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The Rockefeller University

OCTOBER 13, 2000 VOLUME 11, NUMBER 3

CELEBRATING 100 YEARS · 1901-2001 · THE ROCKEFELLER UNIVERSITY · PRO BONO HUMANI GENERIS

news & notes

THE NEWSLETTER OF THE ROCKEFELLER UNIVERSITY

FRIDAY LECTURE

Assistant Professor Tom Muir to discuss protein ligation at today's lecture

Assistant Professor Tom W. Muir, head of the Laboratory of Synthetic Protein Chemistry, will present a Friday lecture today (Oct. 13) entitled "Protein Ligation: Linking Chemistry and Biology One Peptide Bond at a Time."

Muir's laboratory investigates the physicochemical basis of protein function. He believes that by combining the tools of organic chemistry with those of physical biochemistry and cell biology, it will be possible to gain fundamental insights into how proteins work within the context of complex biological systems of biomedical interest.

"Over the last few years," says Muir, "we have developed a suite of chemistry-driven technologies which provide unique opportunities for studying biological processes and which, we believe, will have wide-spread application in the post-genomic era."

In his talk today, Muir will specifically discuss protein ligation, which he describes as "molecular Legos." With this technique, developed in his lab, researchers can take chunks of proteins and stack them together; these "Legos" are interchangeable, so scientists can replace natural molecules with synthetic molecules in a variety of combinations.

Muir's lab is using these generic approaches to study molecular recognition processes in several areas ranging from eukaryotic signal transduction to the regulation of virulence in *Staphylococcus aureus*. The techniques, however, can be used in any biological process involving a protein.

Muir notes that his research is inspired by the work of Professor Emeritus Bruce Merrifield, who received a Nobel Prize in chemistry for developing a method to synthesize peptides.

"Given that proteins are just bigger versions of peptides, we became interested in this experimental approach," says Muir.

Muir received his undergraduate and Ph.D. degrees from the University of Edinburgh and was a postdoctoral fellow and senior research associate at the Scripps Research Institute before joining Rockefeller in 1996.

He has received several awards for his work at Rockefeller and is currently a Pew Scholar in the Biomedical Sciences, a Burroughs-Wellcome Fund New Investigator and Alfred P. Sloan Research Fellow. Muir's research is also supported by the National Institutes of Health.

Muir's talk begins at 3:45 p.m. in Caspary Auditorium and is preceded by a tea in the Abby Aldrich Lounge at 3:15 p.m. All are welcome.

Paul Greengard's Nobel Prize news conference can be viewed on The Rockefeller University's Web site:

www.rockefeller.edu/pubinfo/nobelpress.nr.html

Paul Greengard wins 2000 Nobel Prize in Medicine

For the second year in a row, a Rockefeller University scientist has been awarded the Nobel Prize. Paul Greengard, Vincent Astor Professor and head of the Laboratory of Molecular and Cellular Neuroscience at The Rockefeller University, has won the 2000 Nobel Prize in Physiology or Medicine for his discovery of how dopamine and a number of other transmitters in the brain exert their action in the nervous system. Greengard shares the 2000 award with Arvid Carlsson, emeritus professor of pharmacology at the University of Göteborg in Sweden, and Eric Kandel, University Professor at Columbia University, senior investigator at the Howard Hughes Medical Institute and a trustee of The Rockefeller University.

Greengard, director of the university's Zachary and Elizabeth M. Fisher Center for Research on Alzheimer's Disease, is a neuroscientist whose discoveries have provided a conceptual framework for understanding how the nervous system functions at the molecular level. He has also demonstrated that many effects–both therapeutic and toxic–of several classes of common antipsychotic, hallucinogenic and antidepressant drugs can be explained in terms of distinct neurochemical actions that affect the transmission of nerve signals in the brain.

Greengard received a Ph.D. in biophysics from Johns Hopkins University in 1953. After postdoctoral studies in England at the University of London, Cambridge University and the National Institute of Medical Research and at the National Institutes of Health, in Bethesda, Md., he became director of biochemistry at the Geigy Research Laboratories in 1959. In 1968, he was appointed professor of pharmacology at Yale University and was named Henry Bronson Professor in 1981. In 1983, he joined The Rockefeller University as a Vincent Astor Professor.

