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news & notes

THE NEWSLETTER OF THE ROCKEFELLER UNIVERSITY

FRIDAY LECTURE

Princeton's Leibler looks for "simple" principles in complex problems

Today (Oct. 6), Stanislas Leibler, of the Molecular Biology Department at Princeton University, will discuss "Biochemical and Genetic Networks: a Search for Simple(?) Principles."

In recent years, it has become clear that molecular biology is facing a new challenge: to move from the description of individual components and their mutual interactions toward system analysis. Such an analysis would describe the functioning of systems of interacting biomolecules on a more global level, much closer to a phenotypic, rather than a genetic, description. In physics and chemistry, he notes, one often studies systems in which many components interact with one another, giving rise to new "collective phenomena." His laboratory is interested in such collective phenomena taking place in biological systems. In particular, it is attractive to think that a detailed study of the best-known prototype systems could uncover the underlying general "design principles."

Even the simplest unicellular organisms, such as bacteria, perform a sophisticated kind of "information processing." For instance, *E. coli* can direct itself in space by measuring the temporal gradients of chemicals. The enzymatic network responsible for chemotaxis is relatively simple (with a small number of components) and is extremely well characterized at the molecular level. Yet the "system analysis" of this signal transduction network is far from complete. Scientists do not understand the source of the sensitivity to small signals in chemotaxis, the response to different competing signals, or the structural stability of the circuit. Nor do they understand the reasons why common building blocks such as phosphorylation cascades appear in these and other signal transduction systems, or the evolutionary significance of the observed network architectures.

Leibler's lab has been studying the chemotaxis network, both theoretically and experimentally. Through quantitative analysis of bacterial behavior and modifications of the intracellular biochemistry, they have been able to demonstrate that this network presents some properties (such as adaptation precision) that are "robust" with respect to variations of its individual components. Such robustness is the consequence of the network's connectivity, and it may become one of the "design principles" for a large class of biological networks.

In addition, the lab is applying fluorescence correlation spectroscopy to monitor the concentrations of the network's components, while simultaneously analyzing the behavior of individual bacteria. This allows them to determine the source of the observed "nongenetic

Continued on page 2

2 AROUND CAMPUS

3 NIH GRANT

4 CALENDAR

RU hires new V.P. of Medical Affairs, heads of labs

Rockefeller has recently hired three scientists as part of the university's new academic plan. This week the university announced the appointment of Barry S. Collier as vice president for medical affairs and head of a new Laboratory of Blood and Vascular Biology. Strang Professor Hermann Steller, head of the Strang Laboratory of Apoptosis and Cancer Biology, and Assistant Professor Tarun Kapoor, head of the Laboratory of Chemistry and Cell Biology, were hired over the summer.

Barry S. Collier

Barry S. Collier, currently the Murray M. Rosenberg Professor of Medicine and chairman of the Samuel Bronfman Department of Medicine at Mount Sinai School of Medicine, as well as chief of the Medical Service of the Mount Sinai Hospital, will join the Rockefeller University in September 2001.

Collier's research interests have focused on hemostasis and thrombosis, in particular platelet physiology. He developed a monoclonal antibody that inhibits platelet function, and a derivative

of that antibody was developed into the commercial drug abciximab (Reo-Pro™), a drug routinely used throughout the world to reduce complications of coronary artery angioplasty and stent placement in humans. His recent studies have focused on the vascular biology in sickle cell disease and the demonstration that a monoclonal antibody can inhibit the adhesion of sickle red blood cells to the blood vessel wall in an animal model system.

Collier received his M.D. from New York University School of Medicine and completed his residency in internal medicine at Bellevue Hospital in New York City and advanced training in hematology and clinical pathology at the National Institutes of Health. He is noted for providing visionary leadership in the Department of Medicine at Mount Sinai, for strengthening the educational programs in the medical school, for increasing the growth of research support, and for improving patient care. Prior to moving to Mount Sinai, Collier was Professor of Medicine and Pathology at Stony Brook.

