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The Rockefeller University

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Levine addresses Women & Science Forum

On Wed., Oct. 27, more than 100 guests attended the Fall Women & Science Breakfast Forum hosted by Alair Townsend, vice president and publisher of *Crain's New York Business*.

President Arnold J. Levine spoke about "Putting the Brakes on Cancer: Insights from the p53 Tumor Suppressor Gene."

Women & Science is a volunteer-driven initiative that seeks to increase awareness of women's health issues and the role of women in biomedical research. The initiative sponsors several events each year, including an annual spring luncheon that raises funds for postdoctoral fellowships.



Above: Giulia Celli (left), one of two 1999 Women & Science Postdoctoral Fellows, with Breakfast Forum host and RU Council member Alair Townsend and President Levine. Celli conducts cancer research in the Laboratory of Cell Biology and Genetics, headed by Professor Titia de Lange. On the right: RU Council member Judith Berkowitz (left), with Carol Einiger, RU's Chief Investment Officer. Photos by Paul Schneck.



Friday lecture:

Simon to discuss synthesis and assembly of membrane proteins

At today's Friday lecture, Associate Professor Sanford Simon, head of the laboratory of Cellular Biophysics, will discuss "Synthesis and Assembly of Membrane Proteins in the Endoplasmic Reticulum," following an introduction by Rockefeller Professor Günter Blobel.

Cells and their internal structures, called organelles, are enveloped by membranes. Every membrane must form a sea wall, which serves as a gatekeeper for the structure it surrounds. This wall can protect the cell or organelle from outside toxins and/or contain the structure's contents. For example, the membrane of a lysosome contains a highly acidified milieu with digestive enzymes, which if

Employee recognition event honors longtime RU workers



President Arnold Levine joined members of the Housing Office who gathered to honor 10 colleagues celebrating their 10th anniversary of employment with Rockefeller University. Photo by Paul Schneck.

This year's Employee Recognition Program, held Wed., Oct. 20, paid tribute to longtime employees for their years of service to the university. All RU employees with 10 or 20 years of service and all retirees from previous years were invited to attend the reception, which was held in the university's library in Welch Hall. Each honoree received a special gift from Tiffany's:

those with 10 years of service received a sterling silver perpetual calendar; those with 20 years received a crystal bowl.

President Arnold Levine presided over the event, assisted by Virginia Huffman, director of Human Resources. Kate Drake and Ron Kurtz of Human Resources coordinated the event.

Human Resources also sponsored an exhibit of employee artists. The works

selected were hung in the RU library (see photograph on page 2) and were a featured part of the university's recognition events. This exhibition was the first of a series of programs created to recognize the artistic talents of RU personnel.

The honorees attending the recognition event included the Housing Office's "class of '89," (10 employees, the most from any single department: David Davis, Alvin Feliciano, Jaime Felipe, Cyrus Hall, Kimon Huggins, Edwin Mestre, Eucilda Patterson, Francisco Rivera, Anthony Smith and Horane Watt). Scholars Residence also marks its 10th anniversary this year. It was built by the university to create Rockefeller and Memorial Sloan-Kettering households. The building, joined to Faculty House, remains the cornerstone of university housing.

"The Scholars anniversary is only part of the reason for the large number of honorees this year in Housing," says David Soles, director of housing. He adds that several of the honorees worked in other buildings. "Our 'Class of 1989' is a particularly strong group of employees," says Soles. "I wouldn't be surprised if most celebrate their 20th year in 2009."



Associate Professor Sanford Simon will present the Friday lecture today. Photo by Robert Reichert.

"Faculty" shot/was on file released could destroy a cell. However, neither the organelles nor the cell itself can exist in isolation—there must be a means for the organelles and the cell to interact with what is around them.

For this reason, the membrane surrounding an organelle or cell must be permeable—allowing the transport of various ions, sugars, nucleotides and proteins through the membrane. Historically, there have been two models on how this transport takes place. The first suggested that proteins are "stuck" into the lipid bilayer of the membrane and pass through to the other side. The second, which Blobel first presented in 1975, proposed that there are water-filled, or aqueous, channels in the membrane that allow for transport both into and out of the structure.

