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## NEWS AND NOTES 1989, VOL.20, NO.4

The Rockefeller University

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# The Rockefeller University

April-May 1989  
Volume 20, Number 4

# News and Notes

## University Receives Markey Grant

A grant of \$5 million has been awarded by the Lucille P. Markey Charitable Trust to the University in support of its University Fellows program. The program, set up in the early 1970s, encourages young biomedical scientists doing independent research in specialized fields that are not well represented by the University's established laboratory groups.

In making the announcement President Lederberg said, "This grant provides valuable impetus to the program especially for renovating facilities in our endeavor to support young investigators at a critical stage of their

careers when private funding is essential. I am grateful to Professors James Darnell and David Luck for their leadership of the senior faculty committee in carrying out an extensive search process, and all of us thank the Markey Trust for their priority concern with basic biomedical science."

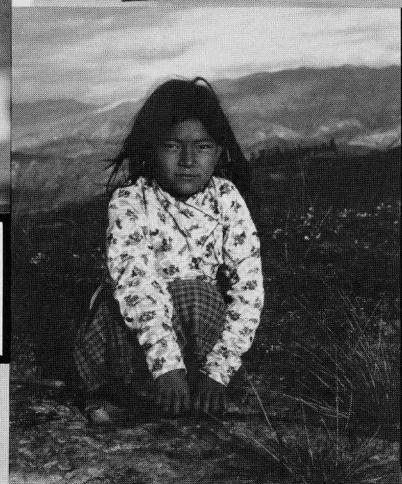
Over the past decade, the University has previously received \$6 million from the Trust for scientific research, endowment of a professorship, predoctoral education, and postdoctoral fellowships. This additional award represents the largest single grant from the Trust to the University. □

### Anniversary and Retirement Dinner

Because of the late date of the University's annual anniversary and retirement dinner, the event will be covered in the June-July issue of *News and Notes*.

## No Negatives, All Positives Here

The Rockefeller University Photography Exhibit, featuring the work of members of the campus community, was held March 29 through April 19 in Founder's Hall lobby. It was arranged and mounted by Katharine Cameron, the University's interior designer, and the members of the exhibit committee: Cynthia B. Altman, Betsey W. Deleuse, Vincent A. Fischetti, Pierre Gönczy, Eustacia Marsales, Sonya W. Mirsky, Debbie Panitz, Debra Russ, and John Sholtis. Some representative examples are reproduced here. □



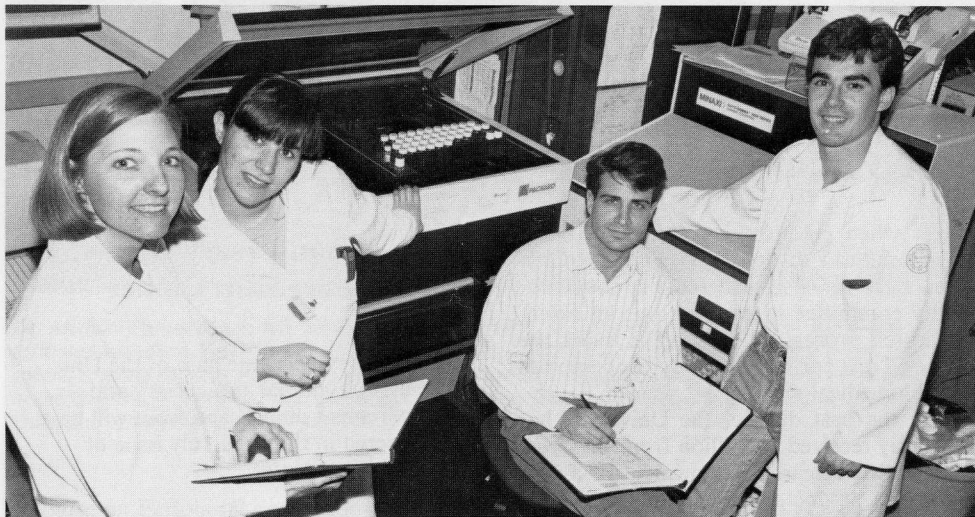
*Photographs, clockwise from upper right, "One for You, One for Me," by Steven Cohen; "Nepalese Girl," by Banvir Chaudhary; "Untitled," by John Sholtis; "Striped Cat," by Eileen Silver; "Portrait of a Young Girl," by Gilberto Farfan.*



## Lab Report: Making Science Safer

"In science, there are many ways of doing things," says Professor Edward L. Gershey. "As it happens, some are safer than others."

A truism, perhaps, but only a point of departure for Dr. Gershey, who has been director of laboratory safety at the University since 1981. The challenge for his group is clear: to ensure that safe and efficient procedures are conducted in a manner that promotes, rather than inhibits, the research of individual investigators and laboratories.



In the office's isotope laboratory are, from left, Assistant to the Director Amy Wilkerson, Assistant for Safety Jennifer Summa, Data Processor Gregg Cope, and Assistant for Safety Stuart Wasserman.

Dr. Gershey and his staff follow an educational approach to laboratory safety. Clear and concise explanations of lab safety regulations are important for their compliance and the credibility of the safety office. The result is the design of a better, safer experiment which benefits both the University and the investigator. As Dr. Gershey puts it, "The idea is to free the individual investigators and labs from having to do some of

the bureaucratic tasks that can potentially detract from their concentration on research."

The early 1970s were a time of change in which increasing attention was paid to environmental issues. Clean Air and Water Acts were passed by Congress and the Occupation Safety and Health Administration was created. Recalls Dr. Gershey, "In this new regulatory atmosphere, it became clear that the University would have to be working on environmental issues in a more full-time way."

It was decided that the administration had to take a more active role interacting with government agencies and that the task should be

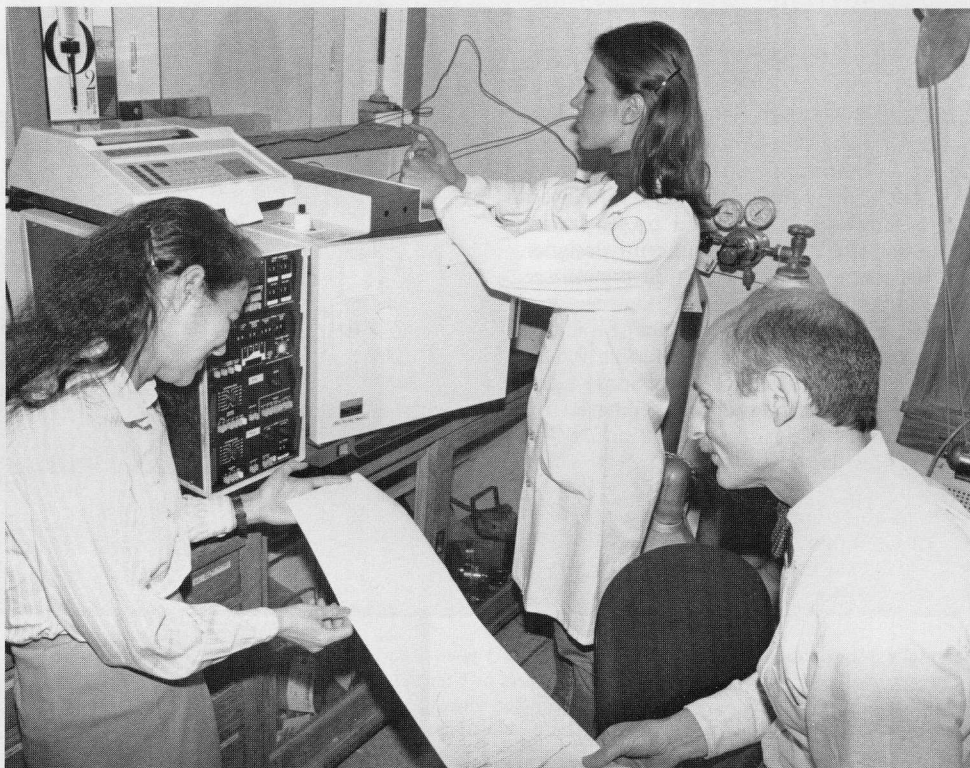
## Achievements of The Office of Laboratory Safety

