

National Medal of Science Awards presented

President Carter presented Medal of Science Awards to 15 scientists at a ceremony in Washington, D.C. on 22 November. The Awards, first presented in 1962 by President John Kennedy, recognize outstanding achievement in the sciences and engineering.

George E. Uhlenbeck of Rockefeller University and Samuel A. Goudsmit, emeritus deputy chairman of Brookhaven National Laboratory and now affiliated with the University of Nevada, both received recognition for their discovery, fifty years ago, of electron spin.

Erwin W. Mueller was posthumously awarded a medal for his invention of the field-emission microscope, the field-ion microscope and the atom-probe microscope. Mueller died 17 May 1977.

Morris Cohen, metallurgist at the Massachusetts Institute of Technology received recognition for his original research into the properties of steel.

Peter C. Goldmark, formerly of CBS Laboratory and most recently the president of Goldmark Communications Corporation, was given an award for contributions to the development of communications sciences for education, entertainment, culture and service. Goldmark, whose work has seen widespread application in aerospace and medicine, was killed in an automobile accident 15 days after the award ceremony.

Kurt Friedrichs of New York University was recognized for his work in applying pure mathematics to the physical sciences, especially on problems involving flight and controlled nuclear fusion.

Hassler Whitney, a mathematician from the Institute for Advanced Studies in Princeton, received the Medal of Science for advancing the art of differential topology and the application of this special geometry to complicated, biological structures.

Herbert S. Gutowsky, a pioneer in the field of nuclear magnetic resonance spectroscopy, was cited for his significant studies in the field in the last 25 years. Affiliated with the University of Illinois, Gutowsky has applied his expertise to research on solids, solutions, metals and biological substances.

Verner E. Suomi, meteorologist at the University of Wisconsin, was presented with a Medal for his advocacy and efforts in applying space systems for improved weather services.

Frederick D. Rossini, physical chemist at Rice University in Houston, was cited for his contributions to basic knowledge in the field of chemical thermodynamics. A major figure in the area of precision chemical measurement, Rossini has created the foundation for studying problems in optimal fossil-fuel use.

Medals of Science for work in biology and chemistry were presented to:

Roger Charles Lewis Guillemin of the Salk Institute for the discovery of a new class of endocrinal hormones; Keith Porter, University of Colorado, for his application of electron microscopy to studies of cellular life; Effraim Racker, Cornell University, for research in subcellular photosynthetic activities; Edward O. Wilson, Harvard University, for his field studies of the organization of insect societies, and Henry Taube of Stanford University for his contributions in the field of reactivity and reaction mechanisms in inorganic chemistry.

Sagan and Elliot honored by NASA

James Elliot and Carl Sagan, both Cornell University astronomers, received awards from the National Aeronautics and Space Administration.

Elliot, assistant professor of astronomy, received the NASA Medal for Exceptional Scientific Achievement in recognition of his "outstanding contributions to space science, particularly in the field of planetary astronomy." His occultation experiments, utilizing the Kuiper Airborne Observatory, resulted in the observation of the rings of Uranus.

President Carter (second from right) applauds Medal of Science recipients at the presentation ceremony.



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Sagan, the David Duncan Professor of astronomy and space sciences, was presented with NASA's Distinguished Public Service Medal for his "communicating to the public the value and significance of space science" and for his contributions to NASA's scientific achievements.

The International Atomic Energy Agency selected **Khor Eng Hee** of Malaysia as chairman of its Board of Governors. **Karel Barabas** of Czechoslovakia and **Reinhard Loosch** from the Federal Republic of Germany were named vice-chairmen.

Former member of the Quantum Theory

Project at the University of Florida, **Sam B. Trickey** has been appointed chairman of the department of physics and engineering physics at Texas Tech University.

Paul Burgardt, formerly of West Virginia University, has been appointed to the physics-department faculty at the Colorado School of Mines.

Lawrence M. Slifkin, professor of physics at the University of North Carolina at Chapel Hill, received the 1977 Jesse W. Beams Award for significant and meritorious research in physics. Slifkin, an internationally recognized authority on the physics of atomic motion in solids, received the award for his contributions to the understanding of alloys, ionic substances and diffusion in metals.

Born in Kiangsu Province, his education at Tsing-Hua University during the national war of liberation reached the level of master's degree in physics. Under the supervision of Subrahmanyan Chandrasekhar, Huang earned his PhD from the University of Chicago in 1949.

He was closely associated with the late Otto Struve while at the University of California, Berkeley from 1951 to 1959 in a fruitful partnership of observational study and theoretical insight of close binary stellar systems. After five years at the Goddard Space Flight Center, he accepted a professorship at Northwestern University in 1964, where he continued very actively in teaching and research until he suffered a fatal heart attack while on a lecture tour of the People's Republic of China.

The leading technical journals carried more than 120 articles from his pen, often written in collaboration with his advanced students who benefitted from his wide experience and penetrating questions. The main thrust of his research was towards deducing physical interpretations from photometric and spectroscopic data

obituaries

Renate Wiener Chasman

Renate Wiener Chasman, a Brookhaven National Laboratory physicist for 14 years and well known throughout the world for her contributions in accelerator science, died 17 October at the age of 45.

Wiener was born in Berlin in 1932, but when the Nazi regime came to power her family moved first to Holland and then to Sweden where she spent most of her early youth. She received an MSc from Hebrew University in Jerusalem in 1955 and a PhD in 1959.



CHASMAN

Upon receiving her doctorate, Rena accepted a position at Columbia University as a research associate, working there with Chien-Shiung Wu. She met and married a fellow physicist, Chellis Chasman, and moved with him to Yale University where she worked on nuclear spectroscopy with D. Allan Bromley.

In 1963 the Chasmans moved to Brookhaven where Rena became a mem-

ber of the Sigma Center, compiling data on neutron cross sections. She became intrigued, however, by the problems presented in the design of particle accelerators and arranged a transfer to the Accelerator Department where she began a brilliant but all-too-brief career as an accelerator theorist.

She was an active member of the group that designed and built the 200-MeV AGS linac injector; not only was she the chief theorist of the group but when the linac was coming into operation, she could be found helping at the controls into the early morning hours.

She turned her attention next to storage rings and specifically to the design of the 400-GeV Isabelle colliding-beam accelerator, working on options that could supplement the main proton-proton colliding-beam system.

Her last days were spent in designing a storage ring to be used in the National Synchrotron Light Source whose construction at Brookhaven has just been approved. The results of her work with the late Ken Green were remarkable; a design emerged that was a vast improvement on similar designs elsewhere in the world.

She was a serious, charming person and was held in deep affection by all her associates. To work with her was a great pleasure; we at Brookhaven shall miss her very much.

JOHN BLEWETT

Brookhaven National Laboratory

Su-shu Huang

Su-shu Huang, professor of physics and astronomy at Northwestern University, died in Peking, China on 15 September. He was 63 years old.



HUANG

from stellar atmospheres and binary systems. He was especially interested in stellar evolution and in conditions for life in planetary systems. Huang was in great demand as a participant at international conferences. He showed a cheerful determination in his last years to put as much energy as possible into carrying out the work that most interested him.

WILLIAM BUSCOMBE
Northwestern University

James E. Adams

James E. Adams, Jr, manager of the Imaging Sciences Laboratory at the Webster Research Center of the Xerox