

brought the puzzle pieces together. Some of the Fermi surface constructions were considered to be works of art, such as the Falicov monster for magnesium and his poisoned-turnips model for arsenic; these pictures often adorned textbooks and conference proceedings.

Not only was Falicov a popular classroom teacher, he was also in great demand as the closing speaker for conferences. He was capable of assimilating what was presented and with good judgment could deliver a clear, logical and engaging lecture accurately summarizing days of presentations.

Service was a high priority for Falicov. He rarely said no when asked for help and was able to meet deadlines because of his excellent ability to distill information and deal honestly and directly with issues. His service to international science, particularly as an adviser to countries in South and Central America and Mexico, will be sorely missed; he fostered worldwide collaborations.

He retired from the university in 1994, but his high level of activity continued, both professionally and personally. He was known to his friends and colleagues as someone who loved opera, could recite poetry and quote literature in three languages, and he collected art and played the piano. His service, teaching and research record are a model for a faculty manual.

MARVIN COHEN

*University of California, Berkeley
Berkeley, California*

Charles Sydney Smith Jr

Charles Sydney Smith Jr, University Distinguished Professor of Physics Emeritus at the University of North Carolina at Chapel Hill, died on 4 September 1994 after a two-month struggle with congestive heart disease. With Chuck's death, the scientific community lost one of the pioneers of solid-state physics.

Chuck was born in 1916 in Lorain, Ohio. He graduated from Case Institute of Technology in 1937 and received his ScD from MIT in 1940. After two years as an instructor at the University of Pittsburgh, he returned to Case and taught in its physics department for 26 years, serving as chairman during 1958–59.

He came to the University of North Carolina in 1968 as director of its Materials Research Center and as a university distinguished professor. After his retirement in 1981 and right up until his final illness, he continued to teach advanced undergraduates and graduate students the techniques of x-ray diffraction and to lend his skills

to the research projects of his younger colleagues.

Chuck was a thoroughly dedicated teacher who truly shone in the teaching laboratory. One year he actually "took" the laboratory component of an elementary physics course, with the aim of being better able to suggest improvements in the course.

At a more advanced level, his careful and meticulous instruction in x-ray methodology gave his students a wealth of research-quality skills and insights.

Much of Chuck's research dealt with the study of the effects of high pressure on the elastic moduli of metals and ionic crystals as a means of elucidating microscopic interatomic interactions. Both the experimental work and its analysis were characterized by the careful and systematic approach he applied to everything he did, and he became an international authority in his field. One very useful publication is his 1958 review of the effects of symmetry on crystal properties, especially the elastic constants.

One paper that had a major impact on our understanding of the electronic properties of the semiconductors germanium and silicon was an exploration of the piezoresistance effect that he carried out during a sabbatical leave at Bell Telephone Laboratories during 1952–53. Chuck found that for both silicon and germanium, one of the shear coefficients was exceptionally large. Chuck's host at Bell, Conyers Herring, quickly realized that these results demonstrated that the effective masses must therefore be anisotropic. This finding immediately explained why a variety of measurements of different transport properties had given different values of the effective mass of the electrons.

Chuck was a well-ordered and clear-thinking person, with little tolerance for sloppiness or irresponsibility. He had a subtle sense of humor and was warm-hearted and always eager to be helpful. He and his wife, Barbara, were avid bridge players and had a deep attachment to the Rhode Island beach cottage they visited each summer.

LAWRENCE SLIFKIN

LAURIE McNEIL

*University of North Carolina at Chapel Hill
Chapel Hill, North Carolina*

Jean-Louis Calais

Jean-Louis Calais of the University of Uppsala (Sweden), died suddenly in Uppsala on 30 May 1995. He was 62 years old.

After attending Sigtunastiftelsens Humanistiska Läroverk, he attended the University of Uppsala, where in

1965 Jean-Louis received two doctoral degrees (PhD and DSc) in quantum chemistry and was named docent in the newly established department of quantum chemistry. He remained at Uppsala as a university lecturer and later as titular professor. He had recently been elected president of the Swedish Physical Society for the period 1995–97.

Jean-Louis was involved in many international collaborations and was one of the founding members of the Quantum Theory Project at the University of Florida, which was established as a sister group to the Uppsala quantum chemistry department in 1960. He maintained close contact and scientific collaboration with the QTP, where he was an adjunct professor. He also had active and long-standing collaborations with groups at the École Normale Supérieure and was involved in two European Union research consortia.

Jean-Louis was active in education at both the graduate and undergraduate levels. For many years he was instrumental in organizing and lecturing in the international summer institutes held in Scandinavia and the corresponding winter institutes in quantum chemistry and solid-state physics held in Florida, at Gainesville.

The electronic structure of materials, in particular crystals and more recently polymers, formed the basis of Jean-Louis's scientific interest. He edited several books and wrote one, and he was editor of the *International Journal of Quantum Chemistry*. His interests spanned many fields, from quantum chemistry to solid-state physics, from materials science to organic chemistry.

Jean-Louis made significant contributions to the theoretical study of polymers. A notable recent contribution was his characterization of convergence criteria for direct self-energy summations in many-body Green's function calculations on such extended systems.

Jean-Louis excelled in understanding the fine details of a problem. His last paper, to appear in the *European Journal of Physics*, exemplifies his attention to detail. The paper gives an erudite explanation of the translational symmetry of many-electron states and unravels the distinction between "translational invariance" and "translational symmetry."

Jean-Louis's interests were catholic. He was interested and knowledgeable in music, art, history, literature and gastronomy. He was a kind, friendly and unfailingly jovial colleague.

YNGVE OHRN

JOHN R. SABIN

*University of Florida
Gainesville, Florida* ■