5-4-2001

NEWS AND NOTES 2001, MAY 4

The Rockefeller University

MAY 4, 2001

news & notes

THE NEWSLETTER OF THE ROCKEFELLER UNIVERSITY

FRIDAY LECTURE

President Levine to give Friday lecture on May 11

The Rockefeller University President Arnold J. Levine will give the Jane Darnell Memorial Lecture next Fri., May 11. Levine, a leading authority on the molecular basis of cancer, will discuss "The Regulation of p53-mediated Apoptosis."

Levine, who is the Robert and Harriet Heilbrunn Professor, first isolated the p53 protein in 1979. P53 was originally thought to be an oncogene, or tumor accelerator, but Levine and his colleagues later showed that it is, in fact, a tumor suppressor—it prevents cancer. Other scientists went on to show that a mutation in *p53* is the single most common genetic change in human cancers, including those of the breast, lung, colon, prostate, bladder and cervix.

Scientists now know that p53 is part of a complex network with many components. For example, in colon cancer, a mutation in the *p53* gene causes a transition between benign tumors, which are under control, and malignant tumors, which are out of control. Mutations in other genes play a role in colon cancer, but a p53 mutation plays a particularly critical role.

While the *p53* gene is subject to mutation, tumors can also

continued on page 2

President Levine will discuss his cancer research at the Jane Darnell Memorial Lecture next week.

Three Rockefeller professors elected to National Academy of Sciences

The National Academy of Sciences announced the election of 72 new members this week. Among them are three members of The Rockefeller University faculty: Jeffrey M. Friedman, John Kuriyan and Ralph M. Steinman.

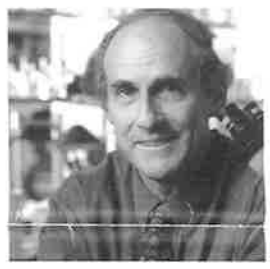
Friedman is the Marilyn M. Simpson Professor, head of the Laboratory of Molecular Genetics, Director of the Starr Center for Human Genetics and an investigator at the Howard Hughes Medical Institute. His lab studies the molecular mechanisms regulating body weight. His lab cloned the mouse *ob* gene and found it encodes a novel hormone, leptin, that reduces body fat when injected into mice.

Kuriyan is the Patrick E. and Beatrice M. Haggerty Professor, head of the Laboratory of Molecular Biophysics and an investigator at the Howard Hughes Medical Institute. His laboratory explores how particular structures and atomic interactions underlie the transmission of information from the cell surface to the nucleus and the components of chromosomal DNA replication.

Steinman is the Henry G. Kunkel Professor, head of the Laboratory of Cellular Physiology and Immunology and Director of the Christopher H. Browne Center for Immunology and Immune Diseases. Steinman investigates the fundamental mechanisms of cellular immunity, including studies aimed at developing immune-based therapies to fight tumors and designing treatments for infectious diseases such as AIDS and tuberculosis.

The National Academy of Sciences is a private organization of scientists and engineers dedicated to the furtherance of science and its use for the general welfare. It was established in 1863 by a congressional act of incorporation, signed by Abraham Lincoln, that calls on the Academy to act as an official adviser to the federal government, upon request, in any matter of science or technology.

Election to membership in the Academy is considered one of the highest honors that can be accorded a U.S. scientist or engineer. The election of Professors Friedman, Kuriyan and Steinman brings the total number of current Rockefeller University faculty who are Academy members to 35.



Professors Jeffrey M. Friedman, John Kuriyan and Ralph M. Steinman (top to bottom) were elected to the National Academy of Sciences.

Baltimore lecture will be Webcast for campus

Nobel laureate David Baltimore's talk, "Is Small Science Over?" will be webcast today (May 4) at 3:45 p.m.

Rockefeller alumnus David Baltimore '64 will present a talk today (May 4) entitled "Is Small Science Over?" as one of the Alumni Reunion events. Although admission to his talk is by ticket only, the campus can view the lecture via Webcast on the university's Web site.

The live video coverage link will be featured on the homepage (www.rockefeller.edu) in the upper right corner under the Alumni information link. The video will also be linked to the reunion page (www.rockefeller.edu/reunion).

Baltimore, a former professor and president of The Rockefeller University, is perhaps the most influential biologist of his generation. Awarded the Nobel Prize at the age of 37 for his work in virology, he has also had a profound influence on national science policy regarding such issues as recombinant DNA research and the AIDS epidemic. His accomplishments in multiple areas of expertise—as a researcher, educator, administrator, and public advocate for science and engineering—were instrumental in his selection as the California Institute of Technology's sixth president.

Baltimore received his bachelor's degree from Swarthmore College in 1960 and his Ph.D. from Rockefeller University in 1964. He subsequently held year-long postdoctoral positions at MIT and the Albert Einstein College of Medicine, followed by a three-year appointment at

continued on page 4

Coller to give Rufus Cole lecture this month

Observations made on a very rare platelet disorder, Glanzmann thrombasthenia, led to the development of a new class of antiplatelet drugs that are now given routinely to patients prior to coronary artery balloon angioplasty and stent placement. In addition, new information on cell adhesion is providing opportunities for novel approaches to treat blood vessel occlusion in patients with sickle cell disease. Barry Coller, who joins The Rockefeller University this September as vice president for medical affairs, physician-in-chief and head of a new Laboratory of Blood and Vascular Biology, will discuss these topics at the Rufus Cole Memorial Lecture, on Wed., May 30.