The "signal hypothesis" describes how proteins are targeted to particular organelles. Simon's lab continues on this investigational path, asking the next question in the process: Once a protein arrives at its destination, how does it cross the membrane? The lab's work has shown that, similar to ions, proteins cross membranes through aqueous channels. These channels remain closed until a protein with the correct ZIP code approaches, at which point the channel will open

Science Outreach students excel in Siemens Westinghouse competition

Five students from RU's Science Outreach program for high school students have achieved distinction in this year's Siemens Westinghouse competition.

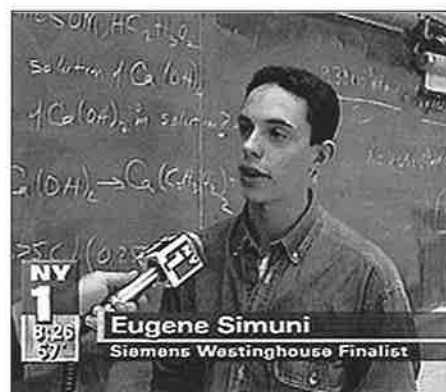
Below is a list of the students, their mentors and their research topics.

Middle States Regional Semifinalist
Chrisann Kyi (Breslow Lab, mentored by Associate Professor Jonathan Smith), John Jay HS
Topic: Macrophage uptake of betaVLDL and its possible role in atherosclerosis

Middle State Regional Finalist
Eugene Simuni (Sakmar Lab, mentored by Biomedical Fellow Ethan Marin), Midwood HS
Topic: The role of domain-domain interaction in the release of the guanine diphosphate nucleotide from the guanine nucleotide binding protein

New England Regional Finalists
Math Team, all from Stuyvesant High School (Magnasco Lab, all mentored by Associate Professor Marcelo Magnasco)

Jimmy Cheung, team leader
Chung-Kit Chan
Aleksy Golovinsky
Topic: Resource management optimization in a Dragonboat Race Model through the implementation of a genetic algorithm



Science Outreach student Eugene Simuni was interviewed by New York 1 television news about his project in the Siemens Westinghouse competition.

2 Peggy Rockefeller Concert

3 To sleep, perchance to ...

4 Calendar

Hanging out in the library: campus artists show their stuff



RU employees Brent Winborn and Elaine Markland of the Greengard lab enjoy RU's Employee Art Show, which was on display in the university's library in Welch Hall through Fri., Oct. 29. Markland was also a 20-year honoree at the Employee Recognition Event (see story page one). Photo by Paul Schneck.

Potpourri

Open enrollment

It's that time of year again. Open enrollment will be from Tues., Nov. 2, to Tues., Nov. 30. You may join or make changes to your health insurance as well as your voluntary accidental death and dismemberment insurance. In addition, this is the only time to sign up for the 2000 flexible spending accounts and the 2000 T.R.I.P. (transportation reimbursement incentive program). All enrollments and changes will be effective Sat., Jan. 1, 2000. To learn more, please call Human Resources, x8300.

Child and Family Center applications

The RU Child and Family Center is now accepting applications for the 2000-2001 school year. The center serves children from 3 months to 4 and a half years. Please call the educational director, Marjorie Goldsmith, x8580, for more information.

Adult immunization lecture

The Employee Health Office will sponsor a Health & Wellness lecture entitled "Adult Immunizations: What, When & Why?" to be given by Donald Stevenson, senior consultant in the Division of Allergy, Asthma and Immunology at the Scripps Clinic (La Jolla, CA). The lecture takes place in 110B Nurses Residence on Thurs., Nov. 11, at noon. All are invited to come and bring lunch.

Security

Security can be reached from anywhere on campus by dialing x8295. In the event of an emergency dial x1111.

Peggy Rockefeller Concerts: String quartet comes to campus next week

On Wed., Nov. 10, at 8 p.m. the DaPonte String Quartet will perform works by Mozart, Prokofiev and Beethoven at the Peggy Rockefeller Concerts in Caspary Auditorium.

The DaPonte String Quartet, formed in 1991 and named after Mozart's librettist, Lorenzo DaPonte, is considered one of the more exciting young groups on the international scene. The Juilliard School and Peabody Conservatory-trained players include violinists Ferdinand (Dino) Liva and Dean Arthur Stein (who alternate playing first violin), violist Mark Preston, and cellist Myles Jordan. Their chamber music mentors have included members of the Budapest, Hungarian and The Juilliard School String Quartets.

