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RU appoints first Annenberg Research Professor

Associate Professor Steve DiNardo has been named the first Annenberg Research Professor. The chair, designated for a talented young Rockefeller University faculty member who serves as a mentor to high school or elementary school teachers, was endowed with a gift of \$1.1 million from The Annenberg Foundation.

"This appointment recognizes the outstanding caliber of Dr. DiNardo's research and his strong commitment to enhancing science education for young people," said President Torsten Wiesel. "We are most grateful for The Annenberg Foundation's investment in our efforts to train and support outstanding young scientists."

In addition to founding the Annenberg Research Professorship, The Annenberg Foundation gave the university \$90,000 to support the training of two high school teachers over three summers. This gift provided the impetus for The Rockefeller University Science Outreach Program, which now trains high school teachers in science and seeks to interest high school and middle school students in scientific careers. This summer, 11 teachers and 14 students worked in Rockefeller laboratories under the program's auspices.

DiNardo has been active in the



Associate Professor Steve DiNardo, the new Annenberg Research Professor, is mentor to Ann Foley, a high school teacher.

Science Outreach Program since its inception. Last summer, he was mentor to Pang Lee, a high school student who has gone on to attend the Massachusetts Institute of Technology. This summer and last, DiNardo also mentored Ann Foley, a high school teacher from Packer Collegiate Institute who will pursue graduate studies in biology at Columbia University in the fall.

DiNardo, a developmental biologist, investigates cell determination in the developing embryo of the fruit fly, *Drosophila*. His laboratory studies how cells in the developing embryo are instructed to take on different identities during the estab-

lishment of body form, including the roles of specific genes in this process. The research group also investigates the development of the gonad and the differentiation of sperm cells.

The Annenberg Foundation was established in 1989 by Walter H. Annenberg, noted philanthropist and former U.S. ambassador to Great Britain who is perhaps best known for founding *TV Guide* magazine. The foundation supports efforts to advance the public well-being through the development of more effective ways to share ideas and knowledge, especially through educational programs.

Faculty invited to participate in planning groups

President Torsten Wiesel has extended an invitation to all faculty members to participate in one or more of six new faculty groups, organized by research area, which will be active this academic year.

The new groups will have several purposes. Most immediately, they will assist in the academic planning for new appointments at junior and senior levels. They also will facilitate faculty interaction, and aid the

Deans' Office in planning graduate and postgraduate education.

"During the last two years we have appointed a number of junior and senior members to our faculty and most of these individuals were identified by our search committees," said Wiesel. "This process has been effective, but the time has come to obtain an overview of our strengths and the areas we need to develop and expand as we move forward in our recruitment efforts."

Because these initiatives may require resources of the university beyond those currently available, the board of trustees has requested an academic and financial plan to help assess the university's needs, set priorities and identify new resources. The new groups will help advise the president and the board in setting future goals and in assessing the need for

additional resources.

Faculty participation in the new groups is entirely voluntary and all members are welcome. The groups and their co-chairs are:

- Chemistry, biochemistry and structural biology—Peter Model and Bob Roeder;
- Neurosciences—Charles Gilbert and Mary Elizabeth Hatten;
- Genetics, cell and developmental biology—Günter Blobel and Hidesaburo Hanafusa;
- Microbiology and immunology—Emil Gotschlich and Ralph Steinman;
- Medical sciences—Jan Breslow and Jules Hirsch;
- Physics—Mitchell Feigenbaum and Nicola Khuri.

For further information contact Vice President for Public Affairs and Corporate Secretary, Ingrid Reed, Box 257 or x8082.

New leadership oversees RU's Food Service

Restaurant Associates, a firm that specializes in top-quality catering, will take over the management of Rockefeller University's Food Service from Marriott Corporation at the end of this month. Judd Newman will lead the staff at Rockefeller.

"Restaurant Associates has a great reputation for innovative and exciting food service," said David Lyons, vice president for business and finance, and treasurer. "We look forward to what the new team can bring to campus. In addition, it is hoped that in the long run the firm will bring new efficiencies and operating economies."