- Found a safer and more easily disposable substitute for the acid used in cleaning glassware.
- Found a method of purifying the key solvent comprising half of the University's organic liquid waste, rendering it recyclable to the University. This solvent is as pure as any commercially available.
- Redesigned a bio-safety cabinet with improved efficiency and containment features, now manufactured commercially.
- Developing an operational approach to assess fume hood efficiency.
- Studied the safety features of the gloves used on campus with the finding that those manufactured from latex, instead of vinyl, possess greater impermeability from microbial agents.
- Currently developing a method to measure chemical toxicity using the slime mold.

In addition to his duties at the University, Dr. Gershey is a member of the New York Academy of Medicine's Committee on Public Health. He chairs the Academy's Committee on Environmental Health, heading groups studying the relationship of health to drinking water, ventilation, radiation, noise, and the homeless. Recently, he has



Assistant Safety Officer Robert Klein, left, and Biological & Chemical Safety Officer Teresa Stimpfel reviewing the safety procedures that are presented to new employees.



Discussing research in the office's laboratory are, from left, Radiation Safety Officer Esmeralda Party, Assistant for Safety Ilona Linins, and Director Edward L. Gershey.

assigned to a full-time safety director. That role became Ed Gershey's.

Although Dr. Gershey's office responds to emergencies—they are few and minor—most interaction with members of the University is through the lab safety training sessions required of all new employees and the wide range of services that the office provides.

also addressed the National Safety Conference on the problem of waste disposal in the next decade.

Dr. Gershey also initiated a meeting of safety officers representing the other biomedical institutions in New York City. In their monthly sessions, information about

(continued on next page)



safety procedures is regularly exchanged. In some respects, says Dr. Gershey, the approach to safety at Rockefeller is unique among regional institutions. "One difference



Laboratory Safety Attendant Isaiah Curry, left, and Hazardous Waste Manager Richard Joao.

is that we integrate all aspects of safety in one group. We deal simultaneously with radiation, biohazards, chemical safety, fire safety, and general laboratory approaches."

In keeping with the institutional spirit at Rockefeller, the office also conducts its own research. Projects cover a broad spectrum of practical topics and basic research. They not only benefit the scientific community, but also help the lab safety office stay in touch with the needs and issues facing the laboratories that they serve.

Dr. Gershey's group has also been in the forefront of the low-level radioactive waste disposal issue. They have recently contributed a study on the subject to the Annual Review of Public Health based on data compiled from surveying members of the biomedical community. The group has also done impact studies on the risks associated with potential dosages of radiation. That in turn has served as a basis for a petition to the Nuclear Regulatory Commission for a generic ruling regarding the disposal of biomedical waste nationwide.

He points out that the public's perception of the risks associated with biomedical waste generated by research is out of proportion with reality. The public often says it doesn't want any risk at all. "That's not realistic," says Dr. Gershey, "but this demand for zero risk is communicated to the politicians, who in turn communicate it to the legislature." The result, he says, is overly restrictive and overly conservative regulations. In addition, "these stringent regulations are disincentives for developing new scientific technology or even using existing technology."

Communicating to the public the realistic risks and benefits of basic research, and making available accurate and accessible technical information about lab waste is of the utmost importance. He and his staff have just completed a book on low-level radioactive waste that explains current practices and sets

out the data on potential health risks. It is, he says, an urgently needed "primer for the public, the press, educators, and regulators. Efforts like this will help to restore the public's focus on biomedical research and not on its waste." □

## Reasons for Research

To celebrate its seventy-fifth anniversary, American Scientist, the magazine of The Scientific Research Society, Sigma Xi, asked seventy-five scientists to state why they chose a career in research. Three scientists associated with the University were included in the survey and here are their responses:

*As far as I can recall, I became a scientist because I was fascinated by animals and wanted to know what it would be like to be animals of various sorts. It seemed easier to imagine being a mammal or a bird, so I concentrated on them, and especially on their migration and orientation. It was most satisfying to learn how bats guide their flight through the dark by echolocation, and later to find that they rely on echolocation not only as a way to avoid collisions but also to locate and capture flying insects. Even so, Frederic Webster and I were astonished when multiframe photographs at eight per second showed a horseshoe bat (*Rhinolophus ferrum-equinum*) catching a moth with prehensile use of the wingtip. Eye-opening surprises*

*like these keep an ethologist's life excitingly rewarding.*

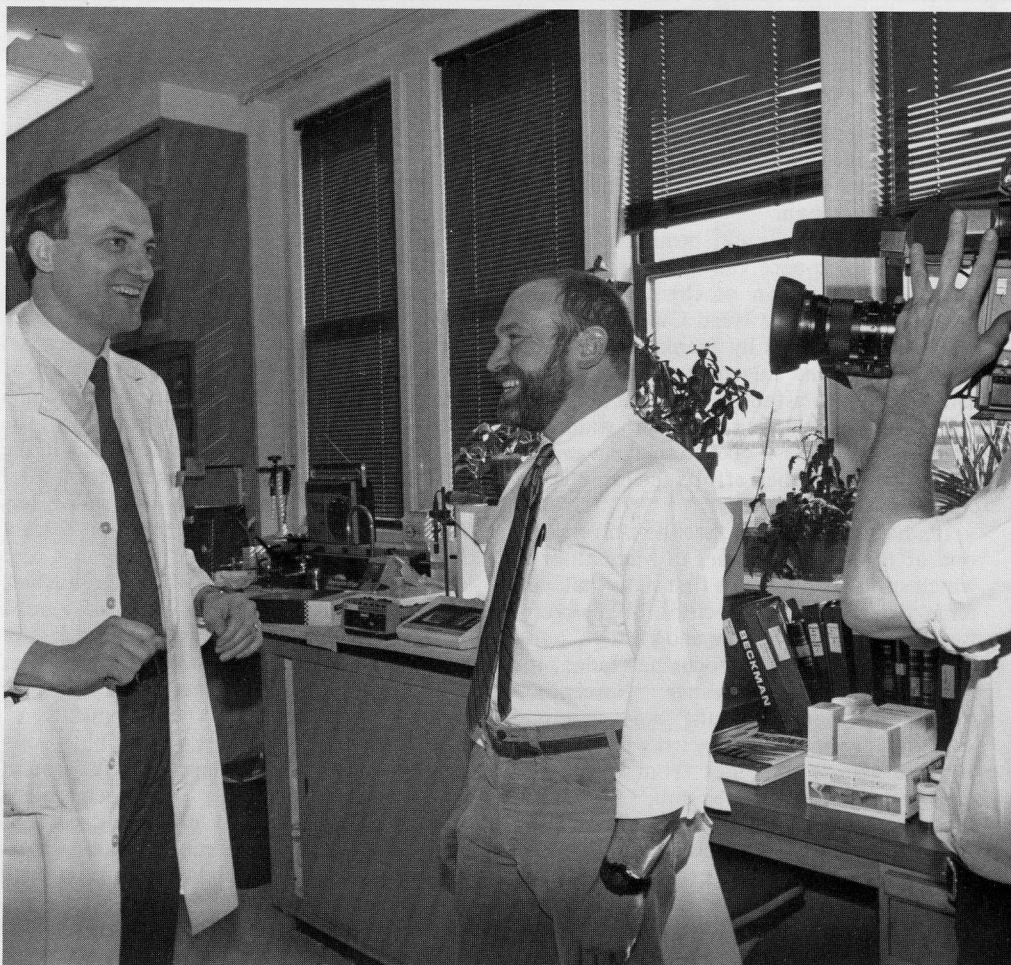
Donald R. Griffin  
Professor Emeritus  
Animal Behavior

