

we hear that

AVS awards to be handed out

Work ranging from characterizing thin films and interfaces to supporting vacuum standards development and research to developing silicon-based molecular electronics will be honored next month at AVS's annual meeting, held this year in San Francisco. AVS: Science and Technology of Materials, Interfaces, and Processing will hand out five awards in recognition of recipients' achievements.

John C. Hemminger, dean of the school of physical sciences and professor of chemistry at the University of California, Irvine, will receive the Medard W. Welch Award "for outstanding contributions to the development of quantitative, molecular level understanding of many important interfacial processes, especially those related to atmospheric chemistry."

The Gaede-Langmuir Award will go to **Leonard J. Brillson** "for demonstration of the fundamental importance of semiconductor interfacial bonding, metallurgical reactions, and defect formation upon solid state material and device properties." Brillson is a professor of electrical and computer engineering, a professor of physics, and a Center for Materials Research Scholar at Ohio State University.

Siegfried Hofmann will receive the Albert Nerken Award "for seminal contributions to the quantitative characterization of thin films and interfaces, particularly planar nanostructures, by

sputter depth profiling." Hofmann is a staff scientist at the Max Planck Institute for Metals Research in Stuttgart, Germany.

The Peter Mark Memorial Award will go to **Mark C. Hersam** "for outstanding contributions to the development of silicon-based molecular electronics." Hersam is an assistant professor in the department of materials science and engineering at Northwestern University in Evanston, Illinois.

Jeffrey D. Kelley, an engineering and mechanical technician at NIST in Gaithersburg, Maryland, will receive the George T. Hanyo Award "for outstanding performance in technical support of vacuum standards development and research in the pressure and vacuum group at the National Institute of Standards and Technology."

COBE leader and team share cosmology prize

John Mather and NASA's former *Cosmic Background Explorer* (COBE) team are co-recipients of the 2006 Gruber Cosmology Prize for landmark studies confirming that the universe was born in a hot Big Bang.

Mather and the COBE team received the honor "for their groundbreaking studies of the spectrum and spatial structure of the relic radiation from the Big Bang," the prize citation said. "With these results, the COBE team, led by John Mather, set cosmology's agenda for decades to come and profoundly affected our understanding of cosmic evolution."

The instruments aboard COBE, launched in 1989, looked back over 13 billion years to the early universe and found that it was hot, dense, and almost uniform; that it contained weak fluctuations or lumps that grew into the galaxies and stars visible today; that the fluctuations were the consequence of a Big Bang; and that the universe is filled with diffuse radiation from previously unknown galaxies, according to the Peter Gruber Foundation, prize sponsor. COBE was NASA's first dedicated cosmology mission and was the culmi-

nation of a 15-year dream for Mather, who initiated the project in 1974 with a proposal to NASA. The COBE science team formed in 1976, and NASA's Goddard Space Flight Center in Greenbelt, Maryland, built the satellite.

Mather, senior astrophysicist at Goddard's observational cosmology laboratory and senior project scientist for the *James Webb Space Telescope*, collected the prize's gold medal and \$250,000 cash award on behalf of the other 18 members of the team during an August ceremony in Prague, Czech Republic. Mather received half the purse and the other team members split the other half. On the COBE team were **Charles Bennett**, **Nancy Boggess**, **Edward Cheng**, **Eli Dwek**, **Samuel Gulkis**, **Michael Hauser**, **Michael Janssen**, **Thomas Kelsall**, **Philip Lubin**, **Stephan Meyer**, **S. Harvey Moseley**, **Thomas Murdock**, **Richard Shafer**, **Robert Silverberg**, **George Smoot**, **Rainer Weiss**, **David Wilkinson** (who died in September 2002), and **Edward Wright**.

Created in 2000, the Cosmology Prize of the Gruber Foundation, based in St. Thomas, US Virgin Islands, recognizes honorees for their groundbreaking theoretical, analytical, or conceptual discoveries. The prize is co-sponsored by the International Astronomical Union in Paris.

in brief

The 2006 Dirac Medal is being awarded to **Peter Zoller**, professor of physics at the University of Innsbruck in Austria and scientific director of the Institute for Quantum Optics and Quantum Information at the Austrian Academy of Sciences. Zoller is being honored "for his innovative and prolific accomplishments in atomic physics, including his seminal work in proposing methods to use trapped ions for quantum computing and describing how to realize the Bose-Hubbard model and associated phase transitions in ultracold gases." Zoller will receive the medal and a \$5000 cash prize during a ceremony later this year in Trieste, Italy, where he will present a lecture. The Dirac Medal was established in 1985 by the Abdus Salam International Centre for Theoretical Physics in Trieste.