Rockefeller University neurobiologist Paul Greengard (center) and his wife, Ursula von Rydingsvard, were encircled by photographers as they arrived at Caspary Auditorium for Greengard's news conference. Greengard shares the 2000 Nobel Prize in Medicine with Arvid Carlsson and Rockefeller Trustee Eric Kandel.

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Greengard is an elected member of the U.S. National Academy of Sciences and its Institute of Medicine and of the American Academy of Arts and Sciences. He is also a foreign member of the Royal Swedish Academy of Sciences and a member of the Norwegian Academy of Science and Letters.

Among his many awards and honors are the 1999 Ellison Medical Foundation Senior Scholar Award, the 1998 Metropolitan Life Foundation Award for Medical Research and the 1997 Charles A. Dana Award for Pioneering Achievements in Health, which he shared with Kandel.

Last year Rockefeller Professor Günter Blobel received the Nobel Prize in Medicine.

Rockefeller's newest laureate meets the press

For Nobel-winning scientists, an early morning call from Stockholm is the highlight of a career. But when Paul Greengard's phone rang at 5:15 Monday morning, he said to his wife, "Who's the jerk who's calling so early?" Then it turned out to be the good news.

Greengard had only hours to absorb the news before becoming the news himself. By 10:30 a.m., President Arnold J. Levine was introducing Greengard to a packed news conference in Caspary Auditorium.

The Rockefeller community crowded into the standing-room-only auditorium along with reporters and photographers to share in the moment and give Rockefeller's newest laureate an enthusiastic ovation. Greengard said he was moved by the tribute and was glad to have so many friends, colleagues and family members in the audience. He noted that he had long been a loyal member of The Rockefeller University and had been thinking about what he could do to help the university.

In an emotional moment, he announced that he would be donating his share of the Nobel Prize to Rockefeller to fund an award for an outstanding woman scientist. The prize will be named in honor of Greengard's mother, Pearl Meister, who died giving birth to him.

He then fielded reporters' questions about the science for which he had received the prize, though he admitted that in the morning rush he had not had time to read the Nobel citation yet. (A journalist graciously read it to him.) When asked if he had ever expected that his work would be honored by a Nobel Prize, he said, "I've known that our work is of great importance, but there are hundreds of thousands of medical researchers, so you don't really think about such a thing."

After learning the Nobel news, Greengard posed for a picture with members of his lab. He was photographed hundreds of times within 24 hours.

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Before the day was over, Greengard had been featured in 200 news outlets and all the major daily newspapers. That evening he also appeared on the *NewsHour with Jim Lehrer*.

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President Arnold J. Levine introduced Greengard, noting that the wonderful news of the Nobel Prize was felt by the entire university.

AROUND CAMPUS

CENTENNIAL SYMPOSIUM

Chemists in Their Element at The Rockefeller University

FRIDAY, OCTOBER 20

9:30 A.M. COFFEE

10:00 AM. OPENING REMARKS, CASPARY AUDITORIUM

PRESIDENT ARNOLD LEVINE AND DARYLE H. BUSCH, President of the American Chemical Society

10:10 AM. CONGRATULATORY REMARKS
David N. Rahni, Chair, New York Section, American Chemical Society

10:15 AM. BRUCE MERRIFIELD
Protein Chemistry at The Rockefeller University

10:35 AM. DAVID MAUZERALL
Physical Chemistry at The Rockefeller University

10:55 AM. THOMAS SAKMAR
Nucleic Acid Chemistry at The Rockefeller University

11:15 AM. GÜNTER BLOBEL
Interfaces between Chemistry and Biology at The Rockefeller University

12:00-12:30 PM. DEDICATION OF THE ROCKEFELLER UNIVERSITY AS A NATIONAL HISTORIC CHEMICAL LANDMARK, FLEXNER HALL STEPS
Sponsored by the American Chemical Society

12:30 P.M. – 3 P.M.
An exhibit of Lyman Craig's countercurrent distribution apparatus, the only effective procedure for the purification of complex mixtures before the development of modern-day chromatographic techniques, will be on display in room 616 of Flexner Hall. Two films about Lyman Craig will also be available for viewing.

3:45 TO 5:00 P.M. JERRY A. WEISBACH LECTURE, CASPARY AUDITORIUM

JOHN WALKER
University of Cambridge
The Rotary Mechanism of ATP Synthase
Sponsored by the Pels Family Center for Biochemistry and Structural Biology

Because of this event, the Abby Aldrich Rockefeller Dining Room will be closed on Fri., Oct. 20.