*My father encouraged in various ways my curiosity and interest in nature and science. When about four, I saw a Geissler tube with high-frequency electricity producing painless sparks to my fingers. Later, he left science books lying around as if reading them. After I had read them, they disappeared. I remember Creative Chemistry by Slosson. He helped me get materials for "experiments." Knowing that high school introductory general science would be boring, he arranged for an examination so I could skip it. I was taken to see his colleagues' laboratories and demonstrations and listened eagerly to their conversations at college picnics. I knew that teaching and research did not pay as well as business, law, or medicine, but saw my father's satisfaction in his students' progress and when they came back to say how much they appreciated what he had taught them.*

Neal E. Miller  
Professor Emeritus  
Physiological Psychology

*Because it seemed the most fun.*

Abraham Pais  
Professor Emeritus  
Theoretical Physics □



Professor Eliot Brinton, left, of the University's laboratory of biochemical genetics, being interviewed about cholesterol metabolism for "Bodywatch," a science program produced by the public television station WGBH-Boston. The show will air in the New York area on WNET-TV, channel 13, this summer.



## Campus in Bloom

The task set before landscape artist Dan Kiley in 1956 was to create the botanical equivalent of the University's research philosophy: an environment conducive to the contemplation and investigation of Nature.

One has only to pass through the main gate at 66th Street and York Avenue and stroll up

bushes, whose bright yellow flowers appear before its leaves.

Close behind the *Narcissi* are the tulips, thought by some to be the lilies of the field mentioned in the Bible, and which are proof to many on campus that spring has arrived. Their name comes from the Turkish "tul-bend," meaning turban, and they are thought to have been introduced into Europe

ward the north.

A new wave of color then sweeps across campus with the flowering of the cherry and crab apple trees, rose of Sharon, and bridal wreath, which is native to Japan.

Most spectacular of the University's horticultural treasures are the azaleas, ranging in color from the purple of the large and sturdy older bushes to the white, pink, red, and salmon of the smaller and lighter new varieties. Also in bloom at this time are the rhododendrons, broad-leaved evergreens, which grow wild in the Appalachians and on the mountain slopes of the west coast as well as in western China and the Himalayas.

Adding to the display are the dogwoods, *Cornus kousa*, whose hard wood has been used for the heads of golf clubs, spindles, pulleys, machinery handles, and knitting needles. Their bark, rich in tannin and used medicinally, is a quinine substitute.



The green thumb brigade. From left, Frank Duffy, Francisco Molina, James Sullivan, and Eugene Tarasco, with the new Plant Operations truck.

the hill to Founder's Hall to experience how well he succeeded. Enveloped by leaves and flowers, shade and color, the hurly-burly of the city begins to recede. It is as if entering an oasis in Manhattan.

Today, the magic and beauty of Kiley's original fifteen-acre canvas is maintained under the direction of the University's grounds staff led by Head Gardener James Sullivan and assisted by Frank Duffy, Francisco Molina, and Eugene Tarasco. All year round, they are a familiar sight about campus: planting, pruning, digging, watering, mowing—whatever it takes to make a garden grow. Because of their efforts the campus is a constant botanical delight.

It's no wonder, then, that the University is one of the loveliest places in Manhattan to watch spring unfold. The first signs that winter is yielding are the crocuses, bright promises gleaming through the snow.

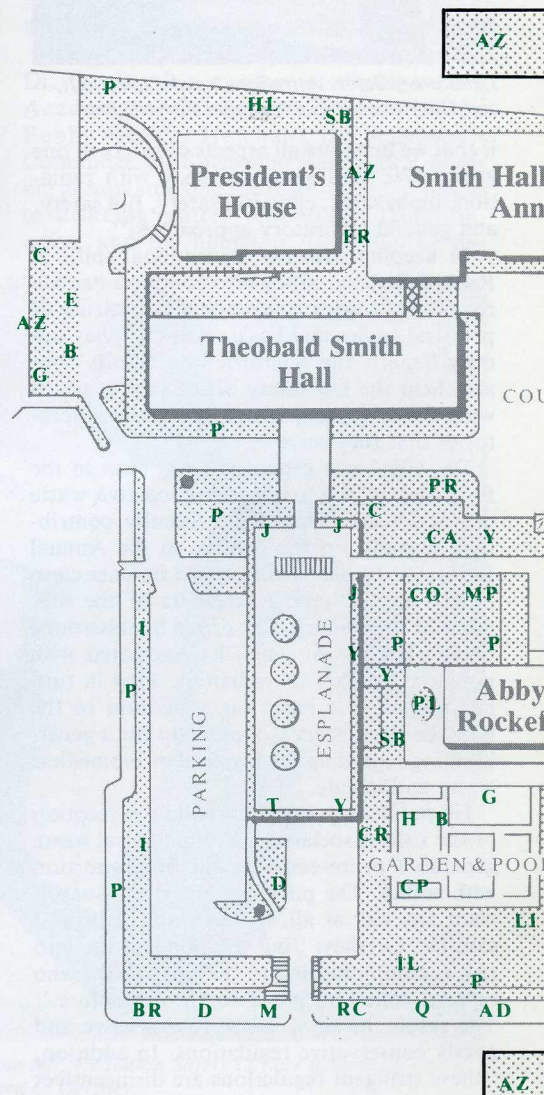
Just before the last crocus has faded, the *Narcissi* put in an appearance. "Narcissus," "daffodil," and "jonquil" are sometimes used interchangeably. *Narcissus* is the name for the genus; it comes from the Greek *narkoun* meaning "to benumb," because of the narcotic properties of the narcissus oil. To be a daffodil, a narcissus must have a trumpet as long or longer than the diameter of the six petals that surround it; many species of *Narcissi* are daffodils, including those near Caspary. The jonquil is a short-trumpeted species, as is the yellow and white *Narcissus poeticus* that blooms alongside the pool north of Caspary Auditorium. Another touch of color is added by the forsythia

from Turkey in 1554. In the 1630s in Holland, the wild speculation in tulip bulbs became known as tulip mania: single bulbs sometimes brought several thousand dollars until the government was forced to intervene.