Recent highlights include the Quartet's debut at the Philadelphia Chamber Music Society Series, The Royal Scottish Academy of Music in Glasgow, Music Mountain in Connecticut, Bowdoin College, Hofstra University and WNYC in New York. The Quartet was profiled not long ago in a "Postcard from Maine" segment that aired on CBS Sunday Morning.

The Quartet's commitment to developing the love of music in children is expressed in their many in-school programs, often presented in conjunction with local concert appearances. They also are frequently invited to coach at chamber music workshops throughout the country.



The DaPonte String Quartet will perform Wed., Nov. 10, as part of the Peggy Rockefeller concert series.

Photo courtesy of the artists.

digital arts in zip

Simon, continued from page 1

to allow the protein to enter. Simon compares the aqueous channels to a door that "only gets opened by the right key, and once the protein has passed through it, the door closes right away." In a paper published in *Science* last summer, Simon, together with Graduate Fellow Denise Marciano and Associate Professor Marjorie Russel, reported that a similar mechanism works for transport of even larger molecules across membranes such as bacteriophages, which are 70 Å across. (By comparison ion channels are only 2 Å across.) Their findings suggest that aqueous channels serving as "transport doors" might be a general principal rather than an isolated exception.

Simon's lab has also found that aqueous channels serve as the site where membrane proteins are synthesized and assembled. Membrane proteins, which sit in the lipid bilayers of organelles or the plasma membrane, are essential for cell viability. They come in a variety of "flavors," including ion channels; receptors for hormones, growth factors and neurotransmitters; the sensors for light; and transporters of sugars and amino acids. Some of the questions the lab is currently addressing include how the membrane protein encodes the information that allows it to achieve its own particular topography across the membrane and how the machinery of the endoplasmic reticulum decodes this information.

According to Simon, when he first began investigating membrane proteins and how they are targeted to and assimilated into the membrane wall five years ago, some people told him it was too complicated a process and that it would be impossible to understand. Simon, however, approached the problem by breaking it down into a series of partial reactions, dissecting the process by which membrane proteins are synthe-

sized, targeted to and pulled into the membrane. He and his lab have also used and developed new technologies that have allowed them to study cellular operations in the living cell. Thanks to these techniques, the lab can observe the natural processes of the cell, not just manipulated reactions. Their findings have clinical implications for problems such as progressive blindness and antigen presentation. In addition to their work on protein biogenesis, Simon's lab studies multidrug resistance in tumors.

Simon first became interested in cell biology as a graduate student studying the role of calcium in transmitter release. His research showed him that where calcium entered the cell was integral to what it did in the cell; but what was involved in localizing the calcium channels? To answer this question, Simon came to Rockefeller in 1984 after completing his Ph.D. in physiology and biophysics at New York University Medical Center. He worked with Blobel because he wanted to learn how a cell biologist asked questions. At the time, most cell biologists were still fractionating the cell. In contrast, Blobel was asking questions about how the fractionated components interacted to produce the structures and functions of the cell. It was the more "Global Blobel" view that excited Simon.

Of his experiences at Rockefeller, Simon says that one of the best things about being here is "having students who are very adventuresome and willing to take a gamble to formulate new questions. That's something that is very hard to find elsewhere. I feel privileged to have as students people who are doing such creative and interesting work."

The lecture will take place in Caspary Auditorium at 3:45 and will be preceded by a tea beginning at 3:15 in Abby Aldrich Rockefeller Lounge. All are welcome.

RU to honor longtime service employees and recent retirees

Human Resources is pleased to announce that they will once again honor the university's longtime and newly retired employees with an Anniversary-Retirement Dinner, to be held on Wed., Nov. 10.

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 scheduled to begin at 6:30 p.m. in the Weiss Cafe. Those interested should contact Kate Drake, Human Resources, x8300, to receive an invitation. In honor of RU's 100th anniversary, the menu for this year's Anniversary-Retirement Dinner will reflect a special dinner held in 1924, which honored Simon Flexner. This year, the following employees will be honored for their length of service to the University:

65 Years

William Trager

50 Years

Bruce Merrifield

45 Years

Jules Hirsch
David Mauzeral
Philip Siekevitz

25 Years

Yolanda Alvarez
Joyce Buffa
Isaiah Curry
Marianne Georgieff
Mary Margaret Hickey
Veta Lebechi
Edilberto Palustre
Bindu Patel
Maria Pospischil
Catherine Rogers
Eleana Sphicas
Irena Zielinski-Large

