3-26-1992

NEWS AND NOTES 1992, VOL.2, NO.27

The Rockefeller University

news & notes

March 27, 1992 Volume 2, Number 27 The Rockefeller University

Collision injures RU student's baby, toddler

Two children of a Rockefeller University student, David Edwards, were injured Monday in an accident at the corner of 66th St. and York Ave. A Rockefeller security guard, Dennis Rivera, responded quickly to the emergency.

Edwards's wife, Vickie Edwards, was waiting on the corner with their two youngest children, three-year-old Cameron and three-month-old Parker, when a messenger car collided with a taxi making a turn onto 66th St. The impact of the crash sent the cab onto the sidewalk, knocking Cameron on his back and crushing the stroller that Parker was in against the newspaper boxes on the corner.

"When she saw the twisted stroller, Vickie thought for sure that the baby was dead," David Edwards recounted. "When Parker was pulled out alive, she was flabbergasted."

As soon as Rivera, who was standing at his post at the main entrance to the university, heard the crash and the mother's screams, he sprang into action.

"I ran across the street without even looking," said Rivera. "I didn't think. All I could do was react."

Rivera summoned a nearby police officer from down the block. Luckily a doctor and a nurse were also close by, passing near the intersection on their way to work at The New York Hospital. They took Parker to the hospital for medical attention.

Parker was diagnosed with a broken leg, and was fitted with a bright green dayglow cast that Rivera describes as "almost bigger than the baby itself." Cameron had a bump on his head that he showed off proudly to Rivera the next day.

Monday's accident, which injured two children, left visible damage at 66th and York.

"The guards were great," David Edwards said. "They wrote up the police reports and made sure Vickie was well taken care of."

"The accident must have been terribly hard on the mother," said Rivera. "I myself was shaking the whole day. I have two boys of my own, three and four years old. The first thing I did when I got home was to give them a big, long hug."

NIH releases plan that will shape future funding of research

The National Institutes of Health (NIH) released a draft of its first corporate long-range strategic plan last month. Rockefeller University investigators now have the opportunity to review the draft and comment on it.

"Because the NIH intends to base its 1994 budget on this strategic plan, it could have an impact on the funding of Rockefeller University researchers," said Penny Cook, director of the Office of Sponsored Programs (OSP). "If investigators have concerns about the priorities the agency is setting, it is critical that they voice them now while the plan is still being developed."

The NIH—with an annual budget of over $8 billion—exerts an enormous influence over research institutions across the country. According to Cook, federal funding, much of it from the NIH, accounts for 40 percent of Rockefeller's annual revenues.

Jules Hirsch, physician-in-chief of The Rockefeller University Hospital, attended the first public meeting about the NIH plan Feb. 2 to 4, in San Antonio, Texas.

"One theme that developed across the five panels at the meeting was a concern that the plan had proceeded so far without major contributions from non-NIH scientists and independent scientific societies," said Hirsch. "We want to ensure that the plan reflects adequate input from the scientific community."

According to Hirsch, while most participants at the meeting thought it was appropriate for the plan to establish research priorities, concern was expressed that the NIH had not established sufficient mechanisms to encourage innovative research. "Fundamental scientific research, so important over the long term, cannot always be directed from above," Hirsch said. "There needs to be a true partnership between the Federal government and university scientists."

Hirsch participated in the panel on critical technologies. One of this panel's recommendations was that clinical investigation, which serves to bridge fundamental science and clinical medicine, be developed through new programs to recruit physicians, medical students, and Ph.D.s into the area of study.

On Feb. 25, Cook attended a subsequent meeting at the University of Connecticut, where representatives from major research institutions in the Northeast gathered to discuss similar issues about the strategic plan.

Review of the developing NIH strategy will continue over the next several months. During April and May, panels composed of key non-Federal scientists will review issues relating to the plan's five proposed objectives: assuring that critical technologies affecting human health are advanced, strengthening the capacity of the research enterprise to respond to emerging public health needs, providing for the renewal and growth of intellectual capital, securing the highest return on the public's investment, and earning the public's confidence in carrying out the NIH mission.

Those interested in reviewing the draft of the NIH plan can obtain copies from OSP. Comments and suggestions should be directed to Cook, x8055 or Box 82.

Enthusiasm blooms in violet workshop

Many people in the Rockefeller community have purchased African violets from Roger Casciano over the seven or eight years he has sold them to help raise money for The Children's School. Tuesday he was back on campus, this time to advise those who own violets on how to make them thrive.

