

4-1986

NEWS AND NOTES 1986, VOL.17, NO.4

The Rockefeller University

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News and Notes

The Rockefeller University

April-May 1986
Volume 17, Number 4 (Part 1)



Joseph Bradshaw, right, accepting his award from New York City Police Commissioner Benjamin Ward.

Due to the late date of the University's annual anniversary and retirement dinner, the April-May issue of *News and Notes* will be published in two parts.

New Pais Book Explores The Road Inward

Four years after the triumphal appearance of *Subtle Is the Lord... The Science and the Life of Albert Einstein*, which won an American Book Award and an award from the American Institute of Physics, Professor Abraham Pais of the University's theoretical physics group has written *Inward Bound: Of Matter and Forces in the Physical World*, published this spring by Oxford University Press.

This new work, which *Kirkus Reviews* calls "a book that soars," relates the history of modern physics, much of which Dr. Pais has participated in. He tells the story in alternating technical and non-technical chapters, a technique he developed in his Einstein biography.

The story was foretold by Newton, the author writes, when he observed that unlike the "Attractions of Gravity, Magnetism and Electricity," which "reach to very sensible distances, and so have been observed by vulgar Eyes, ... there may be others which reach to so small distances as hitherto escape Observation."

From the time that Roentgen discovered X-rays and Becquerel noted that uranium emits mysterious rays, "the distances," says Dr. Pais, "have shrunk a hundred million-fold. Along this incompletely traveled road inward, man has established markers that later generations will rank among the principal monuments of the twentieth century."

Police Honor Bradshaw

Security Guard Joseph Bradshaw was awarded a New York City Police Department Civilian Commendation Bar and Certificate at a ceremony at Police Headquarters on February 20, in recognition of an "outstanding example of public service."

On August 27, while on duty at the University's 64th Street gate, Mr. Bradshaw was informed by a passerby of a fight at 63rd Street and York Avenue. When he approached the scene of the fight, the suspect fled. Mr. Bradshaw chased and subdued the man at 61st Street and First Avenue. The assaulted man later identified himself as an off-duty police officer. Following arrest proceedings at the 19th precinct station house, it was learned that the suspect had outstanding arrest warrants.

In a letter to Mr. Bradshaw, President Lederberg, expressing the appreciation of the campus community, wrote, "We are very conscious of the extent to which our personal safety depends on the good work that you and your colleagues in Security continue to do in such exemplary fashion."

Hughes Institute at Rockefeller

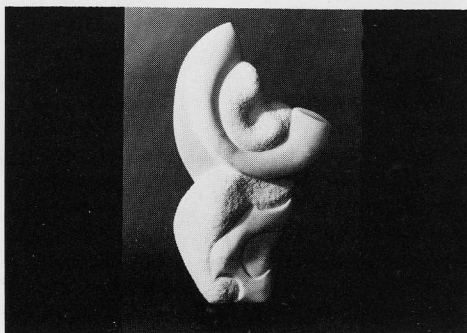
The Howard Hughes Medical Institute announced on February 3 that it plans to spend at least \$1 billion over the next five years in support of biomedical research at 22 institutions, including The Rockefeller University.

Preliminary negotiations have been completed between the Hughes Institute and the University toward the funding by Hughes of a new laboratory building on the Rockefeller campus and the recruitment of investigators who will hold joint Hughes Institute-Rockefeller appointments.

The Hughes Institute, headquartered in Bethesda, Maryland, was created in 1953 by the late industrialist Howard Hughes to promote knowledge in medical research. Its funding has been concentrated on long-term arrangements with institutions that foster integration of research, training, and medical application, primarily in the areas of immunology, genetics, metabolic studies, and neurobiology.

In a letter of acknowledgment to Dr. Donald S. Fredrickson, president of the Hughes Institute, President Lederberg stated: "We are delighted at the prospect of working out the affiliation with Howard Hughes Medical Institute, as your interests beautifully match our priorities."

Marie Nyswander, retired senior research associate and physician at the Hospital and co-developer with Professor Vincent P. Dole of methadone maintenance for the management of heroin addiction, died on April 20. An article about her will appear in the next issue.



Selections from The Rockefeller University Art Show. See story, page 3. Top, "Portrait," by Stephen Altschul; left, "Hanging on the Moon," by Robert Jones, who leads a sculpture workshop at the University; and right, "Hey Look" by Eduard Kloesman.



Margeris A. Jesaitis

Briefs

Professor **Jules Hirsch**, Human Behavior and Metabolism, assumed the presidency of the American Psychosomatic Association at its annual meeting on March 20-23, in Baltimore.