In accepting the offer to join this institution, Collier states, "I am deeply honored to join the distinguished faculty of Rockefeller University as head of a new Laboratory of Blood and Vascular Biology and vice president for medical affairs. I am extremely excited about having the opportunity to work closely with Emil Gotschlich and contribute to President Levine's vision of enhancing clinical science and the infrastructure to facilitate translational research. I am particularly excited about teaching in the Rockefeller Clinical Scholars Program, a premier educational experience for young physician-scientists.

"The Rockefeller University Hospital, the birthplace of patient-oriented and translational research in the United States and the site of many landmark discoveries, occupies a unique position in the history of American biomedical science. The fundamental principle on which the Hospital and the original Rockefeller Institute for Medical Research were established is even more vibrant and inspirational

today than it was nearly 100 years ago because the intervening

Continued on page 3

Dr. Barry Collier
Hard CopyHermann Steller
Digital PrintTarun Kapoor
#99-107A
#3

From top to bottom: Barry S. Collier, V.P. for medical affairs and head of a new Laboratory of Blood and Vascular Biology; Strang Professor Hermann Steller, head of the Strang Laboratory of Apoptosis and Cancer Biology; and Assistant Professor Tarun Kapoor, head of the Laboratory of Chemistry and Cell Biology

"Outstanding" new class entered Rockefeller this fall

#00-014



Dean Sidney Strickland (center), with Professor Ali Hemmati-Brivanlou (right) and Graduate Fellow Noel Goddard, says a major recruiting message is that Rockefeller students get personal attention.

Rockefeller welcomed 30 new Ph.D. students this fall—an unusually large number for the university. The students, who were selected from a pool of more than 500 applicants, constitute an impressively varied group with a wide variety of scientific interests and backgrounds.

"They're also interesting and engaging people," says Dean Sid-

ney Strickland, who met one-on-one with them at the beginning of the academic year.

Strickland attributes the rise in enrollment to "the word getting out about the exciting new things that are happening at Rockefeller." He notes that President Levine took an active role in recruiting last year, speaking at the recruitment open houses and

meeting with prospective students. "Having the President personally involved makes a huge impression on the applicants," says Strickland. Another plus, he says, was that the campus-visit week-ends last spring coincided with RU faculty speakers at the Friday lectures; this gave applicants a chance both to learn more about the outstanding research being

Continued on page 2

Agreement with NYU's Courant Institute boosts opportunities in bioinformatics, computational biology

The Rockefeller University and New York University's Courant Institute of Mathematical Science have established a new, ongoing agreement that will allow Rockefeller students with research interests in computational biology to take courses and participate in other educational activities at Courant. This collaboration between a graduate center for mathematics and a graduate university devoted to biomedical research reflects the growing importance of mathematics in the biological sciences.

The agreement furthers Rockefeller's commitment to computational biology and bioinformatics, which use computer science to help scientists analyze the massive quantity of data generated by genome sequencing projects. Rockefeller students will have the opportunity to utilize the resources of Courant while remaining in a university dedicated to biomedical research. Eventually, students from Courant may come to the Rockefeller campus to take courses and collaborate with biomedical researchers.

On Mon., Sept. 11, Rockefeller and Courant held a collaborative symposium on Mathematical Models in Biology. Rockefeller President Arnold J. Levine gave introductory remarks with Leslie Greengard, professor of mathematics at the Courant Institute (and son of RU Professor Paul Greengard.) Faculty speakers included Associate Professors Marcelo Magnasco and Andrej Šali and Professor Eric Siggia from Rockefeller and Tamar Schlick, Michael J. Shelley and Daniel A. Tranchina from New York University.



RU President Arnold J. Levine (left) and Leslie Greengard, professor of mathematics at the Courant Institute

#00-016

Darnell Symposium

Friends and colleagues gathered on campus earlier this month for a symposium in honor of Professor James Darnell Jr.'s 70th birthday. This two-day event, entitled "45 Years of Studying Signal Transduction and Gene Expression," featured talks from scientists from around the country, many of whom were former students or postdoctoral investigators in his lab. Over the years, more than 150 scientists have worked with Darnell; the organizers of the symposium wish him "continued success as a mentor and scientific discoverer for years to come."