Restaurant Associates serves a variety of premier properties such as the Metropolitan Museum of Art, the Metropolitan Opera, Lincoln Center, Carnegie Hall, the United Nations and the Rockefeller Center complex. The firm also works with City Harvest to provide leftover food to the New York City homeless.

Newman said: "We will make a strong push to improve on creativity, presentation and cleanliness in all areas of the university's food services, including the cafeteria, the dining room and on-campus catering. I'm excited to be here."

According to Newman, the cafeteria will offer lighter, healthier

See *Food Service*, page 2



Judd Newman of Restaurant Associates is the new manager of Food Service.

2 New law addresses family leave

3 Insights bloom at lecture

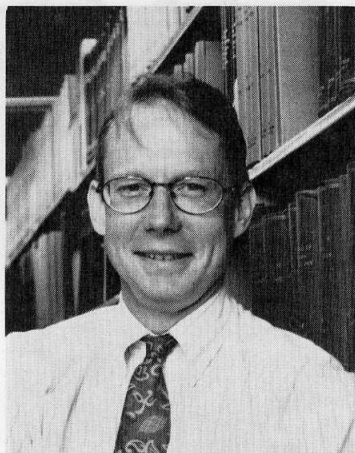
Librarian arrives at Rockefeller

David Man, former medical reference librarian at the New York Academy of Medicine, arrived at The Rockefeller University library last month to work in a newly created position, educational services librarian.

"My goal will be to help faculty and students access information about their subjects of study," said Man. "Ironically, information is so well organized these days that getting to it can be a complex and intimidating process."

A native of London, Man came to this country 12 years ago to study linguistics and received a Ph.D. in this subject from the Graduate School of the City University of New York. Shortly thereafter, however, Man's aspirations changed. Increasingly drawn toward library work, he obtained a master's degree in library science from Columbia University and then joined the staff of the New York Academy of Medicine, where he worked for almost two years.

"Most people think there is a logical connection between the way language is structured and the way information is organized, but the two are very different. I think the career transition was made easier for me simply because I'd had research and teaching experience," said Man, who once taught linguistics at Queens College and has taught English at Hunter



David Man is the new educational services librarian.

College since 1987.

Already, Man is exploring ways to electronically link the Rockefeller library with other library systems. He hopes to upgrade the current database service and tailor the library's book and reference collections to better serve researchers' needs. In addition, Man is planning workshops for faculty, students and staff on a variety of topics, including how to conduct electronic searches using different databases. "I don't want to be a gatekeeper," said Man. "I want to share my knowledge about databases and encourage people to approach me with questions."

Man can be reached at x8907.

Food Service comes under new direction

(continued from page 1)

food and more upscale items, such as cappuccino and espresso, without a dramatic increase in price. Current renovations, which include painting and carpeting, will make the cafeteria lighter, brighter and more open. (A limited lunch is temporarily being offered in the Faculty Club from 11:00 A.M. to 2:00 P.M.). When the cafeteria reopens Tues., Sept. 7, its hours will be 7:30 A.M. to 3:00 P.M. without closing for breaks, every Monday through Friday.

Luncheon service will move from the 17th floor of Tower to the Abby Aldrich Rockefeller Hall dining room—which, as many will remember, was used to serve meals years ago. Luncheon service in the dining room will begin Mon., Sept. 20. Further details will be announced. From now on, the 17th floor of Tower will be available for special events, meetings and conferences. Contact Sandi Walsh, x8072, to make room reservations.

Restaurant Associates will cater

a variety of events on campus.

"We will customize our food and service according to each catering request, large and small," said Newman. "For large events, we have access to the many servers who work for Restaurant Associates across the city."

Newman's experience in restaurant management is extensive. After graduating from the University of Nevada, Las Vegas in 1982, he worked for the Hilton Hotel in Los Angeles and the Sheraton Corporation in Manhattan. He has worked with Restaurant Associates for nine years at Princeton University, Longwood Gardens and Chemical Bank locations. Newman can be reached at x8890 or Box 83.