Carl A. Ventrice Jr left the University of New Orleans on 13 August for a position as associate professor in the physics department at Texas State University in San Marcos. Ventrice had started at UNO in August 1996 as an assistant professor of physics and was promoted to associate professor in 2000.



Hemminger



Brillson



Mather

He was also an adjunct professor with UNO's Advanced Materials Research Institute, and since 2005 had been an adjunct professor in the physics and astronomy department at Louisiana State University. At Texas State he is continuing to focus his research on surface and interface science.

Louisiana State University physics and astronomy professor **Robert Svoboda**, who had been at LSU since 1990, left his post in August to accept a joint position as professor of physics at the University of California, Davis, and as a member of the research staff in the physics and advanced technologies division at Lawrence Livermore National Laboratory. Svoboda's wife, **Juilien Svoboda**, a medical physicist

at Memorial Hospital in New Orleans since 2005, has accepted a position as medical physicist at St. Teresa's Hospital in Stockton, California.

Thomas J. Bowles, a fellow at Los Alamos National Laboratory and its former chief science officer, has been named scientific adviser to New Mexico Governor Bill Richardson. In his new, temporary post—he is on loan from LANL for an indeterminate period—Bowles will counsel Richardson and members of the state government on science and technology matters. In a prepared statement, Bowles said a priority is to help Richardson analyze better methods to integrate high technology across multiple policy areas. Bowles started at LANL in 1979.

obituaries

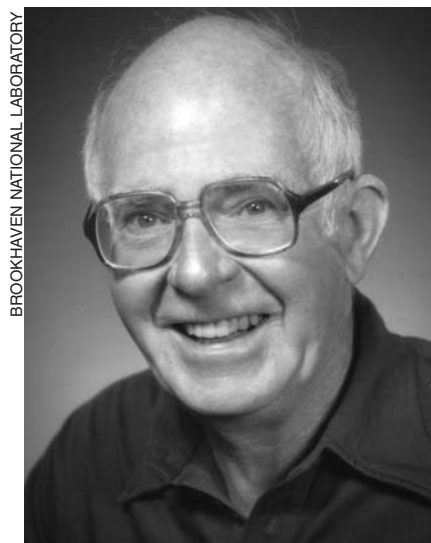
PHYSICS TODAY has changed the way it publishes obituaries. Some will continue to appear in print, but most will be available only online (see PHYSICS TODAY, October 2005, page 10). Subscribers can visit <http://www.physicstoday.org/obits> to notify the community about a colleague's death and submit obituaries up to 750 words, comments, or reminiscences. Each month, recently posted material will be summarized here, in print. Select online obituaries will later appear in print.

Raymond Davis Jr

Raymond Davis Jr, who won the 2002 Nobel Prize in Physics for first observing neutrinos emitted from the nuclear-fusion reactions in the core of the Sun, died on 31 May 2006 at his home in Blue Point, New York.

Davis's observations of solar neutrinos not only were the first detection of neutrinos from outside the Earth, but they also experimentally demonstrated that the Sun was powered by the fusion of four protons into helium-4. The solar-neutrino flux measured by Davis was about one-third the expected flux based on the thermal energy emitted by the Sun. For many years, this discrepancy was known as the "solar-neutrino puzzle." It was not a puzzle at all, but the first indication of neutrino flavor oscillations, the conversion of one neutrino species into another during the flight from the solar core to Earth.

Davis was born in Washington, DC, on 14 October 1914. In 1938 he received a BS in chemistry from the University of Maryland. After a brief period at the Dow Chemical Co, he pursued graduate work at Yale, where he received a PhD in physical chemistry in 1942. In 1945, after completing his World War II



BROOKHAVEN NATIONAL LABORATORY

Raymond Davis Jr

military service, Davis joined the Monsanto Chemical Co. Three years later, he joined the chemistry department at the newly established Brookhaven National Laboratory.

When Davis arrived at Brookhaven in 1948, the existence of neutrinos was still speculative. Looking for a challenging problem that could be addressed with physical-chemistry techniques, he decided to develop and