"African violets are easy to grow if you know how ," said Casciano at the lecture and workshop sponsored by The Rockefeller University Women's Association (RUWA), "and they are one of the few house plants that, given optimum conditions, will bloom continuously."

See ***Expert****, page 2*

Roger Casciano shows how to rejuvenate old African violets at a lecture and workshop sponsored by The Rockefeller University Women's Association. The process involves removing half the plant's roots and most of its leaves, then burying the stem in new soil.

President Torsten Wiesel speaks to members of the Committee on Trust and Estate Gift Plans. This week Wiesel also had breakfast with The Rockefeller University Council.

Friends of university meet Wiesel

Two groups of friends of The Rockefeller University, the Committee on Trust and Estate Gift Plans and The Rockefeller University Council, met with President Torsten Wiesel this week. The gatherings gave the groups an opportunity to hear directly from the new president about his plans for the future of the university.

The Committee on Trust and Estate Gift Plans held its cocktail reception on the 17th floor of Tower Wednesday. Chairman of the Board of Trustees Richard M. Furlaud and Chairman of the Committee on Trust and Estate Gift Plans Frederick A. Terry, Jr. hosted the event.

In his remarks, Furlaud praised the committee, saying: "From the significant amounts of private gifts that you raise, both outright and deferred, to the numerous individuals and foundations that you introduce to the university, you play a critical role in the life of this institution."

The Rockefeller University Council met yesterday morning in Abby Aldrich Rockefeller Hall. Furlaud and David Rockefeller, chairman of The Rockefeller University Council and chairman of the Executive Committee of the board of trustees, hosted the gathering. Wiesel thanked members of the council for their continuing interest in and support of the university.

Rockefeller Institute investigator dies

Roger M. Herriott, who was an investigator in the lab of Nobel laureate John H. Northrop at The Rockefeller Institue from 1932 to 1948, died early this month.

While at the institute, Herriott purified and crystallized pepsinogen, the precursor of the digestive enzyme pepsin. He also isolated a pepsin inhibitor from stomach tissues, thus helping to explain why the enzymes of the stomach and pancreas do not harm living tissues. Later, at the Johns Hopkins School of Hygiene and Public Health, Herriott was one of the first to suggest that viruses reproduce by injecting their DNA into host cells.

Letter to the editor:

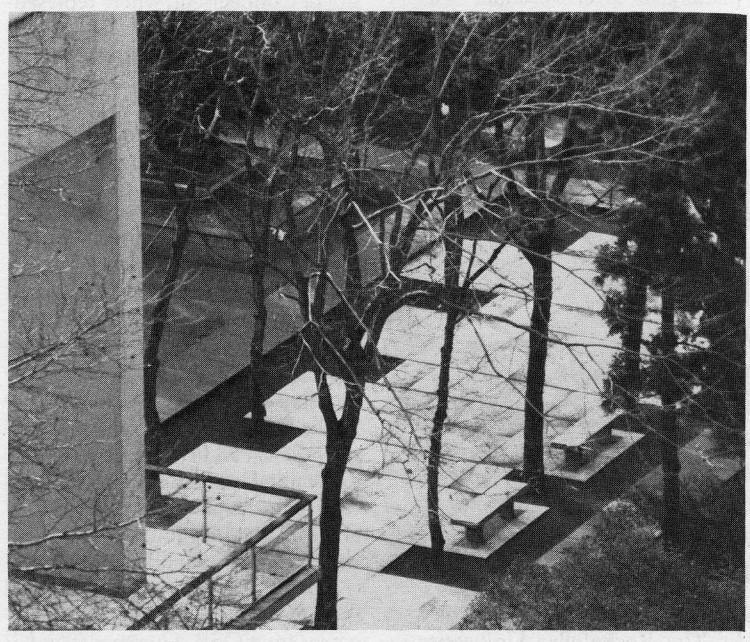
As the fine article (*News&Notes* March 20, 1992) on the Faculty and Students Club says, it's great for there to be "a place where students and faculty can relax and unwind." It would be even better if in addition to alcohol or soda one could get a fresh cup of espresso or cappuccino.

The simple addition of an espresso maker would have several positive effects. The club would be vitalized. Many new people would come. Everyone would have more fun. The club would make more money.

