

Engineering Academy honors Patel and Benedict



BENEDICT

C. Kumar N. Patel, director of the Physical Research Laboratory at Bell Laboratories, and Manson Benedict, Institute Professor Emeritus at the Massachusetts Institute of Technology, have been honored with awards of the National Academy of Engineering.

Patel was given the Vladimir K. Zworykin Award for "achievement in the field of electronics applied in the service of



PATEL

mankind, with particular note of his contributions in the area of laser technology." The award consists of \$5000.

The NAE annual Founders Award was presented to Benedict for "his contributions to the development of atomic energy technology and his leadership in nuclear engineering education."

A native of India, Patel received his bachelor's degree from Poona University

and his master's and PhD from Stanford University. He joined Bell Labs as a member of the technical staff in 1961, and in 1970 was appointed director of the Electronics Research Laboratory. He assumed his current position in April.

Among Patel's accomplishments are the invention and development of the carbon-dioxide and spin-flip Raman lasers and several contributions to the operation of lasers and laser techniques.

He has been honored by many professional societies—among them are the Optical Society of America, the National Academy of Sciences and the Institute of Electrical and Electronics Engineers. Most recently Patel has been awarded the IEEE Lamme Medal for his work with lasers and contributions to infrared spectroscopy of gases and solids.

Benedict is known for his research in the chemical and engineering fields and for his contributions to the gaseous-diffusion process for separation of uranium isotopes. He received his PhD from MIT in 1935 and in 1951, became its first professor of nuclear engineering. Seven years later he became head of a new department of nuclear engineering, a position he held until 1971. Benedict received his present title in 1973 and he now teaches half-time at MIT.

Osheroff, Richardson and Lee share Simon Prize

Cornell University physicists David M. Lee and Robert C. Richardson and Douglas Osheroff, technical staff member of the Physical Research Laboratory at Bell Laboratories, have been selected to receive the Simon Memorial Prize for their discovery of new phases of liquid helium-three in 1972, when all were working at Cornell.

The Simon Prize, awarded by the Low Temperature Group of the (British) Institute of Physics approximately every three years, recognizes distinguished work in experimental or theoretical low-temperature physics. The prize, including an honorarium, will be presented in August.

Lee, professor of physics at Cornell, received his doctorate from Yale University in 1959. He joined the Cornell Faculty in 1960 and has held Guggenheim Fellowships in 1966-67 and in 1974-75.

Richardson, who is also professor of physics, came to Cornell in 1966, the year he received his PhD from Duke University. He is currently on leave as a Guggenheim Fellow at the Helsinki University of Technology.

Osheroff studied as an undergraduate at the California Institute of Technology and completed his PhD at Cornell in 1973. The discovery of new phases of liquid helium-three was made while Osheroff was a graduate student and was the topic of his PhD thesis. He joined the staff of Bell Labs in 1972.

Wunsch and Low receive Texas Instruments prizes

The Texas Instruments Foundation has awarded its 1975 Founders' Prize to Carl I. Wunsch, professor of physical oceanography at the Massachusetts Institute of Technology. The prize consists of

\$35 000 and is given in honor of the Texas Instruments Inc founders, J. Erik Jonsen, Cecil H. Green and Eugene McDermott for achievements in the physical, health and management sciences, engineering and mathematics.

Wunsch received his PhD in geophysics from MIT in 1966 and joined the faculty there the same year. In his current research he combines data processing techniques with hydrodynamics theory to gather new oceanographic information.

A special Founders' Prize of \$10 000 has been awarded to Frank J. Low, research professor at the University of Arizona Lunar and Planetary Laboratory and Steward Observatory. This special prize was designated as a non-recurring event and honors Low's development and application of the low-temperature germanium bolometer, which is used for improved detection of infrared radiation. Low, who is also adjunct professor of space physics and astronomy at Rice

University, received his PhD from Rice in 1959.

Academy of Sciences names award winners in physics

At its annual meeting in April, the National Academy of Sciences presented 12 awards, of which four honored individual accomplishments in physics or physics-related fields.

The J. Lawrence Smith Medal was presented to John A. Wood of the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts for his "influential works over the past decade on the structure, classification and evolution of meteorite bodies."

Walter H. Munk of the Institute of Geophysics and Planetary Physics, University of California, San Diego received the Agassiz Medal for "experimental and theoretical research on the spectrum of motion in the oceans and the earth."

The National Academy of Sciences Award for Environmental Quality, which was established in honor of Frederick G. Cottrell by the Research Corp (New York City) and includes \$5000, was given to David M. Evans, engineering geologist, Denver, Colorado, "for his key discovery that injection of liquids deep underground can generate earthquakes, and for his subsequent studies ... of the environmental implications."

Charles K. Reed, executive director of the NAS Research Council's Assembly of Mathematical and Physical Sciences, was honored with the National Academy of Sciences Award for Distinguished Service and \$2000 for exceptional achievement as a member of the Research Council professional staff.

Siegbahn wins Chandler Medal for ESCA method

The Charles Frederick Chandler Medal, presented by Columbia University for achievement in pure or applied chemistry, has been awarded to Kai Siegbahn, head of the Institute of Physics at Uppsala University, Sweden.

