WE HEAR THAT

National Kudos Given for Science, Technology

At a White House ceremony in July, President Clinton honored thirteen recipients of the 1996 National Medals of Science and Technology. Among the eight individuals who were presented with the science medal were **Wallace S. Broecker**, **James L. Flanagan** and **C. Kumar N. Patel**. And one of the five who received the technology medal was **Peter H. Rose**.

Broecker was selected for "his pioneering contributions in understanding chemical changes in the ocean and atmosphere. His research encompasses theories of global climate change over the centuries and brings a broad perspective to the current debate over higher concentrations of greenhouse gases as a cause of global warming." Broecker is the Newberry Professor of Geology at Columbia University's Lamont-Doherty Earth Observatory.

WALLACE S. BROECKER

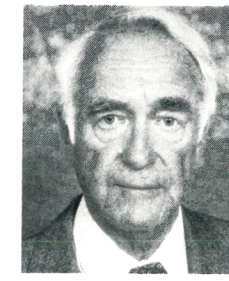
The Medal of Science was given to Flanagan for "his foremost leadership and innovation in bringing engineering techniques and speech science together to solve basic problems in speech communication. He headed a research group at Bell Laboratories whose work led to the automation of many functions of the US telecommunications network." Flanagan is now director of the Center for Computer Aids for Industrial Productivity and vice president for research at Rutgers University.

Patel, the vice chancellor for research at the University of California, Los Angeles, was cited for "his invention of the carbon dioxide laser, a major scientific and technological breakthrough which continues to be an important tool in manufacturing, medical treatment, scientific investigations and materials processing." According to the citation, "his carbon dioxide laser also led to the creation of new generations of lasers and laser systems."

JAMES L. FLANAGAN

C. KUMAR N. PATEL

Rose, who is president of Krytek Corp in Danvers, Massachusetts, was chosen to receive a National Medal of Technology for "his leadership in the development and commercialization of ion implantation products, which are necessary for the production of modern semiconductors." The citation added that "his innovative work in this area has enabled the United States to maintain a global leadership position in the implantation equipment industry."



PETER H. ROSE

MacArthur Fellows Include Angel, Seiberg

Among the 21 recipients of MacArthur Fellowships this year are an astronomer and a theoretical physicist. Colloquially called "the genius awards," the fellowships reward exceptionally creative individuals with five year stipends ranging up to $375 000.

The astronomer being honored is **J. Roger P. Angel**, Regents Professor of Astronomy and Optical Sciences at the University of Arizona. According to the fellowship announcement, Angel, whose grant totals $330 000, "created a new method of casting glass, that is being used in the creation of the world's largest mirror." The announcement further notes that Angel is now involved in developing space-borne instruments potentially capable of direct detection of Earth-like planets around other stars.

The theoretical physicist being honored is **Nathan Seiberg**, a professor of physics at Rutgers University. In the words of the announcement, Seiberg, who will receive $250 000, has "made important contributions to what has been described as a new revolution in fundamental physics. Seiberg's discoveries have had a decisive influence on the burgeoning fields of string theory and other quantum field theories and are central to the advancement of physics today."

IN BRIEF

At its annual meeting in June, the Astronomical Society of the Pacific honored **Albert E. Whitford** with its 1996 Catherine Wolfe Bruce Medal, which recognizes distinguished service to astronomy. Whitford is an astronomer emeritus at the University of California's Lick Observatory, as well as a professor emeritus of astronomy and astrophysics at the University of California, Santa Cruz. In addition, the ASP gave its Maria and Eric Muhlmann Award for innovation in astronomical instrumentation, software or infrastructure to **Robert Tull** of McDonald Observatory at the University of Texas at Austin.

OBITUARIES

John Elliott Nafe

John Elliott Nafe, a longtime member of Columbia University's geology department, died at his home in Vancouver, British Columbia, on 7 April 1996. He was born in Seattle, Washington, on 22 July 1914, and earned his BS degree in physics from the University of Michigan in 1938. After a stint in the US Merchant Marine, he entered Washington University and obtained an MS degree in 1940. His PhD studies at Columbia University were interrupted by World War II, during which Jack joined the Navy and taught physics and electrical engineering at the US Naval Academy. He remained there throughout the war, ending up as a lieutenant commander.

After the war, he returned to his graduate studies at Columbia under the guidance of I. I. Rabi. He and a fellow student, Edward Nelson, received international acclaim for their experiments to determine the magnetic moment of the hydrogen atom. Their papers on the hyperfine structure of

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