Little extra work is involved. The machines are easy to clean and maintain. The simple addition would enhance the social and intellectual life of Rockefeller as a university community.

Sincerely,
David Thaler
Assistant Professor

Corners



The plaza on the west side of Abby Aldrich Rockefeller Hall offers a quiet place to sit down and contemplate.

Expert on violets gives tips to RU group

(continued from page 1)

Casciano, a long-time plant aficionado, has 25 years of experience raising the species. He usually has 1,000 violets, at different stages of development, growing in his basement at one time.

Luckily his wife Nina Casciano, purchasing agent in Purchasing and Supply, also likes plants. "I get a lot of pleasure out of my husband's violets," she said. "He brings some upstairs whenever I want them for table settings. Raising plants can be very time-consuming, though—sometimes I feel like I'm married to the violets!"

Roger Casciano explained his magic touch with the plants to the 30 workshop participants. Here are some of his tips:

- Don't overwater the violets. Watering them more than once a week usually causes root rot, which kills the plant.
- Water plants with lukewarm water which does not shock the roots and leaves.
- To water a plant, put the pot in a deep dish filled with water for an hour to an hour and a half. The plant will take all the water it needs without becoming oversaturated.
- Expose the plants to indirect light (fluorescent light is fine). Direct sunlight, especially in the summer, burns the leaves. An eastern or northern exposure is ideal.
- Give the plants at least 14 hours of light and 10 hours of darkness per day. Less than 14 hours of light will discourage flowering. Less than eight hours of darkness will interfere with photosynthesis.
- Keep the temperature of the room between 65 and 75 degrees Fahrenheit.
- Pot the plants in porous soil.
- Don't bring outside plants into the house or office. They can contaminate indoor plants with aphids, fungus, or mites. ("Mites are the worst," said Casciano. "They are the bubonic plague of African violets. By the time you realize your plants have them, it's too late.")

At the end of the workshop, participants enthusiastically received young plants on which to apply their new-found knowledge.

In addition to the lecture and workshop on violets, RUWA sponsored a gathering at the President's House and a concert in celebration of Women's History Month this year. A loosely-organized group with no formal meetings, it also organizes sightseeing trips, lectures, and tours. For further information about the group, contact Co-chairs Ann Ho, x8767, or Elizabeth Merrifield, x8238.

News&Notes is published each Friday throughout the academic year by The Rockefeller University, 1230 York Avenue, New York, NY 10021. Phone: 212-570-8967.

Torsten Wiesel, President
Alfred G. Kildow, Assistant to the President for University Communications
Doron Weber, Manager of Public Affairs

Mika Ono, Editor
Corrine O'Neill, Design
Robert Reichert, Photography

Ideas and submissions can be sent interoffice (Box 68), by electronic mail (*newsno*), or by fax (212-570-7876).

The Rockefeller University is an equal opportunity employer and has an affirmative action program to increase the employment of women and members of protected groups at all job levels.

Knockout results: Breslow lab announces landmark births

by Susan Blum

Researchers in the Breslow lab are proud to announce the birth of their first "germ-line transmitter" mice. These mice carry an engineered change in a gene in their germ cells, the cells that give rise to sperm and eggs.

The births are a landmark in the lab's investigations into the genetic underpinnings of atherosclerosis, the condition in which deposits build up in the lining of the arteries and progressively limit blood flow. This arterial blockage—also known as coronary heart disease—is a major killer in industrialized nations.

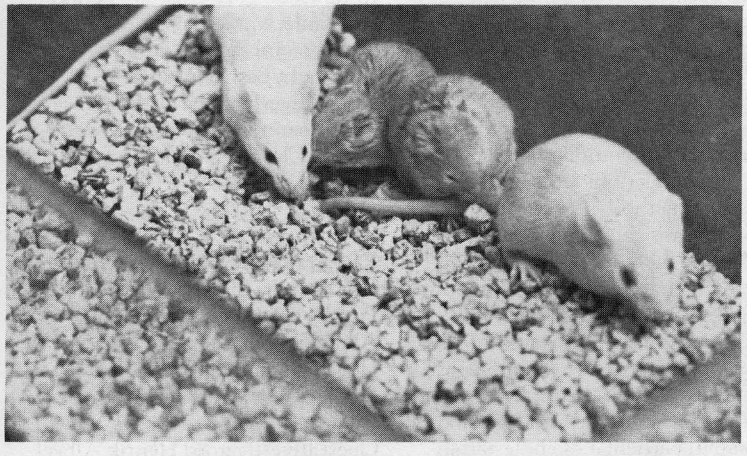
The development of atherosclerosis is determined in large part by the functioning of the system that carries fats and cholesterol throughout the body. Central to this system are molecules known as lipoproteins. There are five kinds of lipoproteins; differences in the patterns of relationships among them help determine susceptibility to heart disease. For instance, high levels of low-density lipoprotein (LDL) and low levels of high density lipoprotein (HDL) are risk factors for developing atherosclerosis.

