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News and Notes 1999

The Rockefeller University News and Notes

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The Rockefeller University

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Board elects two new trustees, appoints Carson vice chair

The board of trustees elected Michael D. Fascitelli and Daniel Vasella to the board and appointed Trustee Russell L. Carson vice chair at its meeting Wed., Nov. 17.

Fascitelli is president of Vornado Realty Trust. A graduate of Harvard Graduate School of Business Administration, Fascitelli worked at Bristol Myers Company and McKinsey & Company before joining Goldman, Sachs & Co. in 1985 in the real estate department. He became partner in 1992 and was head of the real estate investment banking business. Fascitelli became president of Vornado in 1996.

Fascitelli currently serves on the boards of several organizations, including Vornado, Vornado Operating Company and Alexander's Inc. He is a trustee of the Urban Land Institute and a member of the International Council of Shopping Centers and the Real Estate

Board of New York.

Vasella is chairman and CEO of Novartis AG. Vasella, who joined Novartis in 1996 as president and head of the Executive Committee, assumed the position of chairman in April 1999. Prior to joining Novartis, he held various positions at Sandoz Pharma Ltd., including head of corporate marketing, senior vice president and head of worldwide development, chief operating officer and CEO.

Trained as a physician, Vasella has held a number of medical positions in Switzerland. He is a member of several boards, including the board of directors of the Credit Suisse Group, the



The board of trustees elected Michael Fascitelli (left) and Daniel Vasella as new members. Photos courtesy of Nora Lewis and Daniel Vasella, respectively.

Supervisory Board of Siemens AG and the International Board of Governors of the Peres Center of Peace.

Carson, a general partner at Welsh, Carson, Anderson & Stowe, was elected to the RU board in 1994, after serving as a member of the Rockefeller University Council. His wife, Judith Carson, is a member of the Executive Committee of the RU Council.

Weisbach lecture: Wayne Hendrickson to discuss how HIV enters cells and evades immune response

Biochemist Wayne Hendrickson will present the first Jerry Weisbach Lecture today (Nov. 19). His topic will be "Structural Biology of Cell Invasion and Immune Evasion by HIV."

Hendrickson is a professor of biochemistry and molecular biophysics at the Columbia University College of Physicians and Surgeons and an investigator with the Howard Hughes Medical Institute (HHMI). He studies how the human immunodeficiency viruses (HIVs), which cause AIDS, enter targeted cells through a receptor-specified fusion of the viral envelope with the plasma membrane.

For HIV to enter a human cell, a protein on the surface of the virus called glycoprotein 120 (gp 120) must dock to the protein CD4 on the targeted cell's surface while another part of the virus binds to a chemokine receptor on the targeted cell. Once the virus is attached to these two receptors, it fuses with the host cell's outer membrane, starting the process of replication.

Although gp 120 is a potent antigen, rapid mutational evolution allows the virus to evade immune defenses. Unchecked, HIV infection ultimately leads to a depletion of CD4-bearing cells and the profound immunodeficiency of AIDS.

In 1998, Hendrickson and four other researchers used X-ray crystallography to solve the three-dimensional structure of gp 120. An atomic-level understanding of how HIV gains entry to cells could guide efforts for scientists to intervene and possibly block infection through specially designed drugs.

Hendrickson received a bachelor's degree in physics/biology from the University of Wisconsin at River Falls in 1963. He did his doctoral studies in bio-

see **Weisbach lecture**, page 2



Wayne Hendrickson will present the first Jerry Weisbach lecture today (Nov. 19). Photo courtesy of Chris Denney for HHMI.

Board promotes three faculty at fall meeting

At its fall meeting Wed., Nov. 17, RU's board of trustees approved the promotions of Markus Stoffel, Ulrike Gaul and Steven Shiff.

Stoffel, head of the Laboratory of Metabolic Diseases, was promoted to

"I am delighted that the board of trustees has approved the promotions of three outstanding members of our faculty who have accomplished so much thus far in their careers," said President Arnold Levine. "Their promo-

Ulrike Gaul supports our commitment to developmental biology. And the promotion of Steven Shiff demonstrates our support of clinical research at the Hospital."

Stoffel studies the genetic mechanisms underlying Type 2 diabetes and works to identify genes that determine susceptibility to the disease. He joined the university in 1995 as assistant professor and head of lab. Educated in Germany, Stoffel received his medical degree in 1989 from Bonn University and his doctoral degree in 1991 from Hamburg University. He was a member of Graeme Bell's lab at the University of Chicago from 1991 to 1995.