Retirees

Marva Allen
Kostadinka Arissian
John Doherty
Marianne Georgieff
(25 years and Retiree)
Vilma Henry
Amilcar Negron
Pierre (Eddy) Rocourt
Eugene Roth
James Stiasny
Nyna Wilson
Victor Wilson
Paulette Zabriski
Norton Zinder

Special Honoree

Frederick M. Bohlen

RU researchers find that waking experience influences brain gene expression during REM sleep

by Lisa Stillman

Mammals spend a large portion of their lives sleeping. In addition to allowing the body to rest, sleep seems to play a role in the consolidation of daytime memories. A number of scientific observations have supported the idea that the brain is reactivated during sleep to process sensorimotor information, but how the brain did this remained unknown. In a new paper in *Learning & Memory*, a team of Rockefeller scientists shows that the expression of a gene linked to the modification of neuronal connections is upregulated during the deepest phase of sleep that follows an enriched waking experience. The team suggests that this could provide a mechanism by which sleep contributes to the consolidation of memories of daytime events.

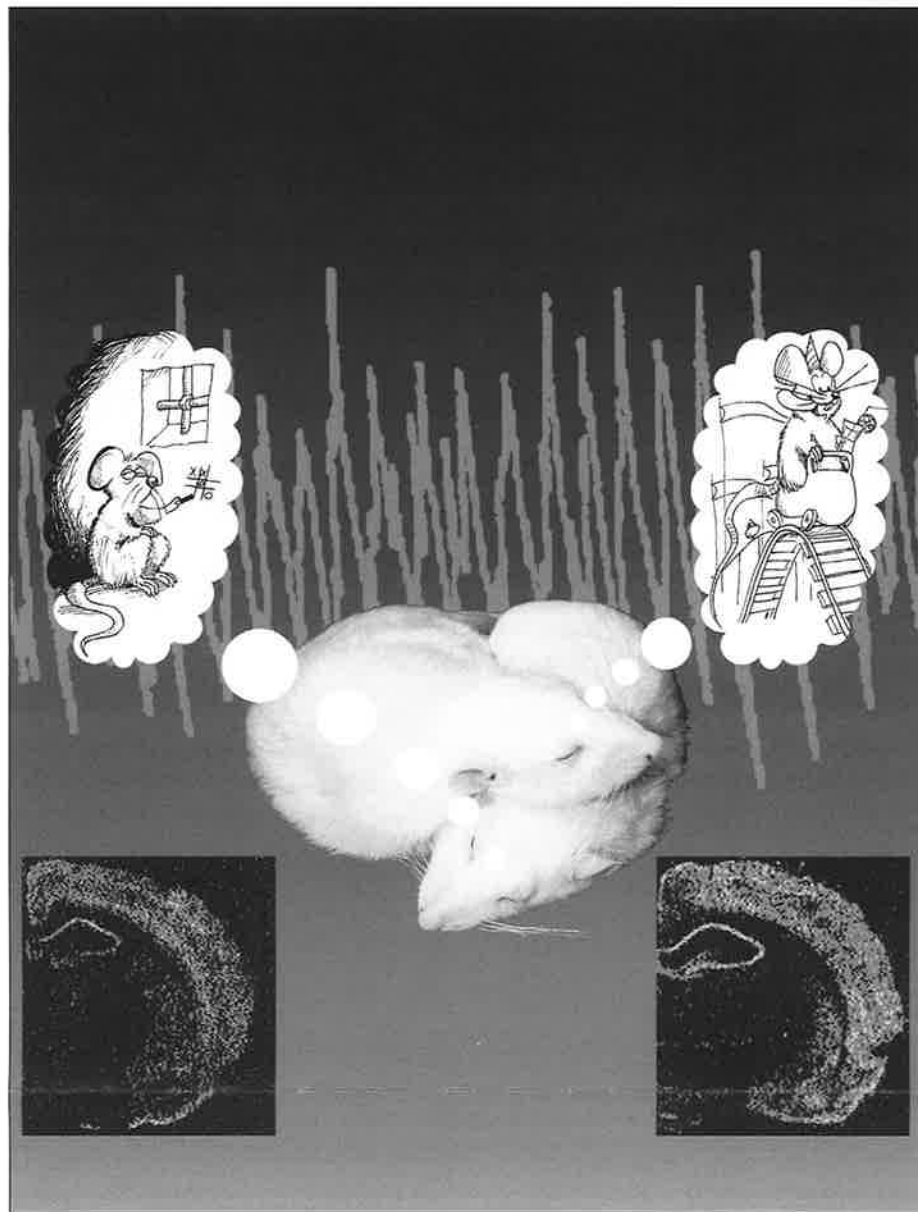
Most mammals have two distinct phases of sleep: slow wave (SW) and rapid eye movement (REM), the deepest phase of sleep. In humans, dreaming occurs during REM sleep. "We can't really assess dreaming in animals," says Graduate Fellow Sidarta Ribeiro, first author on the paper, "but we can assess REM sleep." Ribeiro worked with Assistant Professors Claudio Mello and Constantine Pavlides and Science Outreach student Vikas Goyal to monitor gene activation in the rat brain during the different phases of wakefulness and sleep.