Adjunct Professor **Richard M. Krause**, dean of Emory University School of Medicine, was an invited speaker at the 33rd National Health Forum "Biomedical Research at the Critical Crossroads," in Washington, D.C., March 24-25.

Professor **Fernando Nottebohm**, Animal Behavior, gave the keynote lecture, "Neuronal Replacement in Adulthood and Its Possible Relation to Learning," at the Winter Conference for Brain Research held at Keystone, Colorado, January 25-31.

Professor **Donald W. Pfaff**, Neurobiology and Behavior, gave an invited lecture, "Gene Expression in Hypothalamic Neurons," at the annual meeting of the British Endocrine Societies, in Sheffield, England, April 7-10.

Trustee **Norman Ramsey**, Higgins Professor of Physics at Harvard University, has been elected to a three-year term as president of the United Chapters of Phi Beta Kappa.

Professor **Brenda Shivers** and Research Associate **Joseph T. McCabe**, Neurobiology and Behavior, were invited participants at the workshop, "In Situ Hybridization to Brain mRNAs," sponsored by the Howard Hughes Medical Institute and held January 26-28 in Coconut Grove, Florida. Dr. Shivers spoke on "In Situ Hybridization for the Study of Proenkephalin and LHRH mRNAs in Rat Brain," and Dr. McCabe on "In Situ Hybridization as a Quantitative Autoradiographic Method: An Example from Vasopressin and Oxytocin Gene Transcription in the Brattleboro Rat."

Margeris A. Jesaitis 1919-1986

Professor Margeris A. Jesaitis, a biochemist associated with The Rockefeller University for 36 years, died on April 2 at his home in Flushing, New York, at the age of 66.

From 1950 to 1975, Dr. Jesaitis collaborated with Professor Walther F. Goebel on pioneering studies of substances produced in the body by microorganisms. In recent years, he had been concentrating on investigations of colicins, potent antibacterial products of colon bacilli. At the time of his death, he was also serving as chairman of the University's Institutional Biosafety Committee, which oversees the registration of recombinant DNA research on campus.

Born in Smolensk, Lithuania, on September 16, 1919, Dr. Jesaitis received his M.S. degree from the University of Vilnius, in Lithuania, in 1941, and his Sc.D. degree from the University of Tübingen, Germany, in 1948. After appointments at the University of Vilnius, the University of Breslau, the Technical Academy of Dresden, and the Kaiser Wilhelm Institute for Biology, he joined what was then The Rockefeller Institute for Medical Research as a fellow in 1950. In 1957 he was named an associate professor. He became an American citizen in 1956.

Dr. Goebel, now emeritus, recalls that "this young man from Lithuania appeared at my laboratory one day, unannounced, asking to work with me. He came so highly recommended by his professor at Tübingen that I hired him. He soon proved an outstanding and original investigator both in the work we did together and in his independent studies."

Dr. Jesaitis was a member of the American Chemical Society, the American Society of Biological Chemists, the American Society for Microbiology, the New York Academy of Sciences, and Sigma Xi.

He is survived by two sisters, Jurate S. Jesaitis and Dana M. Picabia, and two nephews, Raymond G. Jesaitis, Professor of Chemistry at the State University of New York College of Technology, Utica, and Algirdas Jesaitis, a member of the Department of Immunopathology of the Scripps Clinical and Research Foundation in California.

Promotions

Jeffrey Friedman, Molecular Cell Biology, to assistant professor, effective January 1.

David Clayton, Animal Behavior, to assistant professor, effective February 1.

Kathryn L. Crossin, Developmental and Molecular Biology, to assistant professor, effective March 1.

Millbrook Open House

The University's Field Research Center, located in Millbrook, New York, will hold an Open House for all members of the campus community, their families, and friends on Saturday, May 31. Members of the animal behavior laboratories of Professors Peter Marler and Fernando Nottebohm will be on hand to show visitors through the facilities. Transportation by bus will be available to and from the University, and lunch will be served at the field station.

Lab Report: Sick Cell Disease

When Lennette Benjamin began medical school in 1966, the general teaching was that the life expectancy of a patient with sickle cell disease was 30 years. Today, many of the sickle-cell patients who participate in her research are over 30 and some are well into their sixties and are leading active lives.

Dr. Benjamin conducts clinical research in the Hospital and basic research in the laboratory of Professor James M. Manning.