Stoffel has received many awards, including the Irma T. Hirsch Career Scientist Award, the Pew Scholar Award in Biomedical Sciences and the Career Development Award from the American Diabetes Association. He was named the Robert and Harriet Heilbrunn Professor in 1997.

see **Faculty promotions**, page 2



The board of trustees promoted Markus Stoffel (left) to professor, Ulrike Gaul (center) to associate professor and Steven Shiff to associate professor for clinical investigation. Photo by Robert Reichert.

professor from assistant professor. Gaul, head of the Laboratory of Developmental Neurogenetics, was promoted to associate professor from assistant professor. Shiff, assistant professor in the Hirsch lab, was promoted to associate professor of clinical investigation.

tions send a clear message of the administration's commitment to young scientists. Markus Stoffel has greatly impressed the university community and fills an important role in our mission to find the genetic causes of human disease. The promotion of

Campus "ribbon-tying" dedicates new bridge on Nov. 23

The entire Rockefeller University campus is invited to a "ribbon-tying" ceremony next Wed., Nov. 23, at 11 a.m. in the lobby of the Weiss Building to dedicate "The Campus Community Bridge in honor of Torsten N. Wiesel." The board of trustees voted earlier this week to name the university's new pedestrian bridge over East 63rd Street in honor of RU's former president.

The bridge ties together the residential and science campuses for the first time, so a "ribbon-tying" seemed an appropriate way to celebrate. The event starts in the

lobby of Weiss with speeches, photo opportunities and refreshments, including a cake shaped like the bridge. Then, Wiesel and President Arnold Levine will cut a ribbon on Weiss steps. They will then proceed to the middle of the bridge to tie a ribbon, carried from either side by children and their faculty-parents, who live in Faculty House and Scholars Residence.

Designed by structural engineer Matthys Levy, of Manhattan-based Weidinger Associates Inc., with architect Wendy Evans Joseph, the project is the

first cantilever cable-stayed bridge to be erected in New York City. Spanning 123 feet and rising 34 feet above the roadway, the cables eliminate the need for the deep girders and intermediate supports found in a traditional pier-and-beam structure. The result is an architecturally graceful, less intrusive structure.

New security systems are being installed in Scholars Residence and Faculty House as part of a Y2K upgrade. The bridge will open to public traffic early next year, after the security project is completed.

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Secretary of State

in Biology

Faculty of

digital file on stock

Trusts & Estates Committee holds fall dinner



Robert and Harriet Heilbrunn (center) joined the university's two Heilbrunn professors, Arnold J. Levine (far left) and Markus Stoffel (right), at the fall dinner program sponsored by the Committee on Trust and Estate Gift Plans on Thurs., Nov. 11. During the evening's program, which featured a presentation by Levine entitled "Putting the Brakes on Cancer: Insights from the p53 Tumor Suppressor Gene," the Heilbrunns were recognized for their recent gift of \$6 million to support cancer research at Rockefeller. Photo by Ken Levinson.

RU Hospital passes JCAHO survey

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) conducted a triennial two-day survey of The Rockefeller University Hospital on Mon., Nov. 15 and Tues., Nov. 16, which the hospital passed with high marks.

The surveyors commended the hospital team for its quality of care and high ethical standards.

JCAHO surveys hospitals to determine if they meet a variety of standards designed to protect the public and to ensure quality patient care. Some of the standards that JCAHO evaluates include the following: governance; leadership; patient care; nursing and medical staff; patient rights; patient education; the environment of care; management; information management and human resources; and performance improvement.

Faculty promotions, continued from page 1

Gaul studies the cellular and molecular mechanisms involved in the establishment of neural connectivity during development, using the visual system of the fruit fly *Drosophila* as a model system. She came to Rockefeller in 1993 as assistant professor and head of lab. Educated at the University of Tübingen in Germany, she received master's of science degrees in biochemistry (1983) and in physics (1985). She received a doctoral degree in biology in 1988 while working in Herbert Jäckle's lab. Before joining the RU faculty, she was a visiting scholar in Gary Odell's lab at the University of Washington and a postdoctoral fellow in Gerald Rubin's lab at the University of California at Berkeley.