James Darnell Jr. (center) greets symposium attendees outside of Caspary Auditorium.

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photographer - EVENTS**

Centennial Corner

Rockefeller Professor Jeffrey Friedman will present a Centennial Lecture on Science and Society on Tues., Oct. 10. His talk, "Food Intake and Obesity," takes place in Caspary Auditorium and is co-sponsored by the 92nd Street Y. Call 996-1100 for tickets (use discount code ROC). One of the goals of the centennial lectures is to introduce Rockefeller science to a broader audience. Free tickets are available for students in the Public Affairs Office, x8072.



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Bard president conducts at noon recital

Leon Botstein took a break from his duties as president of Bard College to conduct the American Symphony Chamber Orchestra at the Sept. 22 Tri-institutional Noon Recital. Botstein is music director of the orchestra.

The recital was just one example

of an increased Bard presence on the RU campus since the new Bard Rockefeller Program began this year. For example, Botstein spoke to Rockefeller students about music and other topics at a recent dinner held at the President's House. In addition, members of Bard's Institute for Writing and Thinking were here

this summer to teach scientific writing at Rockefeller's Precollege Science Outreach Programs. This fall Rockefeller University is also offering a course to Bard students relating to scientific inquiry and its impact on society.

Bard President Leon Botstein conducted the American Symphony Chamber Orchestra in Caspary Auditorium.

<Leon Botstein>
Hand Copy



RU to honor longtime employees and retirees

Human Resources is pleased to announce that they will once again honor the university's longtime and newly retired employees at the Anniversary-Retirement Dinner to be held on Thurs., Oct. 12, from 6:30 p.m. to 10 p.m. in the Weiss Cafe.

All RU employees with 25 or more years of service and all retirees from previous years are invited to attend the cocktail reception and dinner.

Those interested in attending should contact Cara Sciortino, x8300.

This year the following employees will be honored for their length of service to the university:

40 Years

Joseph Drew
Alzatta Fogg
Emil C. Gotschlich
Martin A. Rizack
John B. Zabriskie

25 Years

Florence Arwade
Floresta Chapman
Joel E. Cohen
Raymond Fastiggi
Neville Fleming
David C. Gadsby
Jeanne Holcomb
Atsuko Horiuchi
Clifford Norton

Retirees

Franklin Aubert
Caroline Bady

Henry Bonet
Henrietta Carbonaro
Victor Chase
Elbin Diaz
Fay Guatelli
Te Piao King
Peter Model
Miklós Müller
Catherine Rogers
Wendy Helen Roine
Teresa Sanocki
Shigeru Sassa
Bi Yu Tseng
John B. Zabriskie

Friday continued

individuality," namely the large variations in the behavior of genetically identical bacteria. They plan further to pursue their studies of simple, prototype systems in search of a quantitative, "systemic" description of their functioning. They have started preliminary experiments and theoretical work on circadian

rhythms in microorganisms, epigenetic cellular phenomena and the evolvability of simple networks. These are just a few examples of phenomena governed by networks with a small number of known components.

Over the past decades, researchers have been gathering an enormous

volume of data (such as genomic DNA sequence information, transcript levels, etc.) across a wide spectrum of biological systems. The process of moving from component description to system description will be facilitated by new technologies. Leibler's lab is now trying to develop mathematical and physical tools to extract

information about signal transduction networks based on the analysis of transcription levels under different conditions.

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

Graduate class continued

done here and to experience the vibrant intellectual life on campus. In addition to the new Ph.D. students, five tri-institutional M.D./Ph.D. students began their Ph.D. work on campus.