The researchers focused their efforts on the gene *zif-268* because its expression in the brain is known to be highly sensitive to neuronal depolarization (Ribeiro and Mello were concurrently studying expression of the *ZENK* gene in canaries, which is the homolog of *zif-268*.) They reasoned that if they measured this gene expression in rats, they would see an increase in neural activity during REM sleep. But their early results didn't confirm the hypothesis. Instead, the gene expression went down, not up, during REM sleep.

This was puzzling, until they decided to look at the problem another way.

The researchers approached the cognitive function of sleep the way one would approach the digestive system: what's going on inside depends on how much the system is being fed. To reexamine the REM question, the scientists decided to "feed the system."

Ribeiro notes that some European scientists had suggested approaching the cognitive function of sleep the way one would approach the digestive system: what's going on inside depends on how much the system is being fed. The rats in the RU experiments had intentionally been held and calmed to factor out stress as a reason for gene expression. Perhaps their gene expression went down during



Graduate Fellow Sidarta Ribeiro and his colleagues created a visual montage to demonstrate the difference in brain gene expression (in photos above) in mice that were either stimulated or not. Cartoons by Graduate Fellow Giovanni Stefani.

sleep because the rats didn't have a stimulating enough waking experience to warrant more extensive neuronal activity. To reexamine the REM question, the scientists decided to "feed the system."

They devised a rat's idea of a fun house: a labyrinth with various forms of sensory stimulation that included tunnels, platforms, wooden toys and five different flavors of scented corn flakes, to stimulate exploratory behavior. A group of rats was put in this environment three

hours before the sleep experiments (this kind of exposure is known to elicit a rapid and transient induction of *zif-268*). Later, when the animals entered REM sleep, *zif-268* expression was upregulated, just as the researchers had hoped it would. In contrast, the control group of animals (who did not experience the stimulating maze) showed no gene reactivation during REM sleep. Thus the

activity of the brain and its gene expression patterns during REM sleep seem to be influenced by what the animal has experienced while awake.

Ribeiro and his co-authors believe this gene reactivation indicates a window of increased neuronal plasticity, during which the brain might be making new connections. The formation and modification of synaptic connections, based on several lines of evidence, seems at the very heart of the formation of long-lasting memories. Hence, it is conceivable that this window of increased plasticity during REM sleep represents a mechanism for the role of sleep in the consolidation of memories.

This study differs from other rat sleep experiments because the animals were allowed normal sleep patterns. Other labs have looked at the difference between rats that are sleep deprived and rats that sleep normally. Mello points out that his and Ribeiro's background in Professor Fernando Nottebohm's Animal Behavior lab at RU gave them a different perspective.

"What happens to animals who are deprived of sleep is not necessarily a good indicator of what sleep does," says Mello. "We learned from our experiments with birds that it's important to look at the natural behaviors."

This research was supported in part by the National Institute of Deafness and Other Communication Disorders, part of the NIH, and by the Whitehall Foundation. Ribeiro was a Kluge and CNPq/Travel fellow.

A "Crazy" Proposal

Although he was working with birds at the time, Graduate Fellow Sidarta Ribeiro's earliest data on REM sleep came from a mammal—himself.

"When I first came to Rockefeller from Brazil," he says, "I was sleeping 10 to 12 hours a night, and I realized that it was some kind of adaptation to the new language, the new climate, the new photoperiod. I was not only sleeping, but dreaming a lot, and in English." This personal experience led him to examine the scientific literature on sleep.