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Arnold J. Levine, President

Mariellen Gallagher, Vice President of Communications and Public Affairs

Joseph Bonner, Director of Communications

Lisa Stillman, Assistant Director, Communications

Jim Stallard, Science Writer

Ideas and submissions can be sent interoffice (Box 68), by electronic mail (newsno) or by fax (212.327.7876).

Documentary features photos from the RU archive

PBS American Experience premieres its fall season this year with *The Rockefellers.* This two-part documentary chronicles four generations of the Rockefeller family and will air locally on Oct. 16 and Oct. 23.

The program is the result of three years of research, much of it carried out at the Rockefeller Archive Center. The Archive Center holds the archives of the Rockefeller family as well as the university's archives and other collections.

When historians or documentary producers need photographs of John D. Rockefeller or other family members, they talk to archivist Michele Hiltzik. "Producers for *The Rockefellers* first visited the Archive Center in 1997," she says. "They looked at thousands of the family photos, as well as 31 films in our collections, including newsreels, home movies, and television coverage." The completed documentary, which is 3-1/2 hours long, incorporates nearly 300 images from the Archive Center.

Research for the film began before Ron Chernow's popular book *Titan: The Life of John D. Rockefeller, Sr.* was published in 1998. Chernow printed nearly 100 images from the Archive Center in his book. Its success has since generated further interest in the Rockefeller family legacy. And that means more requests to publish and broadcast documents, photographs and films from the Archive Center.

"Last year Martha Stewart did a segment on carriage roads in Acadia National Park in Maine, so she wanted photos of John D. Rockefeller, Jr., because he designed the roads," says Hiltzik.

In addition, the U.S. Justice Department's anti-trust suit against Microsoft has spurred renewed interest in the 1911 Supreme Court ruling that broke apart John D. Rockefeller's Standard Oil Trust. As a result, producers from CNN came to film documents at the Archive Center. "Things got pretty busy last summer with requests from magazines like *Business Week*," Hiltzik says.

Historians and other scholars have come to the Archive Center in Sleepy Hollow since it opened in 1974 to do research with its 30,000 cubic feet of documents, 500,000 photographs,and 2,000 films–records that provide unique insights into worldwide developments and issues of the 19th and 20th centuries. In addition to documenting the development of science at The Rockefeller University, collections at the Archive Center cover subjects such as agriculture, the arts, African-American history, education, international relations and economic development, labor, medicine, philanthropy, politics, population, religion, the social sciences, social welfare and women's history.

A boom in history programming on television in the last several years has brought the Archive Center's resources to new audiences. Hiltzik has worked with producers from the Biography Channel and Headliners and Legends with Matt Lauer, as well as independent filmmakers and journalists.

For further information on the PBS documentary The Rockefellers, go to www.pbs.org/amex/rockefellers.

Centennial corner

Reaching Out to a Broader Community

Recent public talks held on campus by noted scientists, writers and architects are enhancing the university's reputation as a good neighbor and a reliable source of scientific information in the 21st century.

The events are all part of the Centennial Lecture Series. Last spring, many area residents received invitations from the university to attend the centennial series, which so far has featured writer Horace Judson, landscape architect Dan Kiley, university Trustee and Princeton scientist Shirley Tilghman and geneticist Stephen O'Rahilly.

Jeffrey Friedman spoke in Caspary Auditorium at a lecture series co-sponsored by the 92nd Street Y.

The East Side weekly *Our Town* recently asked Barry Schneider, chair of Community Board 8, to name the best institutional neighbor. "One that comes to mind is Rockefeller University," he said. "[It] has a marvelous campus, which you can't get onto unless you're attending an event there, but they have a lecture series and they're mindful of their role in the community. They're good neighbors."

Another endorsement came from The *New York Times* Web site, "NY Today," which designated as "pick of the week" a public lecture held on campus about science writing. Television host Robert Krulwich asked Rockefeller writer-in-residence Jonathan Weiner, and other science writers, including Oliver Sacks, Natalie Angier and James Gleick, about the art of science writing. "It used to be that some of the best all around writing featured politics," said the ABC newsman. "Now, it's science." The panelists have contributed to a new book, entitled *Best Science Writers 2000.*

A component of the Centennial series is the partnership established with the 92nd Street Y, designed to broaden public outreach even further. The Y is holding events in Caspary Auditorium that are of interest to the campus community, as well as to the public. In addition, an educational series about the human genome project taught by Rockefeller faculty is being sponsored and advertised by the Y. President Levine and Jeffrey Friedman, head of the laboratory of molecular genetics, already have lectured about the fundamentals of genomics and its impact on disease and behavior.