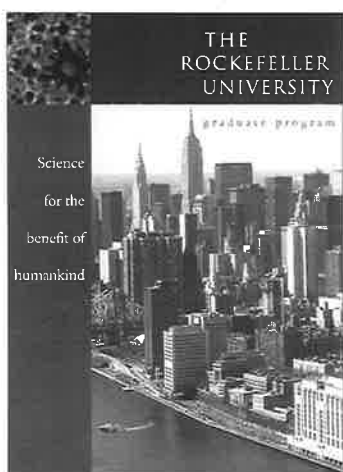
The Dean's Office has a dual role of bringing students to campus and then nurturing them while they are here. Over the summer, Strickland and the Office of Public Affairs published a new graduate viewbook, which gives prospective applicants an overview of life at the university. Graduate Fellows Noel Goddard, Mande Holford and Oliver Dreesen, along with Executive Vice President Alice Lustig and Assistant Professor Terry Gaasterland, were part of a focus group that helped

shape the university's message. One of Strickland's main messages is that his office wants to give students the personal attention they need to optimize their graduate career. "Some students come here already very focused," he says, "and others begin without knowing—exactly what they want to do. We work individually to personalize their program—to help them structure their course work and give advice about rotations if they want to sample several labs."

Jean Devlin, the university's new director for educational affairs, will play a large role in giving students individualized attention. "I'm here for students—and post-docs—as an additional mentor," she says. Devlin comes to Rocke-

feller from SUNY Stony Brook, where she developed and directed a program for undergraduate majors in pharmacology, one of only three such programs in the United States ("She built it from the ground up," says Strickland.)

Devlin also looks forward to working on the university's summer programs, establishing international exchanges and assisting students and graduates who want career guidance. "After working in undergraduate programs for so many years," she says, "I'm finally graduating to graduate school."



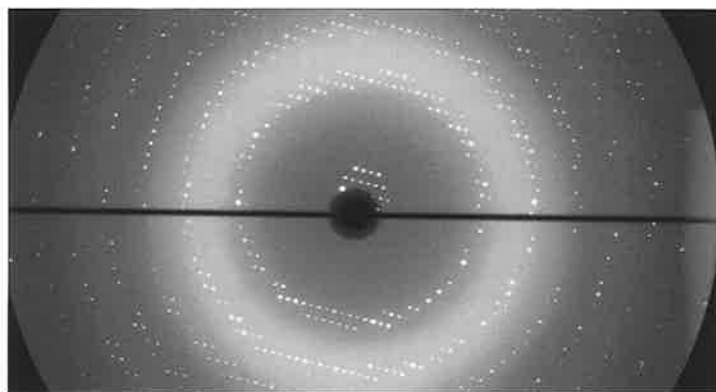
Jean Devlin, above left, is the university's new director for educational affairs. A new graduate viewbook is part of this year's student recruitment effort.

Rockefeller-led structural genomics research consortium receives \$4.5 million NIH grant

In the wake of the completion of the human genome sequencing project, Rockefeller and four other New York research institutions are collaborating to turn that knowledge into promising drug targets. The National Institute of General Medical Sciences (NIGMS), part of the U.S. government's National Institutes of Health, awarded the New York Structural Genomics Research Consortium (NYSGRG) \$4.5 million to develop high-speed methods to decipher the three-dimensional structures of proteins. The award will fund the first year of a five year pilot program launched by NIGMS called the Protein Structure Initiative. The NYSGRG was one of seven such centers from around the country to receive a grant.

The member institutions of the consortium are Rockefeller, Albert Einstein College of Medicine, Brookhaven National Laboratory, Mount Sinai School of Medicine and Weill Medical College of Cornell University.

"We are embarking on a program, which, if proven effective, will provide a way for researchers to come to grips with the impending flood of genetic data and speed its translation into therapeutic use," says consortium leader Stephen K. Burley, who is the Richard M. and Isabel P. Furlaud Professor at Rockefeller and an investigator at the Howard Hughes Medical Institute. "The initiative is aimed at developing a comprehensive



The National Synchrotron Light Source (NSLS) at Brookhaven National Laboratory will be an important tool for the New York Structural Genomics Research Consortium (NYSGRG). Synchrotron light is produced by electrons when they are forced to move in a curved path at nearly the speed of light. The intensity of synchrotron light can be 10,000 times greater than conventional beams generated in a laboratory. Brookhaven scientists have constructed a beamline at the NSLS, called X9A, for use by the NYSGRG. The above image is the first diffraction pattern generated at X9A. Image courtesy K.R. Rajashankar.

mechanistic understanding of human and microbial physiology at the molecular level. This strategy should lead us to medically relevant data more quickly."