Sickle cell disease gets its name from the curved formation of red blood cells. The crescent or sickle shape results from an amino acid substitution in the chemical structure of hemoglobin, the oxygen-carrying protein in the blood cells. These deformed cells impair the transmission of oxygen to the tissues and clog blood vessels, causing excruciating pain in the joints and other sites in the body. Sickled cells also have a much shorter life span than normal red blood cells.

While there is no cure for sickle cell disease, drugs have been developed, by Dr. Benjamin and others, that promise to control the disease's painful and debilitating symptoms.

"The future of effective drug treatment lies with combination therapy," says Dr. Benjamin. "A major part of my research focuses on finding the best agents to act upon different aspects of the disease."

Developing Drugs

Dr. Manning's laboratory has a long history of research into the functioning of proteins, particularly sickle hemoglobin. Under investigation are various drugs that act upon different mechanisms to inhibit the sickling process.

One drug they are studying is glyceraldehyde, which modifies the hemoglobin molecule in such a way as to prevent gelation, the process by which the blood cells become more viscous. By treating a small batch of red blood cells with the drug and reinfusing the cells back into the patient, Dr. Benjamin re-

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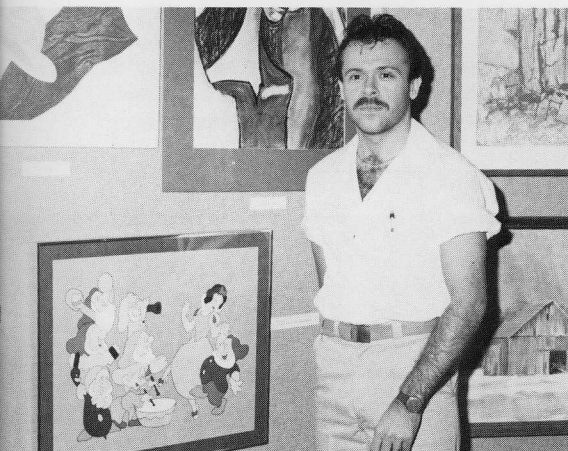
James O'Donnell, with "Him-Self," an acrylic painting.



Oliver Farley with his oil painting, "A Matador." Mr. Farley, here with a friend, paints every night after work and has over 60 completed paintings.



Gilberto Farfan, a member of Custodial Services, who has been associated with the University for three years, has another career as a photographer, specializing in wedding portraits.



Peter Cassidy with "Snow White and the Seven Dwarfs."



Jean Bates with her "Self-Portrait, age 11," a pencil drawing.



Judy Cuozzo with "Sleeping Cat," a brown alabaster sculpture. Miss Cuozzo is a member of the University's sculpture workshop.



Helen Shio with "Bamboo," an ink on rice paper brush painting.

The Rockefeller University Art Exhibition

The Rockefeller University Art Exhibition, including paintings, photographs, and sculpture by members of the campus community, was held February 27 through March 14 in the Founder's Hall lobby. It was arranged and mounted by Katherine Cameron, the University's interior designer, and the members of the art exhibition committee: Cynthia Altman, Edward Clarke, Freeman Crow, Dr. Robert Jones, Robert Keiber, Eduard Kloesman, David Lyons, Sonya Mirsky, and Mary Wagner. Some representative examples are reproduced on this page.

Personals

Born November 23 to Outpatient Charge Nurse **Martha Galatola** and her husband, Michael, a daughter, Elizabeth Ann.

Born February 1 to **Carmen Schmidt**, assistant director of nursing, and her husband, Charles, a son, Michael.

Deaths

James Hendrix, who was an assistant physician and research associate in the laboratory of Professor Reginald Archibald from 1961 to 1966, on December 30.

Dr. Robert J. Parsons, 78, a founding member of the American Board of Pathology, who was a research assistant in the laboratory of the late Philip D. McMaster from 1935 to 1938, on February 5.



Rockefeller children at this year's Easter egg hunt held on campus.

(continued from page 2)

ported in the February issue of *Blood*, glyceraldehyde can increase the survival rate of blood cells. Now in preclinical trials, the drug is being tested both for its positive effects and for any negative effects on red blood cells and other macromolecules.

Another drug Dr. Benjamin is studying is cetiedil, which acts on the red cell membranes. Its anti-sickling properties were first reported by Dr. Benjamin in collaboration with Dr. Charles Peterson at The Rockefeller in 1980. While further testing is required, a double blind collaborative study with investigators in four other medical institutes indicates that cetiedil holds promise of reducing the number of painful sites and shortening the duration of crisis.