The Centennial series continues next Fri., Oct. 20, when the American Chemical Society dedicates the campus as a National Historic Chemical Landmark. During the first 100 years at Rockefeller, five Nobel laureates in chemistry did their prize-winning work on campus. A public lecture about the university's achievements in protein and nucleic acid chemistry will be held here in the morning, all part of an effort to make the public more aware of the contributions of the university (see the "Around Campus" sidebar for program details).

Final days to see employee art show

The last day to view the Employee Art Show is Fri., Oct. 13, in the RU library (Welch Hall). All artists should pick up their work from Human Resources on Monday morning, Oct. 16.

Campus artists John Haubrich (left) and Lubos Stepanek show their work at the Employee Art Show.

The 2000 Nobel: A look at Paul Greengard's prize-winning science

For the last 30 years, Paul Greengard has studied how nerve cells in the brain communicate with each other, helping to increase scientists' understanding of the neurological events that occur in healthy and unhealthy brains. He was awarded the 2000 Nobel Prize in Physiology or Medicine for his discovery of how dopamine and a number of other transmitters act in the nervous system. The work by Greengard and his colleagues has led to improved diagnostic techniques and drugs for such conditions as schizophrenia, drug addiction and Parkinson's and Alzheimer's diseases.

Nerve cells generate electrical impulses that travel along the slender axon of the signaling cell to the axon terminal. Molecules called neurotransmitters are released from tiny vesicles in the terminal and travel across the synaptic cleft to a target cell where they bind to receptor molecules in the cell's membrane. The neurotransmitter then either stimulates or suppresses an electrical impulse in the target cell. Greengard's research demonstrated that the activity of neurotransmitters is regulated by a biochemical process called protein phosphorylation. But as Greengard told *The New York Times,* many neuroscientists at the time did not think protein phosphorylation was relevant: "No one was terribly interested—it wasn't ready for prime time. People said, 'Poor Paul, I'm sure he'll find his way back onto the right path.'"

Greengard came to study biochemistry of nerve cell communication as a graduate student after studying mathematics and physics as an undergraduate at Hamilton College. He had joined Detlev Bronk's Department of Medical Physics at the University of Pennsylvania in 1948. When Bronk left six months later to become president of Johns Hopkins University, Greengard followed. (Bronk would later head The Rockefeller University for 15 years.) According to Greengard, Bronk's lab was strictly studying physiology, "but Bronk agreed to let me do my Ph.D. research on the chemical changes associated with degeneration and loss of function in nerve axons. It was an early effort to understand the relationship between nerve function and biochemistry." Greengard's thesis advisor was Frank Brink Jr., who also later came to Rockefeller and is now professor emeritus.

After receiving his doctoral degree, Greengard spent five years in England, continuing his studies at the University of London, the University of Cambridge and the National Institute of Medical Research. While in England, Greengard made important findings about the biochemical regulation of the physiological functioning of brain cells, but he and his colleagues were faced with a fundamental barrier: every nerve cell looked the same as every other nerve cell and, as far as one could tell, were using the same neurotransmitters.

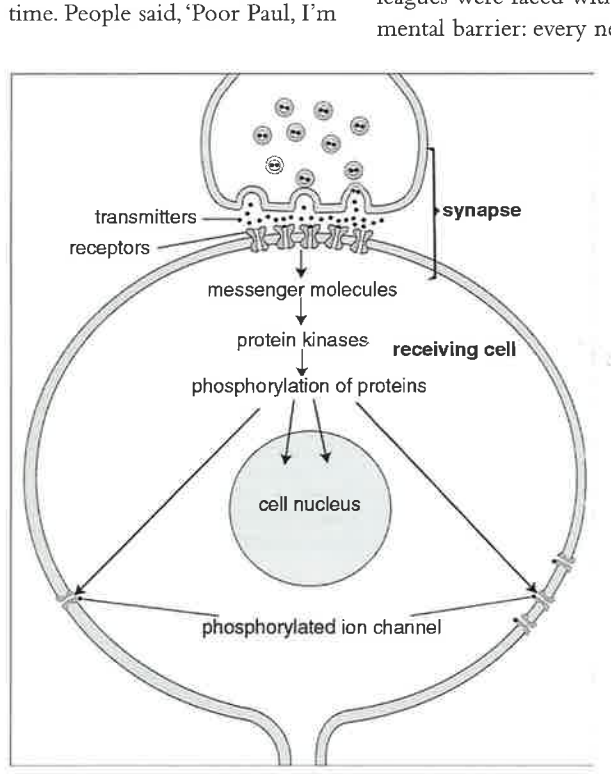
He returned to the United States in 1959, where he took a break from this problem and joined Geigy Research Laboratories as director of biochemistry. Over the next several years, he developed major antidepression drugs and served simultaneously as a professor of pharmacology at Albert Einstein College of Medicine, where he was involved in studies that led to major advances in the understanding of the mode of action of local anesthetics.