Also flowering at the same time are the *Pieris japonica*, shrubs with small bell-shaped white flowers that spill over the leaves like clusters of tiny grapes. It is more familiarly known as *Andromeda*, the name given to it by Carolus Linnaeus, the originator of the modern scientific classification of plants and animals, because, like Andromeda of the Greek myth who was chained to a rock in the sea, the plant stands in the water in its natural habitat. For this same reason, it is called, less romantically, the bog-rosemary or marsh-hollyhose.

Other early flowers are the shadbushes, *Amelanchier canadensis*: tall, thinnish shrubs which have white flowers with narrow drooping petals that appear about the time that shad begin to run in the rivers; later they bear a maroon-purple fruit. Ground myrtle, or *Vinca minor*, which bears a small blue flower, also appears at this time. A useful ground cover, it shares this duty with *Pachysandra* and English ivy. *Ampelopsis*, the deciduous vine that traces such a complex pattern across the face of Founder's Hall, also springs back to life about the same time.

Next on the scene are the magnolias. The first magnolias left their fossil records in the circumpolar forest some 300 miles north of the Arctic Circle. Driven south by the Ice Age, they took refuge in the Alleghenies and now have begun to creep back once more to-





One of the sturdiest and most versatile of all the University's shrubs is the *Ilex crenata*, or Japanese holly, which lines the north-south walk and York Avenue.

As the bright flashes of color burst and fade, the many shades of green shift slightly with the changing season. The dominant green is the long stretch of smooth lawn extending north and south. Shading the walks and lawns are London plane trees and American sycamores (also called buttonwood or plane trees); more than 120 were planted in 1913. The London plane tree, *Platanus acerifolia*, is presumably a hybrid between the American and the oriental varieties. It was raised near Oxford before 1700 and is the most popular of all trees in London where it undergoes many of the same rigors as here in Manhattan. Even older than the plane trees

are two lindens *Tilia americana*, at the eastern end of the main drive, planted in 1906 by a member of the University's original board of directors.

Just off the southwest corner of the Hospital is a tree grown from a cutting given to Dr. Bronk in the 1950s that came from the Greek island of Kos. Under this very tree, according to tradition, Hippocrates taught his students 2,400 years ago.

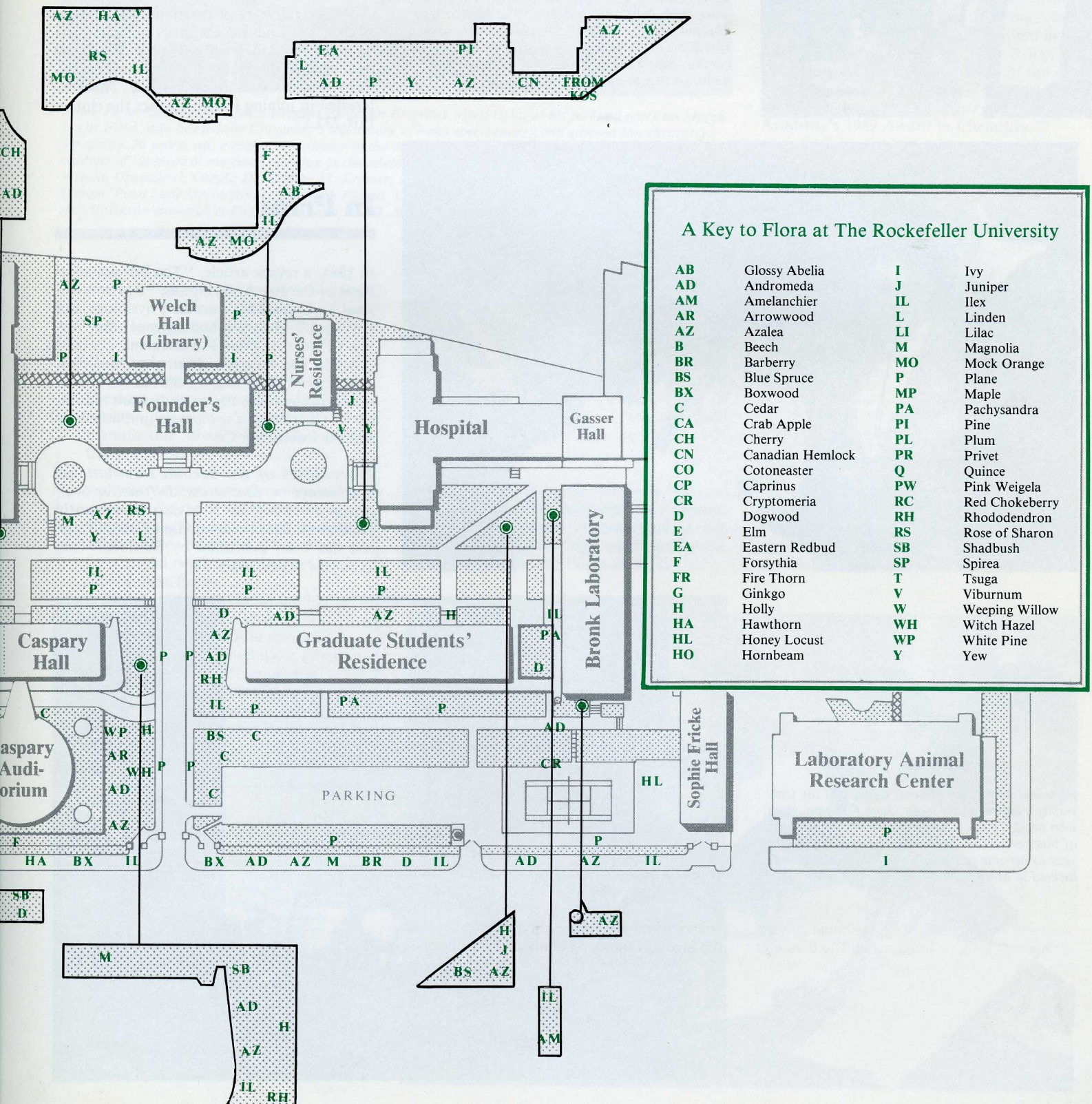
Last fall, an "October Glory" red maple, *Acer rubrum*, was planted outside the Abby Aldrich dining room in memory of Rockefeller bioorganic chemist Emil T. Kaiser, who died last July.

East of the pool next to the auditorium are six Ginkgo trees, *Ginkgo biloba*. The Ginkgo is the most primitive of all seed plants, dating back 200 million years. Its flat, splayed,

semicircular leaf resembles that of the prehistoric maidenhair fern, its wood structure is like that of the pine or fir tree, and the seed like that of the coniferous yew or juniper. Like the duckbill platypus, the Ginkgo is a signpost at an intersection of evolutionary history.