"Sickle cell disease can affect every organ system in the body," says Dr. Benjamin. "We are getting better at treating the symptoms, but we still don't know much about the biochemical events that trigger or propagate them."

Looking for Markers

Throughout the past six years, Dr. Benjamin has collaborated with a number of Rockefeller researchers, including Professors D. Martin Carter, Anthony Cerami, and Robert L. Jones. One focus of her research has been to identify objective criteria that will help physicians design and evaluate appropriate chemical therapies for sickle cell disease. The formation and dissolution of blood clots, red blood cell densities, and alterations in molecules called acute phase proteins have been studied by Dr. Benjamin as markers for the disease's severity.

Her findings and collaborative efforts have been reported at national meetings of the American Society of Hematology, The American Federation for Clinical Research,

the 1985 NIH-sponsored Comprehensive Sickle Cell Center Meeting, and at international sickle cell meetings in Guadeloupe and Nigeria.

Dr. Benjamin points out that although sickle cell disease was the first disorder to be described on the molecular level, combining the right drugs into an effective treatment is not a trivial task. For example, many drugs that have successfully interfered with the sickling process in the test tube have been ineffective in ameliorating the disease in the patient.

Dr. Benjamin's bench research is coordinated with monitoring the progress of about 100 patients, 30 of them intensively. "My approach has been to get at the science through studying the patient. Focusing on only the molecular interactions as we understand them today is not sufficient. This is because sickle cell disease is multi-factorial," she explains. "It involves a hemoglobin molecule, encased in a membrane, suspended in plasma, circulating in the blood vessels, supplying oxygen and nutrients to tissues. Any number of things can go wrong at any point along this complex chain of interactions."

Public Lecture, June 11

Professor Jules Hirsch, head of the laboratory of human behavior and metabolism, will deliver the University's next public lecture, on the subject "Obesity and Overweight," on June 11 at 8 P.M. in Caspary Auditorium. A limited number of tickets will be available to members of the campus community. For more information, check the bulletin boards or call the Public Information Office on extension 8777.

Leprosy Symposium in India

Professor Zanol A. Cohn, head of the University's laboratory of cellular physiology and immunology, served as joint coordinator of an Indo-American symposium, "Aspects of Immunology and Molecular Biology in Leprosy," held in New Delhi, India in January.

At the meeting, which was sponsored by the National Institute of Allergy and Infectious Diseases, Dr. Cohn summarized priorities for future basic and applied research. Other members of his laboratory who participated were Professors Ralph Steinman, who spoke on dendritic cells and macrophages as accessory cells in T cell reaction, and Gilla Kaplan, who discussed immunological aspects of leprosy and the role of macrophages in immune suppression.

Professor D. Martin Carter, head of the

laboratory of investigative dermatology, delivered a lecture on wound healing.

The 11-member American team consulted with their Indian counterparts on the clinical and social aspects of leprosy and tuberculosis and also on medical training in the two countries. Drs. Cohn and Kaplan tested 100 leprosy patients in local hospitals in New Delhi, Jalma, and Agra, as part of studies begun last year with Dr. Indira Nath of the All-India Institute of Medical Sciences, who was the symposium's Indian coordinator. Analysis of the results will be completed at The Rockefeller.

Alumni Briefs

Thomas Peter Bennett (1965), formerly president of the Academy of Natural Sciences of Philadelphia, has been named director of the Florida State Museum at the University of Florida.

Caleb Finch (1969), professor of gerontology and biological sciences at the University of Southern California's Ethel Percy Andrus Gerontology Center, has been named to its newly established Arco-William F. Kieschnick chair in the neurobiology of aging.



Children from P.S. 183 took advantage of the early spring weather in late March to visit the campus for an afternoon of sketching and birdwatching.

Continuing its long-standing policy to actively support equality of opportunity for all persons, The Rockefeller University forbids discrimination on the basis of race, color, religion, sex, age, national origin, or handicap. The Administration has an Affirmative Action Program to increase the employment of women and members of minority groups in all areas of the University's activities.

News and Notes is published five times a year from October through July. This is Volume 17, Number 4. Suggestions for articles are welcome and may be sent to *News and Notes*, Box 194, phone extension 8968 or 8970. Photographs, page 1, left, New York City Police Department; center and right, Lloyd Edwards; page 2, Ingbet Grüttnner; page 3, George Byron; page 4, left, Solveig Pearson; page 4, right, Robert Keiber. © 1986 The Rockefeller University, New York 10021-6399. Printed in the United States of America.