We Hear That

SoR Presents Bingham Medal to Larson

The Society of Rheology recently announced the recipients of its 2002 prizes, given at the society's meeting last October in Minneapolis, Minnesota.

"A renaissance man of rheology, excelling in molecular and continuum theory, molecular simulation, and experiment" describes **Ronald G. Larson**, according to the Bingham Medal citation. The medal, SOR's most prestigious award, went to Larson for, among other things, his accomplishments in rheology research, his contributions to the research and educational literature, and his service to the society. Larson, G. G. Brown Professor of Chemical Engineering, chairs the chemical engineering department at the University of Michigan, Ann Arbor.

Larson

The 2002 *Journal of Rheology* Publication Award was shared by **Thomas Thiele**, **Jean-Francois Berret**, **Stefan Müller**, and **Claudia Schmidt** for their paper "Rheology and Nuclear Magnetic Resonance Measurements Under Shear of Sodium Dodecyl Suflonate/Decano/Water Nematics." The article was published in the January 2001 issue of the *Journal of Rheology* (p. 29).

AAS Honors Science Writers

The high-energy astrophysics division of the American Astronomical Society presented its 2003 David N. Schramm Award for High Energy Astrophysics Science Journalism at a meeting held in Mt. Tremblant, Quebec, Canada, in March.

Ron Cowen and **Robert Irion** are the corecipients of this year's award. Cowen, an astronomy writer at *Science News*, was recognized for his article "Jet Astronomy," which appeared in that magazine's 9 November 2002 issue. Irion, a freelance science journalist, was honored for his article "Ashes to Ashes: The Inner Lives of Neutron Stars," which was published in the 27 September 2002 issue of *Science*.

Last year's award went to **Robert Naeye**, editor of *Mercury*. He was acknowledged for his article "Superman's Telescope: The Achievements of Chandra," which appeared in the summer 2001 issue of the magazine *California Wild*.

In Brief

The 2003 Willis E. Lamb Medal for Laser Science and Quantum Optics was awarded to **Leon Cohen**, **Michael S. Feld**, and **Herschel Rabitz** at the Winter Conference of Quantum Electronics, held in Snowbird, Utah. Cohen, a professor in Hunter College's physics and astronomy department, was recognized for "pioneering work on quantum quasi-probability distributions and the closely related applied field of time-frequency analysis." Feld was cited for "the first experimental demonstrations of super-radiance and the microlaser and for pioneering applications of optics to biological physics." He is a professor of physics and director of the George R. Harrison Spectroscopy Laboratory at MIT. Rabitz, a professor of chemistry at Princeton University, was acknowledged for "inventing the learning algorithm approach to the coherent control of quantum phenomena with important and wide-ranging applications."

In March, **Mark Cardillo** became the executive director of the Camille and Henry Dreyfus Foundation in New York City. He previously was the director of broadband access research at Lucent Technologies' Bell Labs in Murray Hill, New Jersey.

During a ceremony in March in Washington, DC, 10 individuals and 6 institutions received a 2002 Presidential Award for Excellence in Mathematics, Science, and Engineering Mentoring. Included among the awardees were four individuals who work in physics-related fields: **Enrique Barrera** (Rice University), **Steven Greenbaum** (Hunter College), **Chung-Chiun Liu** (Case Western Reserve University), and **Martha Mecartney** (University of California, Irvine). The award recognizes people and institutions that have provided opportunities for participation by women, minorities, and disabled persons in science, mathematics, and engineering at the elementary, secondary, undergraduate, and graduate education levels.

Last February, at a ceremony in Trieste, Italy, **Robert Szipöcs** received the 2003 ICO/ICTP Award for his "outstanding contributions in the theory and design of chirped mirrors"; he developed those mirrors for femtosecond pulsed laser systems. He is a research fellow and head of the laboratory for ultrafast lasers and spectroscopy at the Research Institute for Solid State Physics and Optics of the Hungarian Academy of Sciences in Budapest. The award, given jointly by the Abdus Salam International Centre for Theoretical Physics and the International Commission for Optics, recognizes a researcher aged 40 or younger who has made contributions to the field of optics in a developing country.

Chuan Sheng Liu began a three-year term this past February as president of the National Central University in Taiwan. He is on temporary leave from his position as a professor of physics at the University of Maryland, College Park. Liu, who had directed University of Maryland's Institute of Global Chinese Affairs, has relinquished that post to interim director **Julia Chang Bloch**, who is also an ambassador-in-residence at the institute.

In January, **Robert Wolkow** became the iCORE Chair in Nanoscale Information and Communications Technology at the University of Alberta in Edmonton, Alberta, Canada, and the molecular scale devices group leader at the Canadian National Research Council's new National Institute for Nanotechnology, located on the same campus. Wolkow previously led the scanning tunneling microscopy group at the NRC's Steacie Institute for Molecular Sciences in Ottawa, Ontario.

COSPAR, the International Council for Science's Committee on Space Research, in Paris, has bestowed its top honor, the 2002 Space Science Award, on **Stamatios M. Krimigis** and **Christopher T. Russell**. Krimigis, head of the space department at the Johns Hopkins University's Applied Physics Laboratory in Laurel, Maryland, was cited for his "distinguished career as a space plasma

physicist, with seminal contributions in solar and interplanetary physics, Earth and planetary magnetospheres, and space science instrumentation." Russell, according to the citation, is "well recognized scientifically for his seminal contributions to understandings of plasma waves in the Earth's and other planets' magnetospheres, for his contributions to new observational understandings in magnetic field reconnection, for his insightful observational studies of solar wind–magnetosphere coupling, and for many additional contributions over a wide range of space plasma subjects. . . ." He holds joint appointments in the Institute of Geophysics and Planetary Physics at UCLA and in the university's Earth and space sciences department.