Others on the new Food Service management team include: Paul Carroll, executive chef; Rita Kuehlewind, sous-chef; Rachel Berns, cafeteria manager; Jennifer Pagett, office manager; Neelu Bhatia, controller; and Alzatta Fogg, Abby Aldrich Rockefeller Hall dining room supervisor.

New law addresses family leave

A new Family and Medical Leave Act now entitles all Rockefeller University employees with at least one year of service to take up to 12 weeks of unpaid leave. Employees will be guaranteed the right to return to their position or an equivalent position with no loss of benefits and will not be required to seek prior approval from a department or laboratory supervisor.

Under the new legislation, signed by President Bill Clinton in February and taking effect this month, employees may request a leave of absence without pay for the birth and care of a newborn under 12 months old; placement of a child for adoption or foster care; or care of an immediate family member (spouse, domestic partner, child or parent) with a serious health condition. A leave of absence for an employee's own health condition is covered by the university's short-term disability policy. Women giving birth will be eligible for standard paid disability leave.

Employees taking a leave of up to 12 weeks will receive accrual of length of service during their absence and, so long as they continue to pay employee premium contributions for health insurance, health benefits as well.

"The university's leave of absence policy has always been generous and responsive to the needs of employees," said Virginia Huffman, director of Personnel. "I think President Clinton's initiative will help to ensure that all institutions create a supportive environment for employees confronting family issues."

While approval from a supervisor

is no longer necessary under the new act, the university will have the right to require proof of any relevant health condition. In addition, employees will be required to include all paid disability leave, remaining paid vacation and floating holiday time in the leave. The highest-paid 10 percent of the work force will not be guaranteed their original position if this would cause "substantial and grievous economic injury" to the university.

The new act allows for intermittent leave as well as reduced leave (during which an employee works partial days). Intermittent or reduced leave to care for a newborn or adopted child will require prior approval from the employee's laboratory or department head. If intermittent leave is foreseeable for planned medical treatment, the university may require a temporary transfer to a position with equivalent pay and benefits which better accommodates this schedule. In addition, employees will be required to make a reasonable effort to minimize the disruption of department or lab operations.

For all leaves of absence, employees should provide 30 days advance notice if possible. "I think most employees here do their best not to inconvenience their department or laboratory," said Huffman. "However, laboratories may be more vulnerable than departments under the new act, since few lab personnel are cross-trained in some highly specialized procedures. I encourage heads of laboratories to focus on cross-training their staff to ensure continued productivity."

For more information, contact the Office of Personnel, x8300.

Letter to the editor:

Venezuela, anyone?

An intruder with keys opened my locked office in the Rockefeller Hospital on Sunday evening, June 6th, and made two international calls for 30, then 28 minutes.

Since the episode may be repeated, it is suggested that each department examine its international calls each month. If Venezuela turns up, the numbers called can be compared. My office can no longer be used.

Merrill W. Chase
Professor Emeritus

Editor's Note: Suspicious telephone calls should be reported to the Security Department, x8506.

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Insights on genetic engineering of plants bloom at lecture

By Susan Blum

"Rose is a rose is a rose is a rose," wrote Gertrude Stein in 1913. Whatever this cryptic pronouncement might say about floral identity, it surely does not address the issues raised by the new techniques of genetic engineering.

These techniques, developed in just the last 10 or so years, have paved the way for dramatic advances in the breeding of plants and flowers. Results that used to take decades using the methods of ordinary plant husbandry can now be achieved much more quickly and with far greater control over the final results.

Some potential uses of these new tools of the trade were described by Chris Bowler, a postdoctoral fellow in the Chua lab, during Rockefeller University's Azalea Festival last spring. The event, which included tours of the university's blossoming grounds, also featured a talk by Bowler called "How to Make Blue Roses, Stay-Ripe Tomatoes, and Glow-in-the-Dark Daisies."