The award recognized Siegbahn's development of electron spectroscopy for chemical analysis ("ESCA"). The citation states that this method "has proven to be of fundamental importance in the understanding ... of composition, electronic configuration and structure of molecules."

In 1944 Siegbahn earned his doctorate at the University of Stockholm and joined the Nobel Institute of Physics. He has been associated with the University of Uppsala as professor and head of the Institute of Physics since 1954.

The National Academy of Sciences has announced the election of 75 new members in recognition of their achievements in original research. Physicists will be interested to note the following among them: **Robert K. Adair** (Yale University), **Clarence R. Allen** (California Institute of Technology), **John N. Bahcall** (The Institute for Advanced Study, Princeton, N.J.), **Charles P. Bean** (GE Research and Development Center, Schenectady, N.Y.), **Alastair G. W. Cameron** (Harvard University), **Julian D. Cole** (University of California, Los Angeles), **Ernest D. Courant** (Brookhaven National Laboratory), **Ugo Fano** (University of Chicago), **Harold P. Furth** (Princeton University), **Homer D. Hagstrum** (Bell Laboratories), **John R. Huizenga** (University of Rochester), **Jerome Karle** (Naval Research Laboratory), **Joaquin M. Luttinger** (Columbia University), **Kenneth G. McKay** (Bell Laboratories), **Albert W. Overhauser** (Purdue University), **George E. Pake** (Palo Alto Research Center, Xerox Corp), **Walter A. Rosenblith** (Massachusetts Institute of Technology), **John Ross** (Massachusetts Institute of Technology), **Peter P. Sorokin** (IBM Watson Research Center, Yorktown Heights, N.Y.), **Harry Suhl** (University of California, San Diego) and **Richard N. Zare** (Columbia University).

Among the 15 newly elected foreign associates of the Academy are **Ludwig Biermann** (West Germany) of the Max Planck Institute, Munich, **Leo Esaki** (Japan) of the IBM Watson Research Center, **Res Jost** (Switzerland) of the Institute for Theoretical Physics, Eidgenössische Technische Hochschule, Zürich, **M. James Lighthill** (England) of the University of Cambridge and **Seiya Uyeda** (Japan) of the University of Tokyo.

For his inventions leading to the first practical light-emitting diode, **Nick Holonyak, Jr** of the University of Illinois at Urbana-Champaign has received the 1975 John Scott Award. The award, which is presented by the City of Philadelphia, was established 150 years ago by a Scottish chemist to honor "ingenious men and women who make useful inventions."

Gale I. Harris, formerly head of the nuclear-structure physics laboratory and deputy director of the solid-state physics laboratory at the Aerospace Research Laboratories, Wright-Patterson Air Force Base, Ohio, has joined the faculty of the new department of radiology at Michigan State University with a joint appointment in the physics department.

The W. R. G. Baker Prize Award of the Institute of Electrical and Electronics Engineers has been given to **Robert W. Keyes**, research staff member at IBM's Watson Research Center for his paper entitled "Physical Limits in Digital Electronics." Keyes received his PhD in physics from the University of Chicago

(1953) and now specializes in electronics technology.

Cornell University radio astronomer **Frank D. Drake** has been named first recipient of the University's newly created Goldwin Smith Professorship in Astronomy; he will continue as director of the National Astronomy and Ionosphere Center at Cornell.

Basil Venitis has become president of Searchex, a new company of consulting scientists and management consultants that is located in New York City and specializes in theoretical physics, operations research and ocean transportation.

Among the seven recipients of ERDA's Distinguished Service Award are: **Andrew W. Decora** (director, Laramie Energy Research Center), **James S. Kane** (deputy assistant administrator for solar, geothermal and advanced energy systems), **Roger W. A. LeGassie** (assistant administrator for planning and analysis) and **Admiral Hyman G. Rickover** (director, division of Navy reactors, Office of the Assistant Administrator for Nuclear Energy). Distinguished Associate Award winners were **Bruce N. Ames** (University of California-Berkeley), **Frederic H. Coensgen** (Lawrence Livermore Laboratory), **Donald J. Grove** (the Princeton Plasma Physics Laboratory), **William Howard** (Sandia Laboratories, Albuquerque) and **Ronald W. Kiehn** (Reynolds Electrical and Engineering Co, at ERDA's Nevada Test Site).

The Energy Research and Development Administration has announced the appointment of **William H. Hannum** as deputy manager of the agency's Idaho Operations Office, which administers the Idaho National Engineering Laboratory.

The director of Kappa Systems' new resource science institute in Colorado Springs, is **William J. Veigle**, the former president of Resource Science, Inc.

The president of the State University of New York at Stony Brook, **John S. Toll**, has been elected chairman of the Universities Research Association Inc, which operates the Fermi National Accelerator Laboratory.

John T. Ewing, formerly with the Lamont-Doherty Geological Observatory of Columbia University, has been appointed chairman of the department of geology and geophysics at the Woods Hole Oceanographic Institution.

Among the 122 newly elected members of the American Academy of Arts and Sciences are **John N. Bahcall** (Institute for Advanced Study, Princeton, N.J.), **Herbert S. Bridge** (Massachusetts Institute of Technology), **Bruno Coppi** (MIT), **Ugo Fano** (University of Chicago), **Owen J. Gingerich**