In the late 1960s, Greengard accepted a visiting professorship in the laboratory of Earl Sutherland at Vanderbilt University. Sutherland earlier had identified a molecule in liver cells called cyclic AMP, which somehow mediated a hormone's message to cells that told them to store carbohydrate or release it into the bloodstream. Edwin Krebs then showed that cyclic AMP works by activating an enzyme, a catalytic protein called a protein kinase. Greengard thought a similar thing might be happening in nerve cells. (Sutherland and Krebs received the Nobel Prize in Physiology or Medicine in 1971 and 1992, respectively, for their work.)

While at Vanderbilt, Greengard received an appointment at Yale University, where he began looking for Krebs's kinase in the brain. He found it in high concentrations, and in much higher concentrations at the synapse.

"This finding made me feel very confident that whatever the kinase was doing in the brain, it wasn't just breaking down carbohydrate," he recalls.

What Greengard identified in the brain was protein phosphorylation, the process by which a phosphate molecule is placed on a protein. For proteins to become activated, they must be switched on by another molecule, a sort of master molecule called a protein kinase, which adds a phosphate and changes the shape of the target protein.



Paul Greengard received the 2000 Nobel Prize for showing how dopamine and several other chemical transmitters exert their effects in the nerve cell.
Image courtesy of the Nobel Assembly at the Karolinska Institute.

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Left: Greengard (right) and Rockefeller Professor James Darnell Jr. enjoy a Nobel celebration at Le Cirque.

Below: At a President's House reception, Greengard was congratulated by David Rockefeller (left), honorary chairman of the board of The Rockefeller University, and by Richard M. Furlaud (center), chairman of the board emeritus.

After observing phosphorylation in the brain, Greengard and his colleagues looked at other kinds of cells and found the same thing happening in every tissue in organisms throughout the animal kingdom. But Greengard still had to show that protein phosphorylation was controlling the conversion of nerve signals. To do that, he and Eric Kandel—who shares this year's Nobel with Greengard and is a university trustee—put kinases directly into cells that were not receiving neurotransmitters to see if the kinases had the same effect on physiological activity as neurotransmitters.

After overcoming a few hurdles, specifically developing methods to purify the kinases and inject them into single cells, Greengard and Kandel showed that protein phosphorylation mediates the activity of neurotransmitters.

In 1972, Greengard and his group identified a phosphoprotein called synapsin I, which they showed regulates neurotransmitter release. By the early 1970s, Greengard identified the first neurotransmitter receptor to be characterized biochemically, a receptor for the neurotransmitter dopamine. Abnormalities in signaling by dopamine are associated with several neurological and psychiatric disorders, including Parkinson's disease, schizophrenia, attention deficit hyperactivity disorder and substance abuse. Greengard's lab showed that a phosphoprotein called DARPP-32, located in the basal ganglia of the brain, is a major player in the mechanisms by which dopamine produces its effects in the brain.

Since then, Greengard and his group have found more than 100 phosphoproteins that occur only in the brain. Of these, some are present in every nerve cell, and others in only one or a few cell types. These studies have demonstrated that various subclasses of neurons differ markedly from one to another in their chemical composition and suggest that it will be possible to develop highly specific therapeutic agents for the treatment of various neurological and psychiatric disorders.

At Monday's news conference in Caspary Auditorium, Greengard recalled how he and his colleagues toiled virtually alone on this research. "We worked on this for many years without competition," he quipped, "because people thought we were insane."