He felt an affinity for the work of Rockefeller Professor Emeritus Jonathan Winson, a pioneer in the field, who had proposed the idea that sleep has to do with processing memories, at least in mammals. Winson had suggested an ecological function for dreaming, namely that it is important for the consolidation of behavioral strategies learned during the day.

By night, Ribeiro was exploring sleep; by day he was in the Nottebohm lab, collaborating with Claudio Mello on the use of brain gene expression to assess how the brain of songbirds processes the various components of a song. Ribeiro thought this technique might also help explain what the brain does during sleep. He thus put his daytime and nighttime preoccupations together and went to Mello with what he calls a "crazy" proposal.

"Sidarta thought our technique could work for a sleep experiment," Mello explains, "so I said 'let's try it.'" Much more was known about sleep in rats than in birds, however, so the two decided to approach electrophysiologist Constantine Pavlides, who had studied sleep in rats for his Ph.D. at RU. Working under Winson (in the Asanuma lab), Pavlides had been the first to show brain reactivation during sleep, demonstrating that neurons in the hippocampus (a part of the brain involved in memory) are reactivated at night. After graduation, Pavlides had gone into other research areas as an associate professor in the McEwen lab, but when he heard Ribeiro's "crazy proposal" he said "OK, you start tomorrow."

Thus Mello and Pavlides accepted Ribeiro's challenge, and—as with many "crazy" proposals in the history of RU—it worked. —L.S.

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THE ROCKEFELLER UNIVERSITY—Please post

FRIDAY, NOVEMBER 5

12:00 p.m. **Adoptive Immunotherapy with Autologous Costimulated T Cells.** Carl H. June, Professor of Molecular and Cellular Engineering and Medicine, U. Penna. School of Medicine, Immunology Seminar. **117 Whitney, WMCCU, 1300 York Ave.** Contact *Michele Lavarde*, 746-6452.

12:00 p.m. **Mechanisms for Accurate Chromosome Segregation.** Edward Salmon, Professor, Dept. of Biology, UNC Chapel Hill. Molecular Biology Seminar. **M-107 MSKCC, 1275 York Ave.**

MONDAY, NOVEMBER 8

12:00 p.m. **A New Strategy to Promote Immunity to HIV: Cessation of HAART Combined with Low Dose Daily IL2.** Kendall Smith, WMCCU. CFAR Seminar. **Sixth Floor Conference Room, ADARC, 455 First Ave.**

4:00 p.m. **Experimental and Computational Approaches to Analyze DNA-Protein Interactions.** Gary Stormo, Professor, Washington U., St. Louis. Center for Studies in Physics and Biology Seminar. **B Level Conference Room, Smith Hall Annex.** Contact *Martin Zapotocky*, 327-8835.

TUESDAY, NOVEMBER 9

4:00 p.m. **Elastic Turbulence in a Polymer Solution Flow.** Alex Groisman, Weizmann Institute, 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.

4:00 p.m. **Perspectives on Herpes Simplex Virus Latency and Reactivation.** Priscilla A. Schaffer, Professor and Chair, Dept. of Microbiology, U. of Penna. School of Medicine. Pharmacology Seminar. **Weill Auditorium, WMCCU, 1300 York Ave.** Coffee at 3:45 p.m.

WEDNESDAY, NOVEMBER 10

12:00 p.m. **Seminars in Clinical Research.** Bruce N. Cronstein, New York University. Seminars in Clinical Research. **110B Nurses Residence.**

4:30 p.m. **Non-redundant Roles for cdk Inhibitors in Oligodendrocyte Differentiation.** Andrew Koff, Chief, Laboratory of Biochemistry of Cell Cycle Regulation, and Associate Member, SKI. Neurooncology Neuroscience Conference. **Hoffmann Auditorium, Level 1, MSKCC, 1275 York Ave.** Snacks and refreshments at 4:25 p.m. Contact *Viviane Tabar*, 639-8556. Open to RU/WMCCU/NYPH/MSKCC community.

THURSDAY, NOVEMBER 11

12:00 p.m. **Molecular Diversity of the FSH Receptor and Links to Pleiotropic Actions of the Hormone.** M. Ram Sairam, Director, Molecular Reproduction Research Lab, Clinical Research Institute of Montreal. Endocrinology and Reproductive Biology Seminar. **301 Weiss.**

12:00 p.m. **The TGF- β /SMAD Signal Transduction Pathway.** Joan Massague, Chairman, Cell Biology, MSKCC. Biochemistry Lecture. **E-115 WMCCU, 1300 York Ave.**

2:00 p.m. **Human Genetic Variation: From Evolutionary History to Gene Mapping.** Lynn Jorde, Professor and Chair of Human Genetics Dept, Eccles Institute of Human Genetics, U. of Utah, Salt Lake City. Starr Center for Human Genetics Seminar. **301 Weiss.** Contact *Emily Gegeliya*, 327-7387.