Among her many awards are the Sinsheimer Scholars Award, the James A. Shannon Director's Award from the National Institutes of Health, the Irma T. Hirsch Career Scientist Award, the Klingenstein Fellowship Award for the Neurosciences and the McKnight Scholar Award.

Weisbach lecture, continued from page 1

physics at The Johns Hopkins University and remained for a year of postdoctoral research before going to the Naval Research Laboratory (NRL) for continued postdoctoral study with Jerome Karle. Hendrickson remained at the NRL as a research biophysicist before joining the faculty at Columbia in 1984. He has been an HHMI investigator at Columbia since 1986.

Hendrickson has been honored with several awards, including the Alexander Hollaender Award from the National Academy of Sciences, the Aminoff Prize from the Royal Swedish Academy of Sciences, and the Stevens Triennial Prize from the Columbia University College of Physicians and Surgeons. He is a member of the National Academy of Sciences and The Johns Hopkins Society of

Schiff studies dietary and pharmaceutical factors, such as nonsteroidal anti-inflammatory drugs, involved in the molecular events related to the development and prevention of colorectal cancer. He joined Rockefeller in 1993 as a clinical scholar and assistant professor. He received a medical degree from University of Pennsylvania in 1984. Before his Rockefeller appointment, Schiff completed an internship and a residency at New York Hospital. He was a research fellow and instructor in medicine at Cornell University Medical College and Harvard University and a clinical fellow in gastroenterology at Massachusetts General Hospital. He is currently associate physician at the RU Hospital and assistant attending physician at New York Presbyterian Hospital.

A member of Alpha Omega Alpha, Schiff has received many awards including the Charles H. Revson Fellowship in Biomedical Research, the AGA Advanced Research Training Award and the Clinical Nutrition Research Unit New Investigator Award.

Scholars and a fellow of the American Academy of Arts and Sciences.

The lecture is the first in an annual series of talks named for Jerry Weisbach and hosted by the Pels Family Center for Biochemistry and Structural Biology. Weisbach was director of technology transfer at Rockefeller from 1988 to 1994. An expert in pharmaceutical research and scientific and intellectual property, he worked in the pharmaceutical industry for nearly 30 years. He was president of the Parke Davis Research Division at Warner Lambert from 1979 to 1987, and all three of the internally developed drugs responsible for Warner Lambert's current financial success—Lipitor, Neurontin and Accupril—were discovered under his direction.

The lecture begins at 3:45 p.m. in Caspary Auditorium and is preceded by tea at 3:15 p.m. in Abby Aldrich Rockefeller Lounge. All are welcome.

New faculty recruitment under way

Rockefeller University's new academic plan, approved by the Board of Trustees last June, calls for the hiring of 15 to 24 faculty members over the next five years. President Arnold Levine informed the board of trustees at their meeting on Wed., Nov. 17, that the initial recruitment phase is under way. "The university's goal is to hire two junior faculty for every senior member recruited, who also will enhance the faculty's opportunity to interact and work in teams," Levine said.

Searches are under way in five major research areas. The university placed an advertisement for candidates in cancer biology, chemistry, developmental biology, neuroscience and patient-oriented research in *Science*, *Nature* and *Cell*. A separate advertisement titled physician-in-chief is in the *New England Journal of Medicine*. The ads place the positions in the context of the new administration's comprehensive strategic plan.

In cancer research, one appointment to a tenured professorial chair, endowed by the Strang Foundation,

will be made in fundamental cancer biology. Areas of interest include signal transduction, genome stability and control of gene expression.

In chemistry, developmental biology and neuroscience, one or two appointments will be made to the tenure-track rank of assistant professor and head of laboratory in each field. In chemistry, the emphasis will be on basic research involving synthesis of novel chemical reagents for studies of complex biological systems. In developmental biology, the university is interested in scientists who are working on the definition of embryonic events at the molecular level. In neuroscience, the goal is to build a strong research program at the interface of molecular biology and systems neuroscience.

In patient-oriented research, a senior medical scientist will be appointed to the post of physician-in-chief of the university's General Clinical Research Center. This person will conduct a vigorous, cutting-edge research program and play a central leadership role in the hospital.

Potpourri

Open Enrollment

It's that time of year again. Open enrollment will continue until Tues., Nov. 30. During this time 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.

Fats and oil conference

Along with the Weill Medical College at Cornell University, RU will host The Third International Conference on Fats and Oil Consumption in Health and Disease on Thurs., Dec. 9, from 7 a.m. to 5:30 p.m. in Caspary Auditorium.