The human genome sequencing project has often been portrayed as an end in itself, but most scientists recognize that its completion represents only a starting point from which to ask questions about other biological processes. While genes carry the "blueprints" for life, proteins perform the vital functions necessary for life to exist.

Proteins, long chains of building blocks called amino acids that fold into compact yet flexible shapes, carry out virtually all of life's essential functions through chemical reactions. Their structures are determined by the order of the amino acids, which is prescribed

by the genes carrying instructions for making the proteins.

It would take decades to determine every three-dimensional structure of every protein encoded by the human genome, and this undertaking would yield many of the same shapes over and over. Because of this, the scientists in the NYSGRG suggest focusing primarily on disease-related proteins, or "likely suspects," to bring a quicker payoff. Such an approach is possible only through dramatic advances in both X-ray crystallography and computational biology. "Synchrotron X-ray sources, like the National Synchrotron Light Source at Brookhaven National Laboratory, have accelerated the pace of crystallography enormously," says Burley, who is director of the Pels Family Center for Biochemistry and Struc-

tural Biology at Rockefeller. "At the same time, computational tools are helping to decode complete genetic blueprints for organisms ranging from microbes to humans."

The scientists say that choosing medically relevant protein targets will provide benefits whether the folds are "new" (i.e., different from those in other proteins already solved) or "old," and whether the protein's function is already known or is unknown. They also think choosing these targets will have important consequences for disease and patient-oriented research.

NIGMS is awarding almost \$30 million this year to seven projects, each totaling around \$4 million for the first year. The Institute anticipates spending a total of around \$150 million on these projects over five years, making NIGMS the world's single largest funder of structural genomics.

"These research centers are true pilots," said John Norvell, director of the NIGMS Protein Structure Initiative. "Each will include every experimental and computational task of structural genomics and will develop strategies for use in the subsequent large-scale research networks. By the fifth year of the award, we expect each pilot center to reach a production level of 100 to 200 protein structures annually, which is significantly greater than the current rate of protein structure determination."

In memoriam:

Abraham Pais
(1918-2000)

Hiroshi Asanuma
(1926-2000)

Science and the Rockefeller University lost two esteemed members this past summer: physicist Abraham Pais and neuroscientist Hiroshi Asanuma.

Pais, the Detlev W. Bronk professor emeritus at Rockefeller, was one of the world's leading theoretical physicists and a founder of particle physics. He investigated fundamental particle processes at high energies, symmetries of strong and weak interactions, and quantum field theory. He was also a successful author of several science books for the general public; his biography *Subtle is the Lord: The Science and the Life of Albert Einstein* (Oxford University Press, 1982) won a 1983 American Book Award for Science and the 1983 American Institute of Physics-United States Steel Foundation Science-Writing Award in Physics and Astronomy. He had been a member of the Rockefeller faculty since 1963.

Asanuma, a professor emeritus, studied the motor cortex, a part of the brain that regulates voluntary movements. Using electrophysiological techniques that record the activities of nerve cells, he and his group examined and analyzed the incoming signals to the motor cortex and outgoing signals from it. Asanuma made pioneering discoveries into how the brain controls and learns skilled movement and how it recovers movement after injuries, such as stroke. Asanuma first worked at Rockefeller between 1961 and 1963 under a Rockefeller Foundation Fellowship and returned as a professor in 1972. Asanuma's family has asked that contributions be made to the university's Graduate Program. Checks should be made out to The Rockefeller University, with a notation saying they are in memory of Dr. Asanuma, and sent to Marnie Imhoff in the Development Office, Box 164. The names of individuals who make contributions will be shared with the Asanuma family.

New V.P. of Medical Affairs and heads of lab continued

growth in scientific knowledge and biotechnology offer unprecedented opportunities to fulfill the mission stated in the Institute's original charter, to make knowledge of the causes and treatment of disease 'available for the protection of the health of the public and improved treatment of disease and injury.' I can think of no more worthy goal."