At least 17 different genes control the levels of the various lipoproteins in the blood, and Breslow and his Rockefeller colleagues have been instrumental in advancing knowledge about these genes on a number of fronts. One focus of their current research is how the genes function and how their functions interact. To help investigate these questions, they are attempting to make transgenic mice that harbor "knockouts" of genes that code for certain apolipoproteins, proteins on lipoproteins' outer coats that help direct fat and cholesterol traffic. By "knocking out," or inactivating, these genes, the researchers hope to learn more about their normal function.

New genetic technique used

Making gene knockouts is one aspect of a new and complicated technique called "gene targeting." The procedure involves mutating a gene in cells called embryonic stem (ES) cells, which come from very early stage embryos. The mutation may completely inactivate the gene (a "gene knockout") or may change its function in some way. The genetically-engineered cells are injected into early stage "host" mouse embryos, which are then introduced into surrogate mouse mothers. Cellular messages from the host embryo cells cue the ES cells to respond normally as part of the developing mouse. The result: a chimeric mouse, whose tissues contain cells that are descendants both of the ES cells and of cells from the host embryo.

Chimeric mice can develop because, like the early-stage host embryo cells, ES cells are totipotent—that is, they have the potential to develop into all the tissues and organs of the body. But there's a catch: ES cells may not live up to their totipotent potential. Flushed from an embryo, frozen, defrosted, and then grown in a tissue culture dish, the cells suffer many insults, including changes that may prevent them from undergoing normal meiosis, the special cell-division event that marks the last step in the formation of eggs and sperm. Though difficult, getting ES cells to develop into germ cells is essential for successful gene targeting experiments, for only when sperm and egg cells contain the mutated gene can subsequent generations carry the mutation in each cell of the body.



The two mouse pups nestling between their mothers are among the first "germ-line" transmitter transgenic mice to be born in the Breslow lab.

Andy Plump and Annemarie Walsh-Mullen persisted in their attempt to create mice whose engineered genes are passed from one generation to the next.

Graduate Fellow Andy Plump has been facing the challenge of creating germ line transmitters since he started his work in the Breslow lab about two years ago. He mastered the arduous art of mutating genes in ES cells, and of growing those manipulated cells into precious clones. Once there were enough of them, Research Associate Annemarie Walsh-Mullen would create the embryological constructs and introduce them into surrogate mothers.

Then, Plump, Walsh-Mullen, and their colleagues in the lab would wait for the mouse pups to be born about a month later. Often, the pups sported the two-tone coat that is the first sign of success. (Since the host cells come from a mouse strain with a coat of one color, and the ES cells come from a strain with a different coat color, a mottled pelt signals that the pup is is a chimeric.) But each time, further rounds of breeding would bring disappointment: though the first generation of genetically-engineered mice were chimeric, they turned out not to be germ-line transmitters.