The conference will discuss the latest research on fats and oils and explore new methods for motivating food planners and the general public to eat a healthy diet. It is geared toward nutrition researchers; registered dietitians and nurses; and primary care physicians.

Registration for the event is \$60 (\$30 for students) and is due by Tues., Nov. 30. For more information about the conference or to register, please contact Rachel Miller, Human Nutrition Program, x7707.

Above the law?

A reminder to campus dog walkers: Please remember to abide by the city's leash and poop-scooper laws.

Outreach students visit campus

Yesterday (Nov. 18), science outreach students and teachers visited campus for lunch and presentations by RU mentors—Research Assistant Alex Pearlman and Postdoctoral Fellow Curtis Altman—and by Brian Kirk from Weill Medical College of Cornell University. The outreach classes were invited by the scientists. The presentations were entitled "Establishment of a Model to Study Traits Associated with the Onset of Obesity" (Pearlman), "*Xenopus laevis*: A Model System for Vertebrate Development" (Altman) and "Detecting Cancer Related Genetic Mutations Using a Thermostable Ligase" (Kirk).

News&Notes schedule

Due to the Thanksgiving holiday *News&Notes* and the Calendar of Events will not be published next week. The next issue will be published Fri., Dec. 3.

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Immunology lab reveals how RAG genes express themselves

by Jim Stallard

The immune system must be flexible to mount a defense against the endless variety of foreign molecules that threaten the host. After all, invaders recognized as "non-self" can appear in many forms from an infinite number of sources, and yet the body manages to generate antibodies against virtually all antigens. We even have antibodies against synthetic chemicals we've never encountered before.

The prevailing theory of immune system function, proposed in the 1950s by Australian scientist F. MacFarlane Burnet and David Talmage, of the University of Chicago, is that it operates under "clonal selection." This model states that we develop immune cells that have surface receptors to fit specific antigens. When a foreign substance invades the body, it is the antigen that selects the cell with the proper receptor, which then multiplies to launch an immune response. This theory dictates that immune cells are "ready made" from the beginning of the response.

For decades, scientists who accepted clonal selection were nonetheless puzzled by how the immune system makes a wide variety of antibodies. How could a relatively limited number of genes—estimated at between 50,000 and 100,000—produce 1 trillion antibody molecules, each with a different shape? Then in the 1970s, Susumu Tonegawa, a Japanese-



Members of the Laboratory of Molecular Immunology, from left to right: Professor and Head of Lab Michel Nussenzweig, Mila Jankovic, Hitoshi Nagaoka, Ziva Misulovin (front), Wong Yu (rear), Eric Meffre and Nicholas Yannoutsos. (Not pictured: Heikyung Suh.) Photo by Patricia Childers-Divone.

genes in three particular categories—variable (V), diversity (D), and joining (J). (Each category relates to the region of the resulting antibody for which it encodes.) The enzyme that initiates this stitching process is called V(D)J recombinase. The recombinase is encoded by two recombination activating genes (RAG1 and RAG2), and their primary work takes place inside the bone marrow and thymus, where the immune cells are manufactured. V(D)J recombination does not begin until the RAG genes produce the enzyme that snips the DNA at the appropriate places.

The Nussenzweig laboratory has been studying RAG1 and RAG2 in hopes of

and *Science*. The *Nature* study suggests that RAG's control over newly created antibodies lasts longer than previously thought, while the *Science* paper reports that RAG1 and RAG2 receive their on and off signals from a single regulatory element—a finding that helps explain how they are activated in tandem.

V(D)J recombination is not 100 percent efficient. It creates some receptors that are faulty, either because they are not put together properly or because they are self-reactive. Until recently, scientists accepted that antibody receptors produced by V(D)J recombination were unchangeable—there was no fixing a "bad" receptor—and that self-reactive

selection dogma. How could lymphocytes be changing their receptors long after they've left the purview of RAG genes that put them together? Is RAG expression somehow being reactivated after being turned off?

The answer, as Nussenzweig and his colleagues reported in *Nature*, may be that expression of RAG genes lasts longer than anyone thought. By using a technique developed by RU Professor Nathaniel Heintz, head of the Laboratory of Molecular Biology and an HHMI investigator, the scientists were able to track RAG expression to see when and where it ceases. The method involves using specially altered bacterial artificial chromosomes (BACs) to carry large pieces of DNA into the cells of mice. By employing DNA that encodes for fluorescence, the researchers were able to detect gene expression with sufficient precision. The team of scientists found that RAG2 expression of the fluorescent "reporter" occurred not just in immature B cells in the bone marrow but also after the cells had migrated to the spleen.