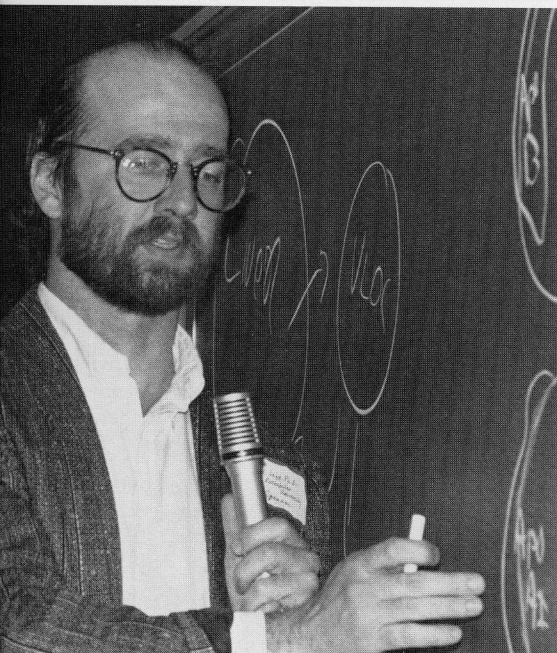
Two more clumps of Ginkgos can be found in the driveway to the President's House, along with maples, a beech, and an elm. Completing the arboreal picture on campus are honey locusts, white pines, witch hazels, blue spruces, cotoneasters, cedars, junipers, and a weeping willow.

*This article has been adapted and updated from "Institute Flora" which originally appeared in The Rockefeller University Review 25 years ago.* □





## Reporting to Reporters



News from the forefront of heart disease research was on the agenda when members of the National Association of Science Writers (NASW) attended a March luncheon and lecture sponsored by the University and the New York affiliate of the American Heart Association.

The program, "Beyond Cholesterol: A Closer Look at Lipoproteins," featured Assistant Professor Todd Leff, photo left, of the University's laboratory of biochemical genetics and metabolism, and Professor Ira Jay Goldberg, of Columbia University's College of Physicians and Surgeons. The two scientists summarized their research on the genetic and cellular principles governing the production of lipoproteins, the ferryman molecules which transport cholesterol in the blood.

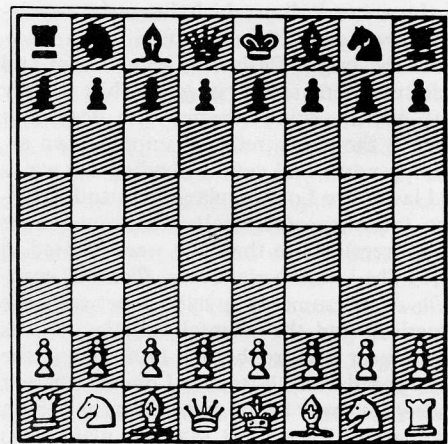
Among the journalists attending the event were, below, left to right, Ed Edelson, *The New York Daily News*; Jerry Bishop, *The Wall Street Journal*; Audrey Likely, science public relations specialist; Ruth Hedrick, American Heart Association, New York Affiliate; and Arthur Fisher, editor of *Popular Science*.



President Lederberg presents a token of the University's appreciation to Dr. Jack Fishman, right, who headed one of the Rockefeller's laboratories of biochemical endocrinology before leaving last year to become president of IVAX Corporation, located in Miami.



## Check and Mate



After several years of inactivity, the University's Chess Club is back in action. Whatever your level of skill, be it beginner or expert, all members of the campus community are invited to join. Coaching is available. Those interested in joining should contact the club at Box 232. □

## In Print

In 1964, a review article, "The Physiological Basis of Cardiac Arrhythmias," by Professor **Paul F. Cranefield**, Cardiac Physiology and History of Medicine and Science, and Adjunct Professor **Brian F. Hoffman**, was published in *The American Journal of Medicine*. This review, which had a major impact on research in the field, has recently been reprinted in *Classics of Cardiology*, published by Krieger Publishing Co.

*Proceedings of the Second International Conference on Elastic and Diffractive Scattering 2*, edited by Professor **Konstantin Goulianos**, Experimental High-Energy Physics, has been published by Editions Fron-

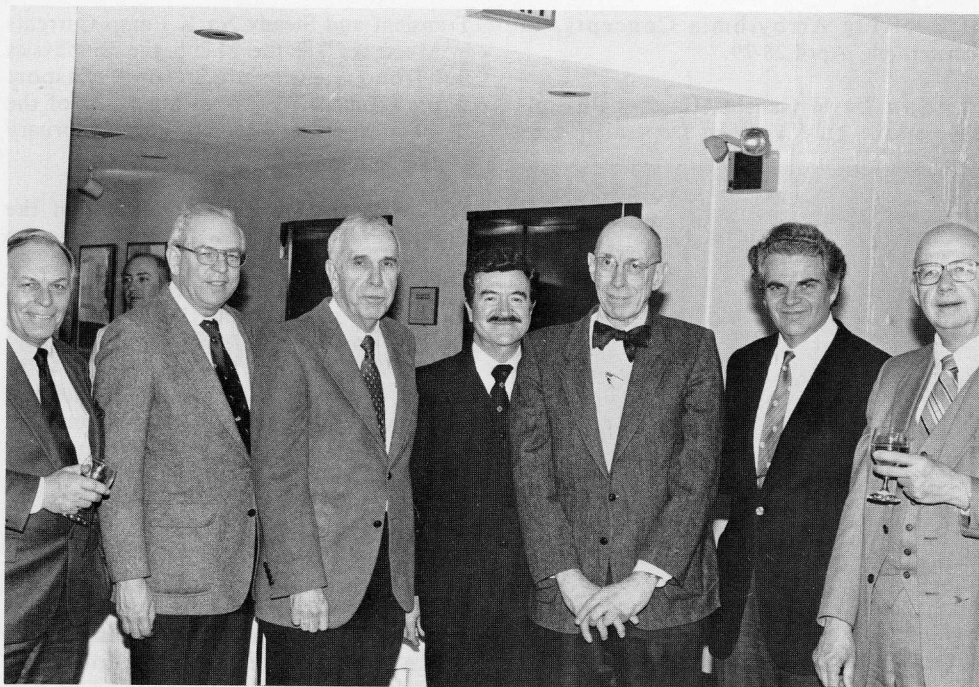
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## Honors and Awards

Postdoctoral Associate **Anthony Bahinski**, Cardiac Physiology, received the 1989 Postdoctoral Research Award of the American Physiological Society, Cell and General Physiology Section, at the FASEB meeting in New Orleans, March 19-23, for his talk "Contamination of Strophanthidin-sensitive Current by  $[K]_o$ -dependent, Nonpump Current in K-containing Myocytes," which was co-authored by Professor **David Gadsby** of the laboratory.