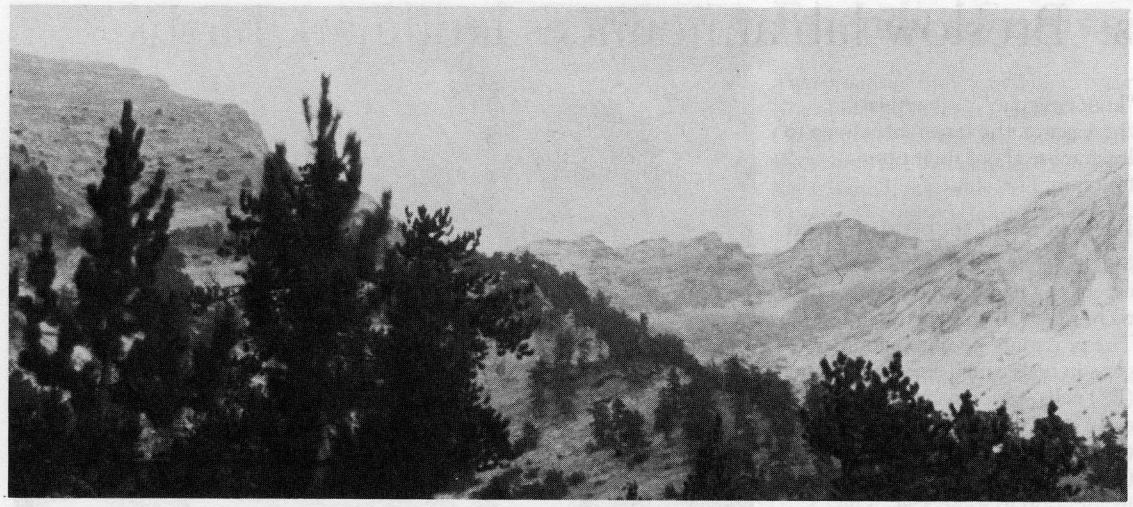
Persistence pays off

Undeterred, Plump kept experimenting with new ways to culture and nurture ES cells. Last month, his determination paid off, and the lab welcomed into the world two groups of germ-line transmitters. One group carries a knockout of the gene that codes for Apo-E, an apolipoprotein that plays a critical role in clearing artery-clogging particles from the blood.

A few more rounds of interbreeding will produce mice completely devoid of functional Apo-E genes. Although mice normally are highly resistant to atherosclerosis, this genetic change may make them more susceptible to the condition. Once the Apo-E deficient animals are bred, the investigators plan to feed them a high-cholesterol diet to see if they develop atherosclerosis. Meanwhile, Plump, and Walsh-Mullen will continue their efforts to create mice with knockouts in other apolipoprotein genes; these animals, too, may prove susceptible to atherosclerosis.

The researchers are eager to create an atherosclerosis-prone mouse because an animal model of the disease may open the door to a wide range of possible discoveries, from a better understanding of the origin and development of atherosclerosis to new and better ways to treat it, including gene therapy.

Gene targeting promises to provide insights not only into atherosclerosis, but into many other normal and abnormal biological processes, including embryological development, cancer, and the immune response. That is why a number of other researchers on campus are exploring its potential, including investigators in the Baltimore, Cohn/Steinman, Darnell, and Hanafusa labs. Use of the technique may increase even more when the new transgenic services laboratory opens later this year in Rockefeller's Laboratory Animal Research Center (LARC). To be headed by Walsh-Mullen, the facility will produce transgenic mice and other animals for labs that might not have the resources to develop full-scale transgenic operations on their own. Once the facility is in full swing, birth announcements such as those from the Breslow lab may be issuing from many labs across campus.



Mount Olympus is the subject of a photo by Gus Pavlides, assistant professor in the Asanuma lab.

Scientist preserves precious moments in photos

By Olivia Gushin

Gus Pavlides, assistant professor in the Asanuma lab, spends a lot of time at The Rockefeller University looking through a microscope at brain sections to study the effect of his experiments. He spends time outside of work looking through a camera's view finder, but with a different goal.

"The beauty of photography is that it presents a way of capturing a moment or a memory," he says. "It also documents the past."

Pavlides uses photographs to chronicle his own adventures. According to Pavlides, the most interesting place he has photographed is Mount Olympus, for thousands of years known as the home of the ancient gods of Greece. At the bottom of the 9,000-foot peak, the temperature was 95 degrees. Halfway to Zeus's throne, in the permafrost region, the temperature was 30 degrees. Despite the freezing cold and crumbling cliffside trails, Pavlides came away from his adventure with some spectacular shots.

Despite his mountain-climbing experience (or maybe because of it), landscapes are Pavlides's favorite subject. He also enjoys taking portraits. For these shots, he uses black and white film because he believes "it brings the expressions out." His photographs of people are informal and taken "anywhere" not only in a studio.

Pavlides owns three 35mm cameras. His favorite is a Russian-made Lubitel, bought in Greece. This two-lens camera looks very professional despite its name, which means "amateur" in Russian.

In the future, Pavlides hopes to complete a photo essay of New York, and perhaps to explore some new peaks.

Book by RU scientist traces changes in American medicine

Professor Emeritus Edward H. Ahrens, an M.D. whose research centered on the study of arteriosclerosis at The Rockefeller University, recently published *The Crisis in Clinical Research: Overcoming Institutional Obstacles* (Oxford University Press).