"This finding has two main implications," Nussenzweig says. "One is that it extends the window for fixing bad receptors. The other is that it allows for the possibility that after an immune response begins, a receptor might be fine-tuned by revising it."

The suggestion that RAG expression may persist after cells leave central compartments may reconcile some of the recent findings with the clonal selection theory. It would mean that assembly of antibody receptor genes was still being controlled by the lingering effects of the original RAG expression, rather than new RAG expression activated in response to antigens.

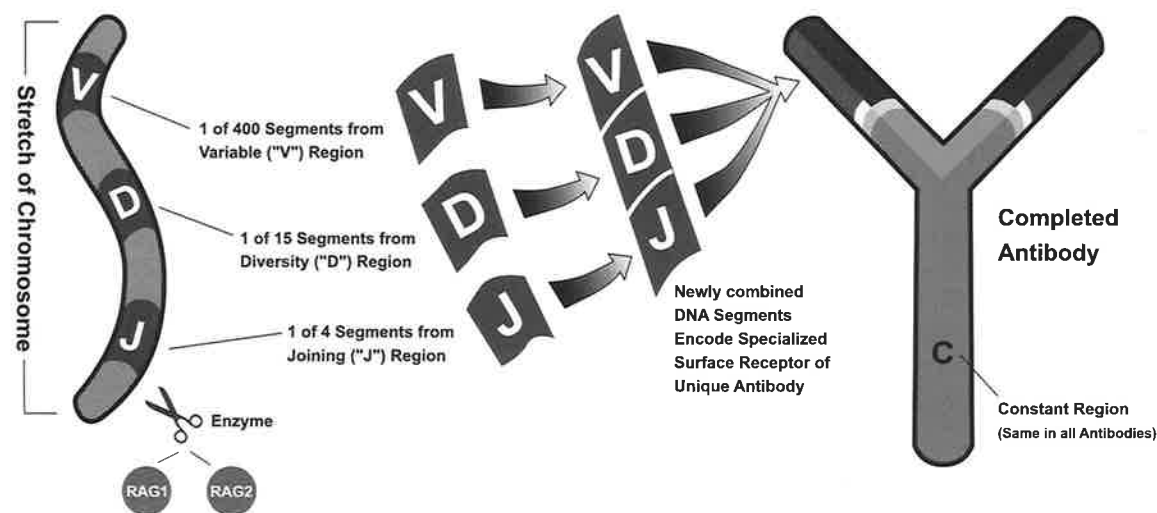
Nussenzweig, however, cautions that the evidence is not yet conclusive. "You must keep in mind that these are possibilities without proof because we are merely tracing expression of the gene product—the enzyme that's responsible for the recombination—not the actual event," he says.

While the scientists used the fluorescent protein to track expression of only RAG2, they can feel confident that it reports expression of RAG1 as well. In the paper published in *Science*, Nussenzweig and colleagues used the BAC method to introduce genes coding for two different fluorescent proteins, one that would shine green to show RAG2 expression, the other glowing yellow in cells that were expressing RAG1. Using these markers, the researchers were able to identify a segment of DNA next to one end of the RAG2 gene that acts as a control sequence, a switch that turns on both RAG1 and RAG2.

The discovery that the two RAG genes are controlled by one DNA segment explains why they always work as a team. Nussenzweig says the genes probably were inserted into the genome together, and evolution has required them to remain closely spaced. Now that they know about the single switch, he and his colleagues plan studies that could reveal whether this control mechanism acts on the genes in quick succession or simultaneously.

The studies were funded in part by the Howard Hughes Medical Institute, a Medical Scientist Training Program Grant from the National Institutes of Health, the Surdna Foundation and the William Randolph Hearst Foundation.

DNA Segments Used to Assemble an Antibody Surface Receptor



The immune system achieves antibody diversity by recombining DNA from several gene segments into a patchwork gene that encodes a Y-shaped antibody with highly specialized receptors on its arms. The newly assembled genes create antibodies that none of the original genes were capable of producing. Nussenzweig's laboratory studies two genes, RAG1 and RAG2, which produce the enzyme that snips the DNA at the precise locations to start this cut-and-paste process.