Hermann Steller

Steller studies apoptosis, the "self-destruct" program built into each of our cells. When triggered by the appropriate molecular signals, programmed cell suicide helps ensure that a cell with damaged

DNA will not survive long enough to propagate a genetic flaw, making apoptosis one of the human body's primary safeguards against cancer. On the other hand, inappropriate inducement of apoptosis can be a cause of damage to tissues in diseases such as AIDS, stroke, myopathies and neurodegenerative disorders. In the mid-1990s, Steller and his research team began studying apoptosis in the common fruit fly, *Drosophila*. Because of the remarkable similarities of organisms at the molecular level, a better understanding of the genes and signaling mechanisms that govern apoptosis in the fruit fly

is expected to provide valuable insight into human biology. Steller's work has significant and direct implications for understanding cancer and designing new interventions against tumors. Current chemotherapy and radiation treatments work, in large part, by inducing apoptosis in cancer cells; these measures are of limited use against a tumor cell that has learned to override signals to self-destruct. A better understanding of apoptosis will help medical researchers optimize current treatments, while laying the groundwork for the development of a new generation of precisely targeted cancer drugs.

Tarun Kapoor

Kapoor, who was trained in the Harvard laboratory of Rockefeller Trustee Stuart Schreiber, is one of a new generation of scientists working at the interface of chemistry and biology. Focusing on the design, discovery and synthesis of cell-permeable organic molecules, Kapoor and his research team identify and develop small molecular probes that can provide important insights into essential cellular processes. His expertise in high-throughput screening with small organic molecules brings an exciting new dimension to research on campus.

At Rockefeller, he joins structural biologists (who study the three-dimensional geometry of molecules) and computer scientists who are working toward a more complete understanding of the molecular basis of life. By identifying and isolating molecules involved in key biological processes, determining these molecules' three-dimensional structures and synthesizing variant molecules capable of modifying these functions, these researchers are providing important insights that can lead to pharmaceutical breakthroughs and novel therapeutic interventions.



calendar

OCTOBER SIXTH THROUGH OCTOBER TWENTIETH

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 6

Biochemical and Genetic Networks: A Search for Simple (?) Principles. Stanislas Leibler, Professor, Princeton U.

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

International Workshop on Methods for Macromolecular Modeling (M³)

FOR COMPLETE SCHEDULE OF SPEAKERS, GO TO MONOD.BIOMATH.NYU.EDU/~HGAN/TIMETABLE.HTML.

THURSDAY, OCTOBER 12

8:15 a.m.–5:00 p.m. Hemmerdinger Hall, Main Complex, Faculty of Arts and Science, NYU.

FRIDAY, OCTOBER 13

8:15 a.m.–4:45 p.m. Courant Institute of Mathematical Sciences, NYU.

SATURDAY, OCTOBER 14

8:15 a.m.–2:30 p.m. Courant Institute of Mathematical Sciences, NYU.

FRIDAY, OCTOBER 6

12:00 P.M. **Infidelity and Damage Bypass Ability of DNA Polymerase δ** . Satya Prakash, Professor, Sealy Center for Molecular Science, U. of Texas Medical Branch. 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 9

12:00 P.M. **Evaluation of Efficacy of SHIV Vaccines against Pathogenic SHIV and SIV in Macaques**. Narayan Opendra, U. of Kansas Medical Center. CFAR Seminar. SIXTH FLOOR CONFERENCE ROOM, ADARC, 455 FIRST AVE. CONTACT GARY GAILOR, 448-5163.

TUESDAY, OCTOBER 10

4:00 P.M. **Frustrated Crystalline Order on Frozen Topographies**. 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. **Food Intake and Obesity**. Jeffrey Friedman, Professor, RU; Investigator, HHMI. Genes, DNA and You: The Impact of the Human Genome Project. 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 11

10:00 a.m. **Neuronal Replacement in Adult Avian Brain**. Fernando Nottebohm, Professor, RU. **Use of Molecular Markers to Map Sensory Functions**. Sidarta Ribeiro, RU. 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. **Finding Gene Expression Patterns in Cancer**. Todd R. Golub, Assistant Professor of Pediatrics, Dana Farber Cancer Institute, Harvard U. Seminars in Clinical Research. 110B NURSES RESIDENCE. CONTACT DALE MILLER, 327-8411.

