In Brief

After 26 years at Bell Laboratories in Murray Hill, New Jersey, most recently as vice president of physical research, **Federico Capasso** joined Harvard University last month as Gordon McKay Professor of Applied Physics and Vinton Hayes Senior Research Fellow in Electrical Engineering.

During a ceremony in Munich, Germany, in December, the European Commission awarded the 2002 Descartes Prize to two international research groups, one of which does physics-related work. An astrophysics team consisting of scientists from eight countries and led by **Edward van den Heuvel** of the University of Amsterdam was cited for "solving what has been for 30 years one of the greatest mysteries of astrophysics: the places of origin of the Gamma Ray Bursts." The team split the €1 million prize with the other winner, a team pursuing medical research.

Jim Breckinridge joined the Jet Propulsion Laboratory's Washington, DC, office last fall as the theme technologist of NASA's Astronomical Search for Origins Program, which seeks to answer the questions, Where do we come from? Are we alone? He spent the past three years at NSF in Arlington, Virginia, as program director for advanced technology and instruments and as program manager for the National Radio Astronomy Observatory in Charlottesville, Virginia.

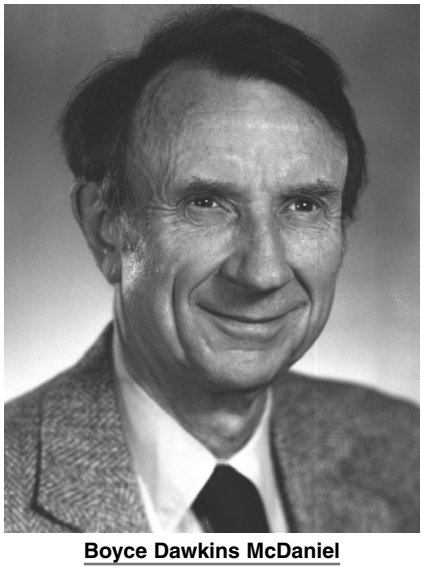
At a ceremony in Washington, DC, in December, **Katharine B. Gebbie** was among nine federal employees honored with a Service to America Medal, given jointly by the Atlantic Media Group and Partnership for Public Service. Gebbie, director of NIST's Physics Laboratory in Gaithersburg, Maryland, received the 2002 Career Achievement Medal, in part for being "the founding director of the award-winning NIST Physics Laboratory" and for being "a pioneer in the practical application of emerging technologies." She also was recognized for having "helped enhance scientific career opportunities for women and minorities through a lifetime of service." She received a $5 000 cash prize. Service to America Medals, given for the first time in 2002, are presented annually to recognize federal workers' achievements.

Obituaries

Boyce Dawkins McDaniel

Boyce Dawkins "Mac" McDaniel died from cardiac arrest on 8 May 2002 at his home in Ithaca, New York. For more than half a century, Mac played a leading role in the birth, development, and mature phases of accelerators and experimental particle physics. Throughout his career, his time was seamlessly divided—often on a daily basis—among administration, accelerator physics, instrumentation, and particle physics.

Mac was born on 11 July 1917 in Brevard, North Carolina. He graduated from Ohio Wesleyan University with a BA in 1938. Two years later, he received his MA in physics under Eugene Crittenden at the Case School of Applied Science (now Case Western Reserve University) in Cleveland, Ohio. He then entered a PhD program at Cornell University. There, as a student of Robert Bacher from 1940 to 1943, he built a multichannel, high-resolution time-of-flight energy spectrometer, which he used to carry out precision measurements of the energy levels of indium for his thesis. Following the completion of his PhD, Mac accepted a postdoctoral position at MIT, where he learned to apply techniques of the rapidly evolving field of fast electronics to particle physics research.



Boyce Dawkins McDaniel

After only a few months in Cambridge, Massachusetts, Mac was recruited by telephone to join a secret government project. Without any knowledge of its nature and location, Mac abruptly pulled up stakes and joined the Manhattan Project in Los Alamos, New Mexico, where there was a pressing need for accurate measurements of neutron cross sections. Using the neutron spectrometer he had developed for his PhD thesis, Mac led the Los Alamos research team that soon discovered and made accurate measurements of fission induced by the resonant absorption of epithermal neutrons in uranium and plutonium. That work was an important contribution to the design of the first nuclear bombs. Subsequently transferred to a group set up to assemble the bomb, Mac played a key role in the test of the first plutonium bomb near Alamogordo, New Mexico.

After World War II, Mac returned to Cornell to take charge of the 2-MeV proton cyclotron built by Stanley Livingston before the war. Mac studied the energy levels of light nuclei by measuring the gamma-ray spectra emitted from elements bombarded by protons. To do so, he needed to measure the gamma-ray energies more accurately than was possible with existing detectors. In his characteristic style, Mac, together with Robert Walker, invented the pair spectrometer in 1948; for many years, it was the best available instrument for measuring gamma-ray energies.

Mac was instrumental in establishing, in 1946, the Cornell Laboratory of Nuclear Studies (CLNS), and played a leading role in designing and building the 300-MeV electron synchrotron that, on its completion in 1949, was one of the first such accelerators in the world. Over the next 20 years, Mac and his colleagues, in a group led by Robert Rathbun Wilson (see PHYSICS TODAY, April 2000, page 82), built three more electron synchrotrons of successively higher energies, each of which enabled physicists to study phenomena in a new energy range. Each accelerator was a masterpiece of technology, built rapidly and economically by a small team of physicists. Mac was key to the construction of each machine and brilliantly completed the construction of the last one: the 10-GeV synchrotron.

After a decade as the associate director of the CLNS, Mac became its director in 1967, and remained in that position until he retired from the Cornell faculty in 1985. In addition to his administrative responsibilities, he continued an active research program. He pioneered the technique of tagged gamma rays and performed important measurements with each of the accelerators, including work in K meson and λ meson photoproduction, and neutron electromagnetic form factors.

In 1972, Mac took a one-year leave