Trustee **Ronald Breslow**, S. L. Mitchill Professor of Chemistry at Columbia University, received the 1988 Kenner Award of the University of Liverpool in November, for contributions to the field of bioorganic chemistry. He also was presented the 1989 Nichols Medal of the New York Section of the American Chemical Society, at a symposium in his honor held in Tarrytown, New York, on March 31. At the annual meeting of the National Academy of Sciences on April 23-24 in Washington, D.C., he received the Academy's 1989 Award in Chemistry. □



*Frank Field, Camille and Henry Dreyfus Professor Emeritus, third right, at his farewell party on March 3. Dr. Field, who headed the University's laboratory of mass spectrometry and gaseous ion chemistry for almost 20 years, was a major contributor to the development of mass spectrometry as a tool in the analysis of biomedical materials. Joining in the celebration are his colleagues, from left, Dr. Franklin J. Wright, Cosmair (L'Oreal); Dr. George M. Kramer, Exxon Research & Engineering; Dr. Frederick W. Lampe, Penn State University; Dr. Jean H. Futrell, University of Delaware; Dr. Field; Dr. Thomas Aczell, Exxon Research & Engineering; and Dr. M. S. Burnaby Munson, University of Delaware.*

### Substance Abuse Policy

In compliance with the Drug Free Workplace Act of 1988, it is the University's policy that the unlawful manufacture, distribution, dispensation, or sale of drugs on campus by any employee is strictly prohibited and will result in immediate dismissal.

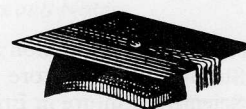
As a recipient of federal funds, the University is required to comply with all provisions of the act. Failure to do so could result in the University's loss of these funds.

The Personnel Office would like to remind the campus community that if any employee is in need of substance abuse counseling or rehabilitation, they should contact the Employee Health Office at ext. 8414, the Personnel Office at ext. 8300, or the Employee Assistance Program at 472-4946.

### In Print (continued from page 6)

tières. The book, dedicated to the late University physicist Rodney L. Cool, contains the proceedings of the Second International Conference on Elastic and Diffractive Scattering (Second "Blois Workshop"), which was held at the University, October 15-17, 1987.

"Science and Technology Advice to Government," an article by Executive Vice President **Rodney W. Nichols**, is contained in the Spring issue of *The Bridge*, published by the National Academy of Engineering. □



### Convocation

The University's 31st convocation for conferring degrees will be held on Thursday, June 1, in Caspary Auditorium, at 3 p.m.

## Personals

Born February 9 to Professor **Andrea Vacchi**, Experimental High-Energy Physics, and his wife, Rebecca, twin daughters, Giulia and Isabella. □

*Another successful season of the tri-institutional noon concerts continues. On March 3, members of the New York Hospital, Memorial Sloan-Kettering Cancer Center, and the University enjoyed a performance of the Choral Symphony Society, conducted by David Labovitz. All concerts are free and are given at Sloan House, at York Avenue and East 67th Street. Check the bulletin boards for concert notices.*





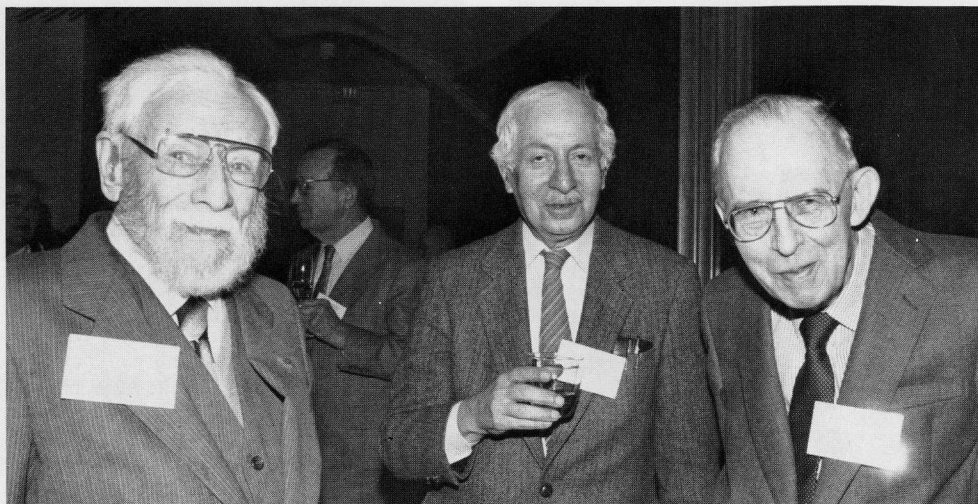
## Briefs

Adjunct Professor **H. Leon Bradlow**, Biochemical Endocrinology, was co-chairman of

of Evolving Arrhythmia Concepts, in Amsterdam, April 28-29.

Professor **David Gadsby**, Cardiac Physiology, spoke on "Voltage Dependence of

Transient and Steady Na/K Pump Currents in Myocytes" at the Membrane Biophysics Subgroup Symposium, "Ion Transport across Biomembranes," at a meeting of the Biophysical Society, in Cincinnati, February 12-16.



*Dr. Michael Heidelberger, left, who was associated with the University from 1912 to 1927 and is now affiliated with New York University, with Professors Philip Siekevitz and Merrill Chase, right, at a special meeting of New York area Fellows of the American Academy of Arts and Sciences that was held at the University in March. Other Rockefeller attendees included Professors James Darnell, Vincent Dole, and Abraham Pais.*

a course on Peripheral Formation and Metabolism of Steroids at the Ettore Majorana Center for Scientific Culture in Erice, Sicily, March 8-14. He also co-chaired a Symposium on Steroid Formation, Degradation, and Action in Peripheral Tissues held in Taormina, Sicily, March 15-18.

Professor **Jan L. Breslow**, Biochemical Genetics and Metabolism, spoke on "The Genetics of Hyperlipidemia" at a conference on Cardiovascular Disease: Prevention and Treatment, sponsored by the New York Academy of Sciences, in Boston, April 6-8.

Professor **Brian T. Chait**, Mass Spectrometry and Gaseous Ion Chemistry, spoke on "Biomedical Applications of Plasma Desorption Mass Spectrometry," at a symposium on Analytical Application of Molecular Chemistry at the annual meeting of the American Chemical Society, in Dallas, April 9-14. Research Associate **David Wade**, Biochemistry, also spoke on "Peptide Antibiotics: Cecropins and Analogs."

Dr. Chait also gave a talk on "Mass Spectrometric Analysis of Glycolipids" at a workshop, "Blood Group and Other Carbohydrate Antigens in Human Epithelial Cancer," sponsored by the Cancer Research Institute, April 6-7, in New York.

Professor **David Cowburn**, Organic Chemistry and Physical Biochemistry, gave an invited talk, "Isotope Labeling in Biochemical NMR," at the Human Frontiers Program Workshop, "Molecular Approaches to the Elucidation of Biological Functions by Stable Isotope Aided NMR Spectroscopy," sponsored by the Science and Technology Agency of Japan, in Oiso, Japan, February 6-10.

