002, his textbook entitled *An Outline of Crystallography for Biologists* (Oxford U. Press) was published and is an excellent work that is widely read by students.

Throughout his career, David received many honors, though he remained the extremely quiet and modest person known to so many of his friends and colleagues. He was elected fellow of the Royal Society in 1972,

and received the British Biochemical Society's CIBA Medal in 1967, the Charles Leopold Meyer Prize of the French National Academy of Sciences in 1979 (which he shared with David Phillips), and the Wolf Foundation's Wolf Prize for Chemistry in 1987.

David's spirit of scientific endeavor, inquiry, and enthusiasm and his warm and generous demeanor are missed by many.

Alice Vrielink

University of California, Santa Cruz

Jack Emerson Crow

Jack Emerson Crow, condensed matter physicist and founding director of the National High Magnetic Field Laboratory (NHMFL) in Tallahassee, Florida, died on 3 September 2004 in Tampa, Florida. Diagnosed with cancer one year before his death, Jack inspired others with his determination to defeat his illness and with the courage he demonstrated during the last months of his life.

Born on 17 August 1939 in Angola, New York, Jack received his BS in engineering science from Cleveland State University in 1962 and his doctorate in physics in 1967 from the University of Rochester, where he worked in the laboratory of Ronald

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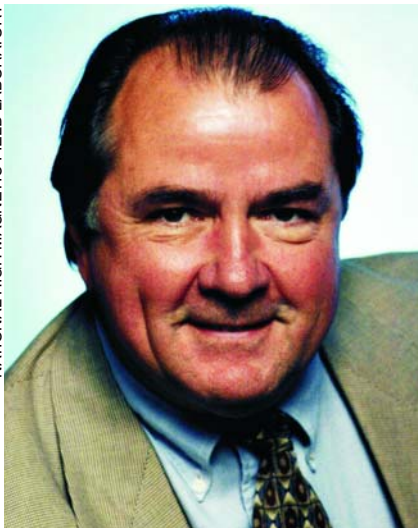
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- Three possible awards support up to two years of advanced postdoctoral training, and the first three years of a faculty appointment
- Candidates must hold a Ph.D. in mathematics, physics, biophysics, chemistry (physical, theoretical, or computational), computer science, statistics, or engineering and must not have accepted, or be in serious negotiation for, a faculty appointment at the time of application
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Jack Emerson Crow

D. Parks. The subject of his dissertation was the effect on superconductivity of pair-breaking mechanisms. In one widely cited work, he found that the critical-field-phase boundaries of superconductors that have large amounts of magnetic rare-earth impurities increased and then decreased with decreasing temperature, a feature he determined was due to an additional pair-breaking mechanism from the molecular field of incipient magnetic impurity correlations.

Jack's first position, in 1967, was with Brookhaven National Laboratories. His supervisor there, Myron Strongin, remembers the speed with which Jack could develop an idea, design an experiment, and produce meaningful results. Strongin and Jack's areas of investigation included fluctuations and inhomogeneous effects in thin film superconductivity.

Jack joined Temple University in 1973 and codirected a laboratory that focused on uranium- and cerium-based highly correlated electron systems and, later, magnetic impurity effects on high- T_c superconductivity. He chaired the physics department from 1979 to 1982 and honed administrative and leadership skills he would later find essential. He took leave from Temple in 1984 to work for two years as a program director in solid-state physics at NSF.

In 1990, Jack became the director of MARTEC, the center for materials research at Florida State University (FSU). That same year, NSF had launched an open competition to relocate the national magnet laboratory or to have it remain at MIT, where it had been since its inception in 1960. By aggressively marshalling the resources of the state of Florida, the

University of Florida's ultra-low-temperature group, and the pulsed-field group at Los Alamos National Laboratory, Jack pulled together an impressive team of scientists and engineers to write a competitive proposal. The world of science was stunned when, in August 1990, NSF awarded the contract to the consortium led by Jack, despite several scientific-panel recommendations to retain the location at MIT. The story made front-page news. At the time, not one resistive magnet of any significant size had been constructed in Tallahassee.

The task of building a new national magnetic field research facility was daunting. Jack used his formidable powers of persuasion to recruit world-class magnet designers and engineers to create an entirely new lab in an unused state-owned building three miles from the FSU campus. The 300 000-square-foot NHMFL was dedicated in 1994, with Vice President Al Gore participating in the ceremony. Jack was the founding director, and he headed the lab until five months before his death. In short order, the lab was running as a user facility with record-breaking high-DC magnetic fields—45 tesla with hybrid technology as of press time. Central to Jack's vision was that NHMFL's research efforts would be fundamental and multidisciplinary and that the lab would also be dedicated to outreach education. The NHMFL—"the house that Jack built"—currently employs about 350 people and provides comprehensive research in fields ranging from geochemistry to high-field magnetic resonance.

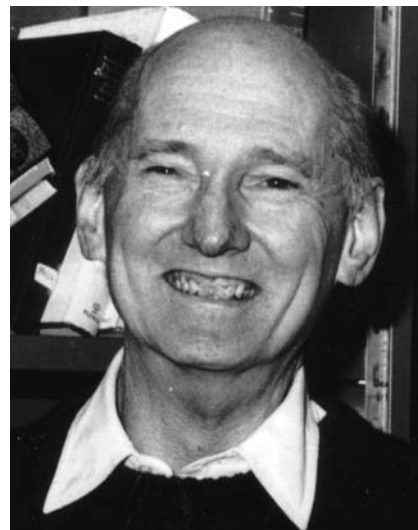
The lives of hundreds of people in the region and beyond were greatly enriched by their contact with this remarkable individual, whose extraordinary generosity of time and effort was legendary. Jack was loved and admired by those who were fortunate to know him.

Robert P. Guertin
*Tufts University
 Medford, Massachusetts*
J. Robert Schrieffer
*Florida State University
 Tallahassee*

Rolfe Eldridge Glover III

Rolfe Eldridge Glover III, professor emeritus of physics at the University of Maryland, College Park, died in Baltimore on 15 July 2004 of complications ensuing from kidney failure.

Rolfe was born in Wilmington, Delaware, on 6 September 1924. Fol-



Rolfe Eldridge Glover III

lowing two years of service in the US Army Air Force, he received, under a cooperative program, an AB from Bowdoin College and a BS from MIT in 1948. He carried out his graduate studies in physics at the University of Göttingen, which led to his PhD in 1953 under Robert W. Pohl. Rolfe's dissertation was based on measurements of the effect of F centers on physical properties of crystals. He stayed one more year in Göttingen to do postdoctoral research in Rudolf Hilsch's physical institute, where he worked on superconducting films.

On returning to the US in 1954, Rolfe accepted a postdoctoral position at the University of California, Berkeley, in the solid-state physics group led by Arthur Kip and Charles Kittel. One of us (Tinkham) joined the group at about the same time. The Berkeley group embarked on a sustained effort to observe quantitatively the effect of the superconducting transition on the transmission of radiation through a thin metallic film. The group's data gave clear evidence of the superconducting energy gap and was soon seen to be in accord with the new Bardeen-Cooper-Schrieffer theory. The data also led to a sum rule relating the absorptive spectrum to the strength of the superconducting current.

In 1957, Rolfe left Berkeley for Chapel Hill to join the physics faculty of the University of North Carolina. After several years, he accepted a job as an associate professor of physics at the University of Maryland. He was appointed a professor in 1966 and held that position for the rest of his life.

Of his achievements during his career, an especially noteworthy accomplishment was Rolfe's meticulous study during the 1970s in which he