The new book traces the changes in American medicine over the past 40 years. Ahrens contends that these changes have led to a growing disproportion between the numbers of biomedical scientists who seek financial support for research, and the current and future availability of funds: truly a Malthusian dilemma.

Ahrens discusses changing patterns of clinical research and demonstrates that there has been a devastating decline in the type of research that poses fundamental questions of why and how people become ill. The reason: research has moved away from studying the "whole patient" at the bedside in favor of focusing solely on "bits and pieces" at the laboratory bench.

He concludes that the reasons for the decline in patient-oriented research include the growing imbalance among teaching, service to patients, and research in the U.S. medical-school environment and in distortions of the sense of mission at the country's main source of funding, the National Institutes of Health. He argues that changes must be made in both training and funding, and that new working partnerships between clinically skilled physicians and technically trained researchers are needed in order to restore patient-oriented research to full productivity.

In his preface, Ahrens says: "In the course of this undertaking, I came to realize that far more than the study of human biology is in jeopardy in today's medical world: It appears that American medicine *as a whole* is in trouble. It became clear to me that the three traditional missions of U.S. medical schools—teaching medical students, providing service to patients, and performing research at the frontier of modern medical schools—are so intimately intertwined that problems in one area have serious repercussions for all three. So, although the main emphasis of this book is directed at the future outlook for clinical research, my story would be incomplete and one-sided if I failed to remind the reader at every appropriate stage that research is only one element—the exploring element—in the activities of medical schools that also must teach and render services to the public.

"...My study grew out of personal pride in the profession of medicine, and out of my admiration for all that has been achieved during this century in new understandings of health and disease. Nevertheless, I feel deep concern for its future: I intend to present the evidence underlying that concern in order to justify consideration of a number of recommendations aimed at correcting those imbalances."

Ahrens's career at Rockefeller has spanned more than 40 years. His research has focused on disorders of lipid metabolism. He and his colleagues were responsible for the development of new technologies and advances in the understanding of lipid biochemistry and metabolism, in particular of cholesterol.

The book can be ordered by calling Oxford University Press at 1-800-451-7556.

Potpourri

Sunday Film

Scandal (1950, Akira Kurosawa) starring Toshiro Mifune, is based on the Shusaku Endo novel of the same name. A scandal magazine fabricates a story, the libeled artist sues, and his lawyer accepts a bribe to ruin his client's case. The film will be shown in Caspary Auditorium, Sun., March 29, at 7:30 P.M. Admission is free. All are welcome.

Phi Beta Kappa scholar

Phi Beta Kappa has named Professor Joel E. Cohen one of 13 visiting scholars for 1992-93. The scholars will travel to 100 colleges and universities for two-day visits during which time they will meet with students and faculty members for formal and informal sessions. Phi Beta Kappa's Visiting Scholar Program began in 1956 to enable undergraduates to meet and talk with distinguished scholars in diverse disciplines.

"ROCKEFOLLIES"

Members of the Rockefeller community will perform in the "ROCKEFOLLIES" Thurs., April 2 at 7:00 P.M. Acts include poetry readings and gospel, jazz, classical, and ethnic music. Tickets—$5 each—will be on sale during lunch hour Monday through Thursday next week in the lobby of Tower.

Conference

Jules Hirsch, physician-in-chief of The Rockefeller University Hospital, will participate in the Technology Assessment Conference on Methods for Voluntary Weight Loss and Control, March 30 to April 1, at the National Institutes of Health in Maryland.

Appointments

Adjunct Faculty: Bruce Barron, McEwen lab.
Postdoctoral Associates: Cheng-Ming Chiang, Roeder lab; Benno Ter Kuile, Muller lab.
Postdoctoral Fellow: Philip Bernstein, Blobel lab.
Guest Investigators: Thomas Heinemann, Breslow lab; Rong Wang, Chait lab; and Shanping Wang, Chua lab.

Departures

Research Associates: Zenji Makita and Andrew Slater, Cerami lab.
Postdoctoral Associates: Sophy Abraham, Pfaff lab; Margaret Hogan, Cerami lab; and Ellen Prediger, Edelman/Cunningham lab.
Guest Investigators: Henrik Albeck, Kreek lab; Shibo Jiang, Cohn Lab; and Ana Luisa Pina, Alvarez-Buylla lab.