3:00 p.m. **Storage and Executive Processes in the Frontal Lobes.** Ed Smith, Professor, Department of Psychology, U. of Michigan. Systems Neuroscience Seminar. **305 Weiss.** Open to RU/WMCCU/NYPH/MSKCC community.

4:00 p.m. **Dietary Prevention of Colon Cancer.** Peter R. Holt, Professor of Medicine and Chief, Dept. of Gastroenterology, St. Lukes-Roosevelt Hospital Center. CNRU Special Nutrition Lecture. **F-539 NYPH-WMCCU, 1300 York Ave.**

4:00 p.m. **Therapeutic Potentials for EpoR Transgenes.** Suzanne L. Kirby, Associate Professor of Medicine/Pathology, Linenberger Comprehensive Cancer Center, UNC School of Medicine. 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, NOVEMBER 12

12:00 p.m. **A TNF Family Member, TRANCE: Its Function and Mode of Action.** Yongwon Choi, Associate Professor and Assistant Investigator, HHMI, RU. Immunology Seminar. **117 Whitney, WMCCU, 1300 York Ave.** Contact *Michele Lavarde*, 746-6452.

12:00 p.m. **Genome Regulatory Circuitry in Eukaryotes.** Richard A. Young, Member, Whitehead Institute for Biomedical Research, and Professor, Dept. of Biology, MIT. Cell Biology Seminar. **116 Rockefeller Research Laboratories, MSKCC, 430 East 67th St.**

7:00 p.m. **Psoriasis Support Group.** Patricia Gilleaudeau, RN, Laboratory for Investigative Dermatology, Rockefeller University. Psoriasis Support Group. **110B Nurses Residence.** Contact *Patricia Gilleaudeau*, 327-8333.

MONDAY, NOVEMBER 15

4:00 p.m. **Determination of Protein Domain Orientation and Slow Internal Motions in Solution by NMR.** Dennis Torchia, NIDR, National Institutes of Health. NMR Structural Biology Seminar. **301 Weiss.**

TUESDAY, NOVEMBER 16

4:00 p.m. **Dorsal Horn Mechanisms of Hyperalgesia.** Patrick Dougherty, Associate Professor, Depts. of Neurosurgery and Neuroscience, Johns Hopkins U. School of Medicine. Progress in Neuroscience Seminar. **A-250 WMCCU, 1300 York Ave.** Tea at 3:45 p.m.

4:00 p.m. **Olfaction and Related Sensory Problems.** John Hopfield, Professor, Princeton 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.

4:00 p.m. **Structure and Mechanism in the Cre-loxP Site-specific Recombination Pathway.** Gregory D. Van Duyne, Assistant Professor of Biochemistry and Biophysics, U. of Penna. Tri-Institutional Structural Biology Seminar. **Weill Auditorium, WMCCU, 1300 York Ave.** Tea at 3:45 p.m.

WEDNESDAY, NOVEMBER 17

10:30 a.m. **Biostatistics Course.** Biostatistics Course. **128 Hospital.** Contact *Knut Wittkowski*, 327-7175. Open to RU/WMCCU/NYPH/MSKCC community and guests only.

12:00 p.m. **Vaccine Requirements for the Generation of Sustained TH 1 Responses In Vivo.** Robert Seder, NIH. Seminars in Clinical Research. **110B Nurses Residence.**

7:00 p.m. **The Science and Politics of Genetic Enhancement in the Third Millennium: Who Will Decide the Future of Humankind?** Lee Silver, Professor, Princeton U. Centennial Lectures on Science and Society. **Caspary Auditorium.** Please RSVP to *Gloria Phipps*, 327-8967.