Techniques make a bloom of a different color

To pique the interest of the many flower aficionados in the audience, Bowler began his talk by discussing how the new genetic engineering techniques might be harnessed to affect flower color.

He explained that a flower's normal color is determined by complex biochemical pathways that turn one pigment into another by means of specialized enzymes. As is true for all proteins, the instructions for

these enzymes are encoded in DNA and are then read out, or transcribed, into a molecular intermediate called messenger RNA (mRNA). The last step in the process is translation from mRNA into protein.

Scientists can now create a "mirror image" of the gene for the enzyme, introduce it into the cell and ensure that its transcription is controlled by the same DNA element, or promoter, that directs transcription of the normal gene. The two mRNA strands—dubbed "sense" and "anti-sense"—then zip together, blocking the translation of the sense mRNA into protein. The result: a flower of a different color—red, say, instead of white. A related technique, which introduces new genes into an organism rather than blocking existing ones, might one day also produce blossoms never before seen in nature, such as the blue rose of Arabian myth.

These same strategies can also be used to alter other floral characteristics such as life span, fragrance, or petal size, shape and number.

Bowler predicts that flowers with a range of alterations may be available within about five years.

The first genetically-engineered fruit will be on the market much sooner than that. If all goes as planned, consumers should be biting into "stay-ripe" tomatoes in the early fall. Created by Calgene, a California-based company, these tomatoes carry anti-sense RNA that blocks an enzyme that hastens rot.

"Basically, this technique converts an American tomato into something like an Italian tomato," said Bowler. Where markets are close to farms—as in much of Europe—produce can be picked at its peak of flavor and nutrition. But in America, where the distances from farm to market are often great, many fruits and vegetables are picked before they have ripened. Transported long distances to centralized warehouses, they are then spritzed with chemicals that make them look riper but do nothing to improve their taste or nutritional content. Thus, the idea behind the "Flavr-Savr" tomato is to slow down the process that leads from ripening to rot, so the fruit can be picked from the vine at a later stage when more nutrients have accumulated.

Another idea currently being explored is the use of genetic engineering to create pest-resistant plants. The gene in question is one found naturally in a bacterium known as *Bacillus thuringiensis* (Bt). This bacterium produces a poison that is lethal to pests but harmless

to animals. For decades, crystals of the Bt toxin have been sprayed on crops as an insecticide. Recently, scientists have introduced the gene for the toxin directly into plants, which then successfully fend off their insect predators. These plants are still in the testing stage.

Possibilities are limitless

"Flavr-Savr" tomatoes and pest-resistant plants are just two of a virtually limitless range of possibilities engendered by the techniques of genetic engineering. In theory, almost any native gene could be blocked, or any foreign gene introduced, to alter plants and flowers.

Not everyone is enthusiastic about these possibilities; in fact, critics have voiced their concerns over a number of issues. They ask, for instance, whether the genetically engineered products will really be safe, and whether the information provided to consumers will be sufficient to make confident choices on a product-by-product basis.

The consumer labeling issue has not yet been resolved by the Federal government, which is still inviting comments. As far as safety is concerned, Bowler stresses that the issue is very complex. "Nobody is advocating a situation where there are known risks," he said, pointing out that all genetically engineered products are tested to exclude obvious risks. He also points out that some engineered alterations—such as the one in the stay-ripe tomato—can be so fully characterized, and are so limited, that the possibilities for risk can be assessed—and rejected—with almost complete confidence. On the other hand, it may never be possible to fully assess in advance all the theoretical risks of certain other genetically engineered products, such as pest-resistant crops.

Such uncertainty should not deter research, Bowler believes, but rather inform it. "People are proceeding very cautiously and carefully," he said. "After all, researchers realize that they will be accountable in the end."