Support for Greengard's research over the years has come from many sources, including the National Institutes of Health, particularly the National Institute of Mental Health, the National Institute on Drug Abuse and the National Institute on Aging, and from the Zachary and Elizabeth M. Fisher Center for Alzheimer's Disease Research Foundation.

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calendar

OCTOBER 13 THROUGH OCTOBER 29

EVENTS

Friday Lectures and Thesis Presentations

These events are held in Caspary Auditorium at 3:45 p.m. and preceded by tea at 3:15 p.m. in Abby Aldrich Rockefeller Lounge. All are welcome.

FRIDAY, OCTOBER 13

Protein Ligation: Linking Chemistry and Biology One Peptide Bond at a Time. Tom Muir, Assistant Professor, RU.

TUESDAY, OCTOBER 17

Thesis Presentation: Are You Talking to Me? Auditory Selectivity in the Zebra Finch NCM. Caroline Ang, Graduate Fellow, RU.

FRIDAY, OCTOBER 20

Jerry A. Weisbach Lecture: The Rotary Mechanisms of ATP Synthase. Sir John Walker, Director, Dunn Human Nutrition Unit, Medical Research Council, Cambridge U. Sponsored by the Pels Family Center for Biochemistry and Structural Biology.

FRIDAY, OCTOBER 27

Joshua Lederberg Distinguished Lecture: Manipulative Reporter Genes and "Reverse Genomics." Stanley Cohen, Professor, Dept. of Genetics, Stanford U.

FRIDAY, OCTOBER 13

10:00 A.M. **Mycobacterial Nonribosomal Peptides and Polyketides as Small-molecule Weaponry in the Bacterial Virulent Crusade.** Luis Quadri, Associate Professor, Cornell U. TB Club Meeting. 110B Nurses Residence. Refreshments at 10:15 A.M. Contact Claudia Manca, 327-8103

12:00 P.M. **Decoding Spatial and Temporal Signals by a Calcium-dependent Protein Kinase.** Howard Schulman, Chair, Dept. of Neurobiology, Stanford U. School of Medicine. Cellular Biochemistry and Biophysics Seminar. 116 Rockefeller Research Laboratories, MSKCC, 430 East 67th St.

1:30 P.M. **How Matrix Metalloproteinases Mediate Extracellular Signaling during Development and Neoplasia.** Zena Werb, Professor of Anatomy, Dept. of Anatomy, UCSF School of Medicine. Cell Biology and Genetics Seminar. Weill Auditorium, WMCCU, 1300 York. Open to RU/WMCCU/NYPH/MSKCC community and guests.

10:00 P.M. **The Identification and Dissection of Protein Domains.** Temple F. Smith, Professor and Director, Biomolecular Engineering Research Center, Boston U. Seminar. 101 Rockefeller Research Laboratories, MSKCC, 430 E. 67th St.

MONDAY, OCTOBER 16

12:00 P.M. **Blocking HIV Entry.** Robert Doms, U. of Penna. CFAR Seminar. Sixth Floor Conference Room, ADARC, 455 First Ave. Contact Gary Gailor, 448-5163.

4:30 P.M. **Carbohydrate Cycling—A Novel Signaling System in Exocytosis.** Birgit N. Satir, Professor, Dept. of Anatomy and Structural Biology, Albert Einstein College of Medicine. Cell Biology and Genetics Seminar. A-106 WMCCU, 1300 York Ave. Open to RU/WMCCU/NYPH/MSKCC community and guests.

4:30 P.M. **Molecular Basis for Rhythmic Activity in the Brain.** Steven A. Siegelbaum, Professor of Pharmacology, Center for Neurobiology and Behavior, HHMI, Columbia U. College of Physicians and Surgeons. PBMM Research Seminar. Weill Auditorium, WMCCU, 1300 York Ave. Coffee at 4:15 P.M.

TUESDAY, OCTOBER 17

2:00 P.M. **Novel Mouse Models to Study Atherosclerosis Regression and Arterial Injury.** Edward Fisher, Mt. Sinai School of Medicine. **Genetic Modifiers of Atherosclerosis in Apolipoprotein E-deficient Mice.** Hayes Dansky, Rockefeller U. **Current Role of Hormones and Alternatives for Cardiovascular Disease Prevention in Women.** Lori Mosca, NYPH. New York Lipid and Vascular Biology Research Club Meeting. 301 Weiss. Contact Kie Cundey, 327-7708. The speakers will lecture at 2:30 P.M., 3:20 P.M. and 4:30 P.M. Refreshments will be served at 4:00 P.M. Open to RU/WMCCU/NYPH/MSKCC community and guests.