Illustration by John Haubrich.

born researcher at the Basel Institute of Immunology in Switzerland, made a surprising discovery: our bodies pull this off by recombining DNA from several different gene segments to create one segment capable of producing antibodies no single gene could manufacture.

This ability to mix and match, even from a small number of genes, gives the immune system the capacity to create an array of antibodies. (To use a familiar analogy, a hamburger that comes with a choice of only eight toppings—say, cheese, ketchup, mustard, lettuce, tomato, onion, mayonnaise or pickles—offers 256 possible versions.) The insight into antibody diversity earned Tonegawa the Nobel Prize in Physiology or Medicine in 1987.

The patchwork genes that create antibodies are assembled from the DNA of

gaining insight into how the immune system functions. First appearing more than 450 million years ago in cartilaginous fish, RAG1 and RAG2 always act as partners in the immune system, turning on and off in concert.

"These genes control an essential task in immune function in that the enzymes they encode catalyze the initial step in recombination, which is DNA cleavage," says Nussenzweig, an investigator at the Howard Hughes Medical Institute. "Cleavage of the recombination signal sequences, which flank antigen receptor gene segments, initiates the process that results in the phenomenal number of receptors."

In August, Nussenzweig and colleagues reported two surprising discoveries about RAG in the journals *Nature*

molecules were simply deleted. Within the last few years, however, researchers in Nussenzweig's lab and others have uncovered evidence suggesting that these self-reactive molecules may be "edited" after they have encountered antigens.

"The assumptions in the clonal selection theory are that the lymphocytes are clones with receptors that can refine or mutate their specificity, as in somatic hypermutation, but that clones with bad self-reactive receptors are deleted, as originally proposed by Joshua Lederberg," Nussenzweig says. "What has been found in the last three or four years is that B cells can also delete the receptor but not delete the cell."

The discovery that lymphocytes might be modifying themselves so late in their life spans seemed a violation of clonal

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DECEMBER

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calendar of events

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THE ROCKEFELLER UNIVERSITY—Please post

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.

MONDAY, NOVEMBER 22

11:00 a.m. **Olfaction in *Drosophila*: The Molecular Logic of Recognition.** Leslie Vosshall, HHMI-Columbia University. Seminar. **301 Weiss.** Open to RU/WMCCU/NYPH/MSKCC community only.

12:00 p.m. **Molecular Basis for HIV Nef and Vpr Action: Role of Viral Pathogenesis.** Warner Greene, Director and Senior Investigator, Gladstone Institute of Virology and Immunology, UCSF. CFAR Seminar. **Sixth Floor Conference Room, ADARC, 455 First Ave.**

1:30 p.m. **Computational Approach Towards Integrating Protein Structure, Function and Genomics.** An-Suei Yang, Research Scientist, Columbia Genome Center, Columbia U. Immunology Seminar. **B-307 WMCCU, 1300 York Ave.**

TUESDAY, NOVEMBER 23

11:00 a.m. **Imaging of Cortical Activity in the Intact Brain Using Two-Photon Microscopy.** Fritjof Helmchen, Bell Laboratories. Seminar. **301 Weiss.** Open to RU/WMCCU/NYPH/MSKCC community only.

5:30 p.m. **Pels Family Center Seminar.** Pels Family Center Seminar. **110B Nurses Residence.** Contact Andrej Šali, 327-7550. Open to RU/WMCCU/NYPH/MSKCC community only.

5:30 p.m. **The Physics of Nothing.** Steven Weinberg, Director, Theory Research Group, and Josey Regental Professor of Science, U. Texas at Austin. Lewis Thomas Prize Lecture. **Caspary Auditorium.** Reception, 6:30 p.m., Abby Aldrich Rockefeller Lounge.

MONDAY, NOVEMBER 29

4:30 p.m. **Dynamic Strength and Molecular Anchoring in Fluid Biomembranes.** Evan Evans, Professor, Dept. of Physics and Pathology, University of British Columbia. PBMM Research Seminar. **Weill Auditorium, WMCCU, 1300 York Ave.** Coffee and cookies at 4:15 p.m.

TUESDAY, NOVEMBER 30

4:00 p.m. **Genetic Dissection of Neurodegeneration.** John Hardy, Professor, Dept. of Pharmacology, Mayo Clinic. Progress in Neuroscience Seminar. **Weill Auditorium, WMCCU, 1300 York Ave.** Tea at 3:45 p.m.