4:30 P.M. **Structural and Computational Analysis of the Inactivation Mechanisms of the Src and Abl Kinases**. John Kuriyan, Professor, RU; Investigator, HHMI. MSKCC President's Research Seminar. AUDITORIUM, ROCKEFELLER RESEARCH LABORATORIES, MSKCC, 430 EAST 67TH ST. TEA AT 4:00 P.M.

THURSDAY, OCTOBER 12

12:00 P.M. **Prolactin and Growth Hormone Actions and Signaling: Lessons from**

Receptor Knockouts. Paul A. Kelly, Professor and Director, INSERM Unite 344, Molecular Endocrinology, Necker Faculty of Medicine, Paris, France. Endocrinology and Reproductive Biology Seminar. 301 WEISS.

12:00 P.M. **Protein Folding—A Simple Model**. George Rose, Professor, Dept. of Biophysics and Biophysical Chemistry, Johns Hopkins U. School of Medicine. Biochemistry Lecture. E-115 WMCCU, 1300 YORK AVE. COFFEE AT 11:45 A.M.

3:00 P.M. **Aging, Exercise and Executive Function in the Human Brain**. Gregg Di Girolamo, Professor of Psychology, Cambridge U. Systems Neuroscience Seminar. 305 Weiss. Open to RU/WMCCU/NYPH/MSKCC community and guests.

4:00 P.M. **Human Erythroid Cell Genomics**. Jeffrey L. Miller, Senior Investigator, Laboratory of Chemical Biology, National Institute of Diabetes and Digestive and Kidney Diseases, NIH. LFKRI Research Seminar. LOWER LEVEL CONFERENCE ROOM, NEW YORK BLOOD CENTER, 310 EAST 67TH ST. TEA AT 3:45 P.M. CONTACT ROSANNA MARTINEZ, 570-3357.

FRIDAY, OCTOBER 13

10:00 A.M. **Mycobacterial Non-ribosomal 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, RU. **Regression of Atherosclerosis in Humans: Facts, Controversy and Future**. Yadon Arad, St. Francis Hospital. New York Lipid and Vascular Biology Research Club Meeting. 301 WEISS. REFRESHMENTS AT 4:00 P.M. CONTACT KIE CUNDEY, 327-7708. OPEN TO RU/WMCCU/NYPH/MSKCC COMMUNITY AND GUESTS.

7:00 P.M. **The Inner Life of Cells**. Günter Blobel, Professor, RU; Investigator, HHMI. Genes, DNA and You: The Impact of the Human Genome Project. 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. **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.

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. 116 ROCKEFELLER RESEARCH LABORATORIES, MSKCC, 430 EAST 67TH ST.

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 Regulate 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.

FRIDAY, OCTOBER 20

10:00 A.M.–11:45 A.M. **Chemists in Their Element at The Rockefeller University**. Arnold J. Levine, President, RU; Daryle H. Busch, President, American Chemical Society; David N. Rahni, Chair, N.Y. Section, American Chemical Society; Bruce Merrifield, Professor Emeritus, RU; David Mauzerall, Professor, RU; Thomas Sakmar, Professor, RU, and Associate Investigator, HHMI; Günter Blobel, Professor, RU, and Investigator, HHMI. Centennial Symposium. CASPARY AUDITORIUM. COFFEE AT 9:30 A.M.

12:00 P.M. **Dedication of The Rockefeller University as a National Historic Chemical Landmark**. FLEXNER HALL STEPS.

3:45 P.M. **Weisbach Centennial Lecture (see column one)**.

The Arts and Other Events

FRIDAY, OCTOBER 6

12:00 p.m. **Tri-institutional Noon Recitals**. Westwind Brass, brass quintet. Performing AMERICANA, music of the Americas spanning the Revolutionary War to Duke Ellington. Caspary Auditorium. Open to RU/WMCCU/NYPH/MSKCC community and guests.

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