4:00 P.M. **Viruses, Vesicles and Multi-electron Bubbles: J.J. Thompson's Problem Revisited.** David R. Nelson, Professor, Harvard U. Center for Studies in Physics and Biology Seminar. B Level Conference Room, Smith Hall Annex. Tea at 3:30 P.M. Contact Martin Zapotocky, 327-8835.

7:00 P.M. **The Inner Life of Cells.** Günter Blobel, Professor, RU, and Investigator, HHMI. Genes, DNA and You: The Impact of the Human Genome Project. Public Lecture. Caspary Auditorium. A public lecture sponsored at RU with The 92nd Street Y. Tickets are available from the 92nd Street Y at 996-1100.

WEDNESDAY, OCTOBER 18

10:00 A.M. **Iterated Profile Searches with PSI-BLAST.** Stephen F. Altschul, Senior Investigator, National Center for Biotechnology Information, National Library of Medicine, NIH. Seminar. 116 Rockefeller Research Laboratories, MSKCC, 430 East 67th St.

10:00 A.M. **A Comparative Evaluation of Basal Ganglia Function in Birds and Mammals. Their Role in Vocal Learning.** David Perkel, U. of Wash. **Electrophysiological Studies in Vivo and in Vitro as a Means to Define Circuit Properties.** Richard Mooney, Duke U. Neural Plasticity and Learning Seminar. 305 Weiss. Contact Constance Scharff, 327-8381. Open to RU/WMCCU/NYPH/MSKCC community and guests.

12:00 P.M. **Understanding Attentional Disorders.** Michael Posner, Professor and Director, The Sackler Institute, Dept. of Psychiatry, WMCCU. Seminars in Clinical Research. 110B Nurses Residence. Contact Dale Miller, 327-8411.

4:30 P.M. **Protection and Maintenance of Human Telomeres.** Titia de Lange, Professor, RU. MSKCC President's Research Seminar. Auditorium, Rockefeller Research Laboratories, MSKCC, 430 East 67th St. Tea at 4:00 P.M.

THURSDAY, OCTOBER 19

12:00 P.M. **Altered Semen Quality as a Biomarker of Adverse Environmental Effects on Male Reproductive Health in Humans: Studies in the Czech Republic.** Sally Perreault, Chief, Gamete and Early Embryo Biology Branch, Reproductive Toxicology Division, National Health and Environmental Effects Research Laboratory, U.S. Environmental Protection Agency. Endocrinology and Reproductive Biology Seminar. 301 Weiss.

4:00 P.M. **Multiprotein Complexes That Regulation Transcription by Modifying Chromatin Structure.** Jerry Workman, Professor, Dept. of Biochemistry and Molecular Biology, Penn. State U. Gene Expression Course. 301 Weiss. Contact Sandy Grimm, 327-7601.

8:00 P.M. **Cell Cycle Control and Cancer.** Charles Sherr, Herrick Foundation Chair, Dept. of Tumor Cell Biology, and Investigator, HHMI, St. Jude Children's Research Hospital. Harvey Society Lecture. Caspary Auditorium.

FRIDAY, OCTOBER 20

9:00 A.M. **Clinical Scholar's Grand Rounds.** Ephraim Sehayek, RU. 110B Nurses Residence. Open to RU/WMCCU/NYPH/MSKCC community and guests.

10:00 A.M.–11:45 A.M. **Chemists in Their Element at The Rockefeller University.** Centennial Symposium. Caspary Auditorium. Coffee at 9:30 A.M. (See Around Campus, page 2.)

10:00 A.M.–2:00 P.M. **Demonstration of Software for Crystallographic Programming.** Dusan Turk, Dept. of Bichemistry and Molecular Biology, Josef Stefan Institute. 302 Weiss. Contact John Kuriyan, 327-8342. Open to RU/CUMC/NYPH/MSKCC community and guests only.

12:00 P.M. **Dedication of The Rockefeller University as a National Historic Chemical Landmark.** Flexner Hall Steps. Sponsored by the American Chemical Society.