Professor **Paul F. Cranefield**, Cardiac Physiology and History of Medicine and Science, presented a lecture to The Danish Heart Association in Copenhagen last November and also spoke at a Symposium on 20 Years

## Scientific Glasnost



*A six-member scientific delegation from the Soviet Union visited the biochemical endocrinology laboratory of Professor Mary Jeanne Kreek on March 3 to discuss results of their separate investigations on drug and alcohol addiction and the plans for future collaborative research. Dr. Kreek, right, shakes hands with Professor Irina P. Anokhina of the All-Union Research Center on Medico-Biological Problems of Narcology.*

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 20, Number 4. Suggestions for articles are welcome and may be sent to *News and Notes*, Box 68, phone extension 8967. Photographs, page 2, 3, 6, 7 top, 8, John Sholtis; page 4, 7 bottom, Shari Diamond; mortarboard, page 3, chess board, page 6, Webster's New Collegiate Dictionary © 1977 G & C Merriam Co. © The Rockefeller University, New York 10021-6399. Printed in the United States of America.



# A View from the Dean's Office

April-May 1989

## New Ph.D. Students

In this issue, the introductions of the 22 first-year Ph.D. students are continued.

Claudio de Mello received his medical degree from the University of Brasilia Medical School in 1988. A native of Brasilia, Brazil, he is interested in the regulation of gene expression in nervous tissue and the study of neuroplasticity as it relates to the process of learning and memory. At RU, he is affiliated with Dr. Fernando Nottebohm's animal behavior lab. With Dr. David Clayton, he is investigating the molecular approach to the control of song behavior in canaries. He also is working with Dr. Peter MacLeish on the analysis of cell cultures of songbird brain tissue to study the effects of hormones on behavior. Claudio's prior research work was done with Dr. Glaucia Santelli at the Institute of Oncological Research in São Paulo and with Professor Cervos Navarro of the Free University of Berlin in Germany. With Dr. Navarro, he worked on an experimental project investigating the effects of hypoxia on the metabolism of muscle tissue. A wilderness hiker, Claudio also plays classical guitar and sings. In 1987, the choral group to which he belonged took first place in the Villa-Lobos Festival in Rio de Janeiro.

A 1988 graduate in natural sciences from the University of Cambridge, England, Andrew Millar also was the recipient of the Thoday Prize, the University prize for genetics. Born in London, England, Andrew lived from the ages of 6 to 18 in Bertrange, the Grand Duchy of Luxembourg. His experience in the summer of 1986 working on an ecological research project in the Venezuelan Andes confirmed his interest in molecular genetics and plant molecular biology. As an Olney Fellow at Cold Spring Harbor Laboratory in the summer of 1987, he worked with Dr. Bruce Stillman on the molecular biology of *S. cerevisiae* ARS 1. At RU, Andrew is in Dr. Nam-Hai Chua's plant molecular biology lab. Working with Dr. Steve Kay, he is investigating circadian rhythms in plants. A squash player, skier, and sailor, he also spent several months hitching on boats in the Mediterranean in 1985.

Born in Zurich, Switzerland, Philippe Moreillon received his B.S. degree from the University of Lausanne in 1972 and his M.D. degree from the Medical School of Lausanne in 1978. After completing residencies in both internal medicine and radiotherapy, Philippe became a fellow in infectious diseases and later chief resident of internal medicine at the University Medical Center of Lausanne. His fellowship research involved the pathogenesis of experimental endocarditis. He investigated amoxicillin's protective mechanisms against

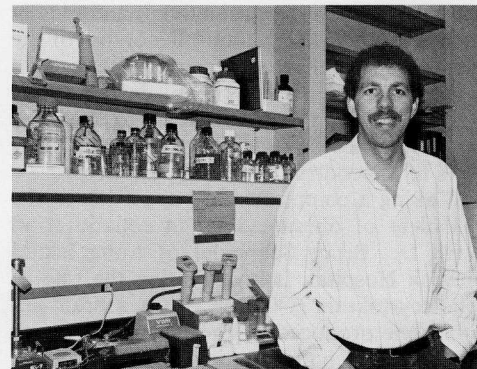
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## Profile

In 1981, Dr. Jeffrey Friedman came to RU for a one-year postdoctoral fellowship to work in Dr. Mary Jeanne Kreek's biochemical endocrinology lab. Eight years later, he is an assistant professor in Dr. James Darnell's lab and a Howard Hughes Medical Institute assistant investigator. Along the way, he earned his Ph.D. from Rockefeller and developed a strong interest in the molecular biology of feeding behavior.

When he began work in Dr. Kreek's lab, Jeff had just completed a one-year postdoctoral fellowship in the department of gastroenterology at The Cornell University Medical College. He had three years of clinical experience behind him, but only limited research experience. Enrolled in a six year medical program, he had received his B.S. degree in biology, magna cum laude, from the Rensselaer Polytechnic Institute. At the age of 22, he was awarded his M.D. degree from Albany Medical College in 1977. At AMC, he was elected to Alpha Omega Alpha, the medical honor society, and was awarded the Alfred Yunich Prize. After interning and doing an assistant residency at Albany Medical Center Hospital, he was made chief resident in 1980. When he began work with Dr. Kreek in 1981 on the biology of endogenous opioids, his primary research experience to date had been as a resident. At that time he had been involved in a research project dealing with the administration of bradykinin, a peptide that lowers blood pressure, to rats on high and low sodium diets.

At Rockefeller, Jeff found that medicine



Dr. Jeffrey Friedman

and scientific research involved very different thought processes. Describing medicine as a big algorithm, wherein all possible solutions to problems have to be explored, he believes science to be more economical and focused in its problem-solving approaches. His experience in Dr. Kreek's lab led him to pursue scientific research and a doctoral degree. He chose to work in Dr. James Darnell's molecular cell biology lab. He was awarded his Ph.D. in 1986 after completion of thesis research relating to the regulation of gene expression.

Concurrent with his Ph.D. research, Jeff held an NIH postdoctoral fellowship which he received in 1983. From 1980 through 1983, he was appointed as an RU associate physician. He held a postdoctoral fellowship at RU from 1984 through 1985. In 1986, he attained the rank of assistant professor and was made an assistant investigator at the Howard Hughes Medical Institute.

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## Open House

Rockefeller University once again is holding open house days for prospective M.D.-Ph.D. and Ph.D. students. Continuing the successful program initiated last year,



Dr. Joshua Lederberg addresses prospective students at the Graduate Program Open House on March 16.

RU welcomed prospective students on February 23, March 16, and April 12.

Applicants who have been extended offers to the graduate program come to campus to

visit with faculty and students. The program is intended to give them greater familiarity with Rockefeller and the graduate program.

On the day of their arrival, the prospective students are welcomed by current students at an informal pizza party held in the Student and Faculty Club. The following day they are formally greeted by the President of the University, Dr. Joshua Lederberg, and attend a Deans' presentation given by Anthony Cerami, Miki Rifkin, Bruce McEwen, and Ellen Pure. Appointments are scheduled for the prospective students with appropriate faculty members throughout the day. Their day ends with dinner with faculty and students at Abby Aldrich and attendance at a University concert.