Andrea Bertozzi, professor of mathematics and physics at Duke University, will join the UCLA faculty in July as professor of mathematics.

Obituaries

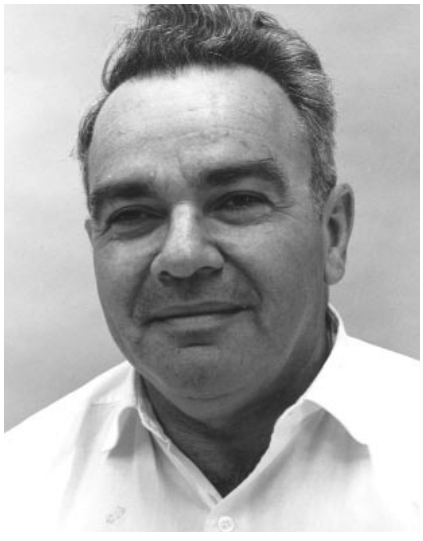
Martin David Kamen

Martin David Kamen, codiscoverer of carbon-14, died in Santa Barbara, California, on 31 August 2002.

Kamen was born in Toronto, Ontario, Canada, on 27 August 1913. In his youth, he was primarily interested in classical music, and started out majoring in music at the University of Chicago. He changed his major to chemistry, however—for economic reasons, he said. He continued, though, to play the viola at a high professional level throughout his life. He earned his PhD in physical chemistry in 1936 under adviser William D. Harkins. His thesis was entitled, "Neutron–Proton Inter-action: The Scattering of Neutrons by Protons."

In 1936, Kamen joined the University of California, Berkeley, first as an unpaid volunteer in Ernest O. Lawrence's research group. He soon became the group's radiochemist and isolated radioactive isotopes from various elements exposed to the cyclotron beam. He did not confine himself to a supporting role, though. Along with his frequent collaborator Samuel Ruben, he was among the early leaders to use radioactive isotopes in the study of the paths followed by important chemical reactions. Both Kamen and Ruben were drawn to research on biological topics, which were not a widely recognized part of chemistry in the 1930s.

The two were a priceless asset at the Berkeley cyclotron, where a few useful tracer isotopes, such as 14-day phosphorus-32 and 88-day sulfur-35, were already available for such studies. Both elements are important in biology, but the central element is carbon. When Kamen and Ruben began, carbon's only available radioisotope was ^{11}C, with a halflife of only 21 minutes. The good news was that the cyclotron could make a lot of that isotope; the bad news was that it would be gone in a few hours at most.



Martin David Kamen

But the two collaborators were young and unafraid. With much effort and little sleep, they produced results showing that the technique had promise. Still, the short time scale was a straitjacket. By 1939, several researchers had hints of the possible existence of radioactive ^{14}C, which might have a longer halflife—guessed to be days or even months! Lawrence gave Kamen the go-ahead to bombard graphite with beams of neutrons in the hope of converting stable ^{13}C to ^{14}C—the wrong reaction as it turned out. By early 1940, the two researchers had achieved a positive result using one of Willard Libby's screen-wall counters. The isotope existed and the sample showed no decay as they waited. It took a few years for them to realize that ^{14}C was made by neutron bombardment of nitrogen, not ^{13}C. They were pleasantly surprised that the isotope's halflife turned out to be more than 5000 years.

After the US entered World War II, Lawrence's group was increasingly drawn into war work. In 1943, Ruben died tragically in an accident involving the poison gas phosgene. Kamen, who worked mainly on the Manhattan Project, carried on an effort to produce useful quantities of ^{14}C. Then came an unexpected blow. Kamen's skill and passion for classical music had strengthened over the years, and he was now part of a circle of talented musicians in the San Francisco area. Through these friends, he met the Soviet consul in the city and was incautious enough to have lunch with a member of the consul's staff to talk about music. The Soviets were our allies, but that alliance did not extend to nuclear weapons research. FBI agents sitting at an adjacent table were ready to believe the worst. Almost immediately, Kamen was summoned to the office of an administrator in Lawrence's research group and informed that he was fired, with no notice or chance of a hearing. He found himself blacklisted beyond any chance of either a university or industry research position—the FBI was watchful and energetic. Through a neighbor, he found a job at last as an inspector in a San Francisco shipyard. For the codiscoverer of long-lived ^{14}C, a man with a finite chance of a Nobel Prize, this was a violent shock indeed.

There was no relief until near the end of the war in 1945. The offer of rescue came from physicist Arthur Compton, himself a senior figure on the Manhattan Project and president of Washington University at St. Louis, in Missouri. After receiving some positive words about Kamen from Lawrence, Compton offered Kamen a tenured faculty position in the university's medical school. Kamen's new task was to lead his colleagues there into the world of radioactive tracers for diagnosis and research. This position did not end his problems, but it made them bearable.

He achieved one important step forward in 1947 with the publication of his pioneering text, *Radioactive Tracers in Biology: An Introduction to Tracer Methodology* (Academic Press). Decades later, that text and its succeeding editions have been the bible for many young investigators, a group not limited to those working in the biological sciences.

The shared discovery of ^{14}C is the work for which Kamen is best known. Carbon-14 was, and is, the most important tracer isotope. However, the body of his later work includes many biochemical discoveries, most of them related to photosynthesis. A few examples from a career lasting almost half a century must suffice. A 1941 paper he wrote with Ruben and other coworkers about using stable oxygen-18 overturned a widely held view that