12:00 P.M. **Regulation of Mitotic Exit in Yeast.** Angelika Amon, Assistant Professor, Center for Cancer Research, MIT. Molecular Biology Seminar. 116 Rockefeller Research Laboratories, MSKCC, 430 East 67th St. Refreshments at 11:45 A.M. Open to RU/WMCCU/NYPH/ MSKCC community and guests.

MONDAY, OCTOBER 23

11:00 A.M. **Response of Strict Anaerobic Bacteria to Transient Exposure to Oxygen: What Can We Learn from *Desulfovibrio spp*?** Antonio Xavier, Professor of Structural Biology, Universidade Nova de Lisboa, Portugal. Seminar. 301 Weiss. Contact Alexander Tomasz, 327-8277.

12:00 P.M. **Therapeutic Approaches to Interrupting HAART for Chronic HIV Infection.** Mark Dybul, LIR, National Institute of Allergy and Infectious Diseases, NIH. CFAR Seminar. Sixth Floor Conference Room, ADARC, 455 First Ave. Contact Gary Gailor, 448-5163.

4:30 P.M. **The Paradox of Dopaminergic Modulation in the Striatum: New Insights from Voltage-Clamp and scRT-PCR Studies.** D. James Surmeier, Professor of Physiology, Institute for Neuroscience, Northwestern U. PBMM Research Seminar. Weill Auditorium, WMCCU, 1300 York Ave. Coffee at 4:15 P.M.

5:30 P.M. **The Wonders of Skin: Keeping Up!** American Skin Association. Weiss 17th Floor. The American Skin Association invites you to attend its second public forum. Admission is free. RSVP to the American Skin Association at 753-8260. Wine and cheese reception to follow discussion. Open to RU/WMCCU/NYPH/MSKCC community and guests.

TUESDAY, OCTOBER 24

11:00 A.M. **DNA Replication by the T4 Replisome.** Stephen Benkovic, Evan Pugh Professor and Eberly Chair in Chemistry, Penn State U. Pels Family Center for Biochemistry and Structural Biology Seminar. 301 Weiss. Contact Bobbie Larraga, 327-7240. Open to RU/WMCCU/NYPH/MSKCC community and guests.

WEDNESDAY, OCTOBER 25

10:00 A.M. **Role of Experiential Factors in Regulating Neuronal Birth and Survival in Mammals.** Fred Gage, Salk Institute. **The Outlook for Neurogenesis in Adult Primate Brain.** Pasko Rakic, Yale U. Neural Plasticity and Learning Seminar. 305 Weiss. Contact Constance Scharff, 327-8381. Open to RU/WMCCU/NYPH/MSKCC community and guests.

7:30 P.M. **Psoriasis Support Group.** Meeting. 110B Nurses Residence. Contact Patricia Gilleaudeau, 327-8333.

THURSDAY, OCTOBER 26

3:00 P.M. **Expression Linkage Approaches for Mapping Type II Diabetes Genes.** Susan Sell, Assistant Professor, University of Ala., Birmingham. Starr Center for Human Genetics Seminar. 301 Weiss. Contact Emily Huffman, 327-7387.

3:00 P.M. **Neuroimaging of Cognitive Function.** Leslie Ungerleider, Chief, Laboratory of Brain and Cognition, National Institute of Mental Health, NIH. Systems Neuroscience Seminar. 305 Weiss. Open to RU/WMCCU/NYPH/MSKCC community and guests.

The Arts and Other Events

FRIDAY, OCTOBER 13

12:00 P.M. **Tri-institutional Noon Recitals.** Per Tengstrand, piano. Performing Beethoven's *Sonata No. 31 in A-flat major, Op. 110*; Stenhammar's *Late Summer Nights*; Grieg's *Three Lyric Pieces; Brahms' Variations on a Theme by Paganini, Op. 35, Book 2.* Caspary Auditorium. Open to RU/WMCCU/NYPH/MSKCC community and guests.

TUESDAY, OCTOBER 24

8:00 P.M. **Peggy Rockefeller Concerts.** Cyrus Chestnut Trio. Caspary Auditorium. Contact Jennifer Goldschlag, 327-8437

THURSDAY, OCTOBER 26

8:00 A.M. **African Violet Sale.** Weiss Cafe/Lobby.

8:00 P.M. ***Underground* (1995).** Directed by Emir Kustrica. Rockefeller University Film Series. Caspary Auditorium.

news & notes
The Rockefeller University
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