WEDNESDAY, DECEMBER 1

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

12:00 p.m. **Sphingomyelinase and Atherogenesis; Emerging Lessons from In-Vivo Models.** Ira Tabas, Professor of Medicine, Anatomy and Cell Biology, Columbia U. Seminars in Clinical Research. **110B Nurses Residence.**

6:30 p.m. **Transcription Factor NF- κ B and Cell Turnover in Colonic Epithelium.** Charles Giardina, Professor, U. of Conn. **Retro-retinoids in the Control of Cell Death and Survival.** Irina Korichneva, MSKCC. Cell Death Society Meeting. **305 Weiss.** Contact Ray Birge, 327-7412. Pizza at 6:00 p.m. Open to RU/WMCCU/NYPH/MSKCC community only.

THURSDAY, DECEMBER 2

10:00 a.m. **Demonstration on Pix Cell II LCM Systems.** Arturus Engineering, Inc. **301 Weiss.** Contact Faye Guatelli, 327-8802. Open to RU community only.

2:00 p.m. **Analyzing Expression Chip Data.** Andrej Šali, Assistant Professor, RU. Pels Family Center for Biochemistry and Structural Biology Seminar. **110B Nurses Residence.** Open to RU community only.

4:00 p.m. **Chemotaxis in Metastatic Tumor Cells and the Rate-limiting Steps of Metastasis.** Jeffrey E. Segall, Associate Professor of Anatomy and Structural Biology, Albert Einstein College of Medicine. LFKRI Research Seminar. **Lower Level Conference Room, New York Blood Center, 310 East 67th St.** Tea at 3:45 p.m.

FRIDAY, DECEMBER 3

12:00 p.m. **Regulation of TCR Surface Expression in Normal and TCR Transgenic Mice.** Janko Nikolic-Zugic, Associate Professor of Immunology, MSKCC. Immunology Seminar. **F-539 NYPH-WMCCU, 1300 York Ave.** Contact Michele Lavarde, 746-6452.

The Arts and Other Events

FRIDAY, NOVEMBER 19

12:00 p.m. **Tri-Institutional Noon Recitals.** Gloriam Dei Cantores, 50-member choir of women and men; performing works of Russian, German and American composers. **Caspary Auditorium.** Contact John Gerlach, 327-7776. Open to RU/WMCCU/NYPH/MSKCC community and guests only.

MONDAY, NOVEMBER 22

8:00 p.m. **Rockefeller University Film Series.** *Burnt by the Sun* (1994). Directed by Nikita Mikhalkov. **Caspary Auditorium.** Open to RU/WMCCU/NYPH/MSKCC community and guests only.

New York Structural Biology Group: A Forum for Structural Biology in the New York Area

Sponsored by the New York Academy of Sciences.

WEDNESDAY, DECEMBER 1

7:15 p.m. –8:45 p.m.

Please note: talks may not necessarily be in this order.

Solution Structure of DNA Oligonucleotides: Comparing Simulation with Experiment. David Beveridge, Wesleyan U.

Structural Studies of Bacterial RNA Polymerases. Seth Darst, RU.

Crystal Structure of UvrB Provides Insight into the Mechanism of Nucleotide Excision Repair. Caroline Kisker, SUNY, Stony Brook.

Caspary Auditorium. Reception, 8:45 p.m., in the Faculty and Students Club, where sandwiches will be served.

For further information, go to <http://www.rockefeller.edu/kuriyan/>.

TUESDAY, NOVEMBER 23

11:00 a.m. **The Rockefeller University Unites the North and South Campuses for the First Time with the Campus Community Bridge in Honor of Torsten N. Wiesel.** Ribbon-tying Ceremony. **Weiss Lobby.**

THURSDAY, DECEMBER 2

8:00 p.m. **Rockefeller University Film Series.** *Simon of the Desert* (1965). Directed by Luis Bunuel. **Caspary Auditorium.** Open to RU/WMCCU/NYPH/MSKCC community and guests only.

THE ROCKEFELLER UNIVERSITY Friday Lectures & Thesis Presentations

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 19

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

MONDAY, NOVEMBER 29

Thesis Presentation: Filamentous Phage Export through a Phage-encoded Channel. Denise Marciano, Biomedical Fellow, RU. **Caspary Auditorium.**

FRIDAY, DECEMBER 3

Embryonic Induction. Ali Hemmati-Brivanlou, Associate Professor, RU.

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