THURSDAY, NOVEMBER 18

12:00 p.m. **Molecular Mechanism of Amyloid Formation in Alzheimer's and Parkinson's Disease.** Peter T. Lansbury Jr., Neurology, Brigham and Women's Hospital. Biochemistry Lecture. **E-115 WMCCU, 1300 York Ave.**

3:00 p.m. **Sorting of Glucose Transporter Compartments and Insulin Signals by the Muscle Cell Cytoskeleton.** Amira Klip, Senior Scientist, Hospital for Sick Children, and Professor of Biochemistry, U. of Toronto. Cellular Biochemistry and Biophysics Seminar. **117 Rockefeller Research Laboratories, MSKCC, 430 East 67th St.**

3:00 p.m. **The Role of Prefrontal Cortex and Dopamine in Working Memory: Computational and Neuroimaging Studies Neural Systems Seminar.** Jon Cohen, Professor, Department of Psychology, Princeton University. Systems Neuroscience Seminar Series. **305 Weiss.** Open to RU/WMCCU/NYPH/MSKCC community.

4:00 p.m. **Immunologic Barrier to Xenotransplantation.** Jeffrey L. Platt, Professor of Surgery, Immunology and Pediatrics, and Director of Transplantation Biology, Mayo Clinic. LFKRI Research Seminar. **Lower Level Conference Room, New York Blood Center, 310 East 67th St.** Tea at 3:15 p.m. Contact *Rosanna Martinez*, 570-3357.

FRIDAY, NOVEMBER 19

11:00 a.m. **Towards a Comprehensive Physical and Transcriptional Map of Human Chromosome 1.** Simon Gregory, The Sanger Centre, Wellcome Trust Genome Campus, Cambridge, England. Starr Center for Human Genetics Seminar. **305 Weiss.** Contact *Emily Gegeliya*, 327-7387.

12:00 p.m. **The Role of Aberrant DNA Recombination in the Pathogenesis of Plasma Cell Neoplasms.** Leif Bergsagel, Assistant Professor of Medicine, Division of Hematology-Oncology, WMCCU. Immunology Seminar. **117 Whitney, WMCCU, 1300 York Ave.** Contact *Michele Lavarde*, 746-6452.

The Arts and Other Events**FRIDAY, NOVEMBER 5**

12:00 p.m. **Tri-Institutional Noon Recitals.** Karel Košárek, piano. Performing works by Beethoven, Liszt, Mendelssohn-Rachmaninoff, Martinu, Smetana and Barber. **Caspary**

THE ROCKEFELLER UNIVERSITY

Friday Lectures

These events are held in Caspary Auditorium at 3:45 p.m. Tea is served in Abby Aldrich Rockefeller Lounge at 3:15 p.m. All are welcome.

FRIDAY, NOVEMBER 5

Synthesis and Assembly of Membrane Proteins in the Endoplasmic Reticulum. Sanford Simon, Associate Professor, RU.

FRIDAY, NOVEMBER 12

Wiring the Brain: Molecular Mechanisms of Axon Guidance in Vertebrates. Marc Tessier-Lavigne, Professor of Anatomy and of Biochemistry and Biophysics, Dept. of Anatomy/Biochemistry and Biophysics, UC San Francisco.

FRIDAY, NOVEMBER 19

Jerry A. Weisbach Lecture: Structural Biology of Cell Invasion and Immune Evasion by HIV. Wayne Hendrickson, Investigator, HHMI, Department of Biochemistry and Molecular Biophysics Columbia U.

Auditorium. Contact *John Gerlach*, 327-7776. Open to RU/WMCCU/NYPH/MSKCC community and guests only.

WEDNESDAY, NOVEMBER 10

8:00 p.m. **Peggy Rockefeller Concerts.** DaPonte String Quartet. Performing works by Mozart, Prokofiev, and Beethoven. **Caspary Auditorium.** Contact *Cathy Rogers*, 327-8437.

FRIDAY, NOVEMBER 12

12:00 p.m. **Tri-Institutional Noon Recitals.** Rafal Kwiatkowski, cello, and Albert Tiu, piano. Performing works of François Francoeur, Frederic Chopin and Manuel de Falla. **Caspary Auditorium.** Contact *John Gerlach*, 327-7776. Open to RU/WMCCU/NYPH/MSKCC community and guests only.

SATURDAY, NOVEMBER 13

2:00 p.m. **Alfred W. Diamond Concert for the Young.** Charlotte White's Salon de Virtuosi presents the first of the Diamond Concerts for the Young. **Caspary Auditorium.** Children ages 5 to 12 are welcome. Admission is free but space is limited. Please RSVP to *Charlotte White*, 369-3911, or e-mail *charlotte.white@worldnet.att.net*.

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