The experience was helpful according to Julia George, who attended an Open House last year. Now a first-year student in Dr. Fernando Nottebohm's lab, Julia feels the Open House "was a good opportunity to meet with people without the pressure of admission in-

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### Friedman (continued from page 1)

Jeff's current research centers on the molecular mechanisms controlling feeding behavior and body weight. With Dr. Rudolph Leibel, he is working on cloning two murine obesity genes, *obese* and *diabetes*. These genes are recessive mutations which result in enormously obese mice. Mice possessing either of the two genes weigh two to three times as much as control animals and grossly overeat. While the mutant phenotypes of the gene(s) are well characterized, the mutant gene products are unknown. Jeff and Dr. Leibel are using reverse genetics to clone the mutant genes in order to understand their role in the control of feeding behavior.

Taking a complementary approach to the problem of obesity, Jeff, in collaboration with Dr. Bruce Schneider of Long Island Jewish Hospital, is investigating the role of cholecystokinin (CCK). CCK is a brain-gut hormone produced by the cells of the small intestine which may participate in the control of feeding behavior. The two researchers recently found that CCK was over-expressed in certain forms of human cancers, especially in a large class of pediatric tumors. With Dr. Schneider, Jeff developed a blood test to screen for this type of pediatric tumor. Jeff's association with Bruce Schneider dates back to 1980 when, working with Dr. Jules Hirsh, they investigated the possible relationship of brain peptides to feeding behavior.

Born in Orlando, Florida, and raised on Long Island, Jeff has always been active in sports. He skis and plays hockey, tennis, and basketball. Describing himself as having given his body to sports, he can recount a number of reconstructive operations in support of his assertion. His nonathletic interests (pursued during postoperative recuperative phases), include jazz and classical music. □

### New Students (continued from page 1)

endocarditis caused by streptococci "tolerant" to beta-lactam antibiotics' killing effects. In 1986, Philippe came to Rockefeller as a postdoctoral fellow in Dr. Alexander Tomasz's microbiology lab. His experience there proved to be redirection and Philippe decided to pursue a Ph.D. with a focus on immunology and microbiology. His future research will involve the mechanisms that enable mutants of the pneumococci to resist killing by beta-lactam antibiotics and other cell wall inhibitors.

Michael Overduin was born in Welland, Canada, and graduated from Wilfrid Laurier University in Ontario, Canada, in 1988 with an honors degree in biology. The recipient of the university's gold medal award in biology, he also received undergraduate research awards from the Natural Sciences and Engineering Research Council of Canada. During the summer of 1987, he investigated the enzymatic degradation of wood pulps at the Pulp and Paper Research Institute of Canada in Montreal. His undergraduate thesis work involved the optimization of the transformation of *Pseudomonas aeruginosa* and other bacteria by electroporation. At RU he is working in Dr. Robert Roeder's lab on the transcription of the 7 SK and HU6 genes. By characterizing the transcription factors and

their interaction, he hopes to elucidate the transcriptional regulation of the two genes. Michael, who bicycled through eight European countries in 1985, enjoys bicycle racing in Central Park. Wilderness camping, skiing, and squash are his other sporting pursuits, while sketching and sculpting are his less athletic diversions. □

## Alumnus Update

Dr. Joseph "Mike" McCune, a 1982 graduate of the RU/CUMC M.D.-Ph.D. program, and his colleagues at Stanford University have developed an experimental mouse colony that possesses elements of the human immune system. The mice are expected to be of invaluable use in the study of the disease mechanisms of acquired immune deficiency syndrome (AIDS) and other human lymphotropic viruses. Investigators also believe that research with the mouse colony will lead to better techniques of organ and bone marrow transplantation.

Dr. McCune and his colleagues transplanted "seeds" of a human immune system into genetically abnormal mice which lacked their own functioning immune system. The immunodeficient mouse strain was first discovered in 1983 by Dr. Mel Bosma, a researcher at the Institute for Cancer Research, Fox Chase. Because of a genetic abnormality that prevents their own immune system from developing normally, the mice lack immune function. Known as SCID mice (short for severe combined immune deficiency), they are highly vulnerable to infection.

Because the SCID mice lack a functional immune system, human cells cannot be rejected by them. By implanting portions of the human fetal liver, thymus, and lymph nodes, Dr. McCune and his colleagues were able to create a human immune system in a SCID mouse. The result is the SCID-hu mouse, which is healthier and has a longer lifespan than his untreated SCID mice littermates. Whereas SCID mice usually succumb to opportunistic diseases after three to four months, SCID-hu mice have survived for up to 15 months.

The AIDS research possibilities for this new mouse colony are far reaching. Before the advent of the SCID-hu mouse, researchers were hampered by the fact that the causative human immunodeficiency virus (HIV) did not infect normal laboratory mice. Chimpanzees are the only other species naturally infected by the HIV. However, chimpanzees, which are an endangered species, do not provide a complete model for the development of AIDS.

Working with the new mouse colony, Dr. McCune designed experiments "to analyze in the safest way the most important question: Does the (human immunodeficiency) virus infect and spread?" SCID-hu mice were inoculated with the cloned human immunodeficiency virus-1 isolate, HIV-1. According to Dr. McCune's research, viral replication spread in the human lymphoid organs in the SCID-hu mice in a time- and dose-dependent fashion. Thus far, combination immunohistochemistry and in situ hybridization



Joseph "Mike" McCune and his Stanford University colleagues. Left to right, Drs. Hideto Kaneshima, Irving Weissman, Miriam Lieberman (who holds a SCID-hu mouse), Mike McCune, and Reiko Namikawa.

reveal only viral RNA transcripts in most infected cells. However, some cells had both detectable viral transcripts and viral protein. The Stanford researchers found that infected cells were always more apparent in the medulla than in the cortex of the thymus of the infected mice. The researchers believe that their studies demonstrate that an acute infection of human lymphoid organs with HIV-1 can be followed in the SCID-hu mouse.

The ability to track the early stages of HIV infection are particularly important according to Dr. McCune, "because by the time symptoms are present, the immune system has already been destroyed."

Dr. McCune has a history of adventurous undertakings. In 1975, the recently graduated Harvard biochemistry major participated in a seven-month-long study of the traditional medical systems of Botswana and Sri Lanka. His team, which included two social anthropologists, investigated the healing dance of the !Kung Bushmen of Africa's Kalahari desert and the practice of Ayurvedic medicine in Sri Lanka.

Trained as an immunologist at RU, Dr. McCune worked with Dr. Henry Kunkel, Dr. Shu Man Fu, and Dr. Günter Blobel. His research thesis was entitled "Biogenesis of Membrane-bound and Secreted Immunoglobulins."

Dr. McCune has been a postdoctoral fellow in the department of pathology at The Stanford University School of Medicine since 1985. He also holds an appointment as an infectious disease fellow at the Department of Medicine at The University of California at San Francisco. □

### Open House (continued from page 1)

interviews." The day of faculty meetings allowed her to "establish which direction" she would pursue at RU and to decide with whom she would like to work. She rates the experience as enjoyable and valuable.

Interest in the RU program during the past year has been particularly strong. According to Mrs. Susanna Ander, admissions administrator for the graduate program, this admissions season over 130 applications were received for the five M.D.-Ph.D. slots and approximately 290 applications were received for next year's Ph.D. class. □