Techniques used for basic research

The genetic engineering techniques now available are not just being used to bring new products to market. They are also employed in basic research projects, such as those conducted in the Chua lab. There, scientists are pursuing such fundamental questions as how a seedling develops into a mature plant, and, in particular, how light affects this process at the level of



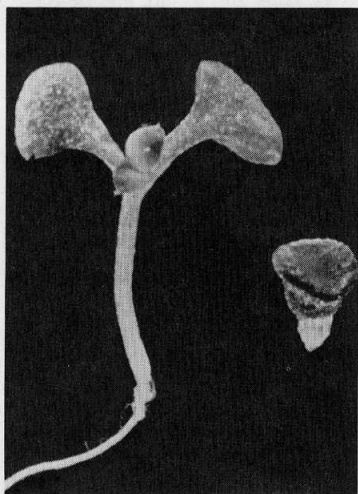
Chris Bowler, a postdoc in the Chua lab, gave a lecture entitled, "How to Make Blue Roses, Stay-Ripe Tomatoes and Glow-in-the Dark Daisies."

the genes.

To tease out how various genes contribute to plant development, growth and functioning, researchers in the Chua lab sometimes use anti-sense RNA to inactivate a particular gene and thereby gain insight into its normal function. In a variation on this theme, the researchers use other genetic engineering techniques to produce the cellular equivalent of gene overactivity.

Investigators in the Chua lab are also learning more about how plants develop and respond to light by inducing their research subjects to glow in the dark. Such experiments help them learn when a particular gene is expressed, and in which particular tissues. The researchers introduce the gene for luciferase, the enzyme that makes fireflies flicker. The luciferase gene is designed to be controlled by the promoter that directs the native gene of interest, so the plant glows whenever—and wherever—the plant gene is activated.

Will glow-in-the-dark daisies ever turn up at your local florist? That particular use of genetic engineering is unlikely, indeed. Nonetheless, the tools described by Bowler promise illumination into questions of basic biology, and a good yield of plants and flowers designed to be tastier, healthier and more varied.



Genetic engineering techniques are employed by the Chua lab. Here, a wild-type *Arabidopsis thaliana* seedling (left) is shown with an *emb30* mutant seedling.

Potpourri

Concert series

Schedule and subscription information for the 1993-94 Rockefeller University evening concert season is now available. A pre-concert buffet supper will be served in the Faculty Club beginning at 6:00 P.M. for \$15 per person.

Reservations are necessary. A 10 percent discount to the series is available to all members of the university community who submit subscription requests before Wed., Sept. 15. For information, subscriptions or supper reservations, contact Catherine Rogers, concert coordinator, x8971.

Seminar series

The Junior Faculty-Student Seminar Series offers exciting talks most Tuesdays at 11:00 A.M. Anyone who knows special speakers to invite for the upcoming academic year should send proposals to Claude Desplan—Box 151, x7965 or fax x8370—as soon as possible.

Call for art submissions

The Third Medical-Complex Art Show, co-sponsored by the Cornell Medical Library and the Lenox Hill Artists Forum, is soliciting submissions. Submit no more than six slides or photographs of paintings, photographs, sculptures, mobiles, computer-generated creations or handicrafts before Fri., Sept. 24 to: Helen-Ann Brown, HD, Library Relations, Cornell Medical Library (C-115), 1300 York Ave., New York, NY 10021-4896. For more information call Brown, 746-6092, or Leon Graff of the Lenox Hill Artists Forum, 639-7981.

Appointments

Assistant professors: Richard Everson, Knight lab.

Assistant professor and clinical

Peter Wing



New York Philharmonic Ensembles will perform at the first evening concert of the season, Wed., Oct. 20. A 10 percent discount to the series is available to members of the university community who submit subscription requests before Wed., Sept., 15.

scholar: Nora V. Bergasa, Kreek lab.

Adjunct faculty: Vivian Bellofatto, G. Cross lab; David Heath, Knight lab; Robert E. Suter, Nottebohm lab; Christian Schindler, J. Darnell lab.

Visiting associate professor: Reiko Akagi, Sassa lab.

Research associates: Jang Won Choi, Choi lab; Ralf Erdmann, Blobel lab; Stephen Moulding, Goulianos lab; Preeti Pancholi, Steinman lab.

Postdoctoral associates: Raymond B. Birge, Hanafusa lab; Scott Gottlieb, Carter lab; Hsiou-chi Liou, Baltimore lab; Louis Lucas, McEwen lab; Claudio Mello, Nottebohm lab.

Postdoctoral fellows: Chilung Tang, Leibowitz lab; Elizabeth Vallen, F. Cross lab.

Guest investigators: Giuseppina Arpaia and Siow Khoon Tan, Chua lab; Jeffrey Cynx, Nottebohm lab; Toshio Isohara, Greengard lab; Erin

'E. Kershaw, Leibel lab; Masao Kondo, Sassa lab; George Nagel, Gadsby lab.

Departures

Associate professor: Susan Schwartz-Giblin, Pfaff lab.

Assistant professor: Neile K. Edens, Hirsch lab; Christopher Nicchitta, Blobel lab.

Adjunct faculty: Robert Gale, Carter lab; Nancy Greenbaum, Kappas lab; Keith Purpura, Knight lab.

Visiting professor: Lars Terenius, Greengard lab.

Senior research associate: Makoto Watanabe, Blobel lab.

Research associate: Luidmila N. Soldatova, T.P. King lab.

Postdoctoral associates: Kerstin Iverfeldt, Greengard lab; Sadhanna Kulkarni, G. Cross lab; Kuo-chu Hwang, Mauzerall lab; Lawrence S. Liu, Steinman lab; Melissa Pessin-Minsley, Greengard lab.

Postdoctoral fellows: Nazeem Ali and Ursula Halfter, Chua lab; Noah Solomon Heftler, Jean Lin and Val Pierre Vallat, Carter lab; Dexter Sun, D.E. Young lab; Suguru Tsuchimoto, Chua lab; Yuhang Zhao, Hanafusa lab.

Guest investigators: Ignacio Barradas, J. Cohen lab; Miriam Brown, Katherine Martin, Wynne Morrison and Michael Turner, Hirsch lab; Constantin Craescu, Cowburn lab; Oliver Peter Ernst, Sakmar lab; Emilia Hodak, Carter lab; Jessica Hopfield, Greengard lab; Sudha Prasad, Tuomanen lab.

Discount

Atlas Auto Body Shop, 410 E. 61st St., is offering a 10 percent discount for all members of the Rockefeller University community. Call 838-9000.

Mark W. Riemen (1953-1993)

Rockefeller University alumnus Mark W. Riemen, 40, died May 12 from cardiac arrest following a prolonged kidney dysfunction.

Riemen was a research scientist in the biochemical and biosynthetic purification development department at Eli Lilly and Company in Indianapolis, Illinois for the past four years. He also worked as a research scientist for Merck, Sharp & Dohme in West Point, Pennsylvania for seven years.

Riemen received his B.A., *summa cum laude* with distinction in chemistry, from Boston University in 1974. Working in the laboratory of Professor Emeritus Bruce Merrifield, Riemen earned his Ph.D. from Rockefeller in 1979. He then studied as a postdoctoral fellow at the University of California, Berkeley until 1983.

"Mark was an excellent student and a wonderful colleague," Merrifield said. "He was dedicated to his research interests and worked hard to achieve them. He was also a good citizen in the group and was always willing to give his time and energy to help keep the laboratory operating and to assist others with their special problems."

"But Mark also had outside interests. He enjoyed people and they liked him. He especially liked modern music and enjoyed listening to it with his many friends. Mark's greatest pleasure was baseball, and as a loyal fan of the Boston Red Sox he knew everything there was to know about them. His strong interest in the game was carrying over to his two boys, Alex and Kevin, and he was helping to coach Alex's little league team. Mark and his wife Anita had a wonderful, but all too short, life together. He will be missed by so many."



Mark W. Riemen (1953-1993) was an alumnus of the university.

Time out for a swing at Rockefeller

The Rockefeller University Archives



The area northwest of Flexner Hall was a children's playground in 1928.