Coller developed a monoclonal antibody that inhibits platelet function, and a derivative of that antibody was developed into the commercial drug abciximab (ReoPro™), a drug now used throughout the world. His recent studies have focused on the vascular biology of 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.

Coller received his M.D. from New York University School of Medicine. He completed his residency in internal medicine at Bellevue Hospital in New York City, and received advanced training in hematology and clinical pathology at the National Institutes of Health. Currently the Murray

continued on page 4

Barry Coller joins The Rockefeller University in September as vice president for medical affairs, physician-in-chief and head of a new Laboratory of Blood and Vascular Biology.

AROUND CAMPUS

Alumni reunion

The Rockefeller University community welcomes graduates of the Ph.D. program to campus this week for the Alumni Centennial Symposium and Reunion through Sun., May 6. More than 300 people are expected to return for this reunion, which will be the first major gathering of Rockefeller alumni since 1984.

The reunion program includes two days of scientific symposia featuring presentations by more than 50 Rockefeller alumni and students; a student poster session; and social activities, with many opportunities for discussion among alumni, faculty and current Ph.D. students.

Current graduate students are encouraged to attend the scientific symposia and reunion festivities. The full reunion schedule is available on the university's Web site: www.rockefeller.edu/reunion/.

Mombaerts receives award

Assistant Professor Peter Mombaerts received the Takasago Award for Research in Olfaction at the annual meeting of the Association for Chemoreception Sciences (AChemS). The award honors a scientist who has made significant contributions to the field of olfaction.

Left to right: Stuart Firestein, a professor at Columbia University and chairman of the awards committee; Mombaerts; and Stephen Roper, a professor at the University of Miami, who is the president of AChemS.

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Ideas and submissions can be sent interoffice (Box 68), by electronic mail (newsno) or by fax (212) 327-7876.

Women&Science program to host spring luncheon

President of mental health organization will receive the Brooke Astor Award

More than three hundred women from New York's business and philanthropic communities will gather at The Rockefeller University for the fourth annual *Women&Science* Lecture and Luncheon on Thurs., May 17.

At this year's event, Constance E. Lieber, founding president of the National Alliance for Research on Schizophrenia and Depression, will be presented with the university's Brooke Astor Award. Then Rockefeller University President Arnold J. Levine and Assistant Professor Theresa Gaasterland will present a lecture entitled "Biology Enters the Information Age: Combating Illness with Personalized Medicine."

The *Women&Science* program was established by The Rockefeller University in 1998 to provide a forum for women to learn about current scientific research and to raise support for women scientists. Participants have a chance to learn more about recent discoveries related to women's health concerns and to meet many of the women who are leaders in science.

Since the program began, more than 700 women from New York's business and philanthropic circles have participated in these forums and have contributed funds to support postdoctoral women researchers.

The Brooke Astor Award is given on special occasions to a woman in the philanthropic, business, or scientific community whose work has been instrumental in furthering scientific research in the service of humankind.

Under the leadership of this year's recipient, Constance Lieber, the National Alliance for Research on Schizophrenia and Depression has become an enormously successful partnership between the public and the private psychiatric profession, raising and contributing more than $109 million to 1,310 scientists working on schizophrenia and depression.

Proceeds from the *Women&Science* Lecture and Luncheon will support fellowships for young women scientists. To date, $705,000 has been raised in the *Women&Science* initiative this year to support women graduate and postdoctoral fellows at Rockefeller. This is a significant increase from the $300,000 raised last year. These fellowships reflect the university's commitment to basic biomedical investigations and to expanding opportunities for women in science.

Spring Neighborhood Day celebrates art and nature

The Rockefeller University's Spring Neighborhood Day traditionally celebrates the beauty of nature. This year it celebrates the beauty of art as well. Visitors to campus on Sat., May 19, will enjoy not only the campus's lushly landscaped grounds but also the new sculptures on campus.

This special exhibition, entitled "Sculpture from the Abby Aldrich Rockefeller Sculpture Garden of the Museum of Modern Art," includes works by Scott Burton, Alexander Calder, Ettore Colla, Herbert Ferber, Bryan Hunt, Henry Moore, Claes Oldenburg, Eduardo Paolozzi, George Rickey, David Smith, Tony Smith and Mark di Suvero.

As part of the Spring Neighborhood Day activities, MoMA Director Glenn Lowry will give a public lecture about the sculptures, which will remain on campus for 18 months. The day will also include jazz music and docent-led art tours for the public and campus community.

The event, which takes place from 12:30 p.m. to 4 p.m., is free and open to the public.

On Spring Neighborhood Day, Sat., May 19, The Rockefeller University's grounds will be open to the public.

Levine continued

occur in cells with normal functioning *p53*. In these cases, other components of the p53 network inactivate or paralyze *p53*.

In 1992, Levine and his colleagues identified a protein called MDM2 that normally modulates *p53*. In some cancer cells, too much MDM2 is produced, and p53 becomes bound to MDM2 much like a fist grasped by a hand. Levine's lab is now collaborating with synthetic protein chemists at Rockefeller to develop small molecules that would free p53 from its paralyzing bond with MDM2, and thus permit p53 to resume its normal activity.

Recently, Levine and colleagues characterized and identified a version of p53 in the fruit fly, an important model organism for the study of a host of human diseases, including cancer. And Levine is a pioneer in the use of DNA microchip arrays, which can analyze the interactions of thousands of genes at one time, to study cancer.

Levine came to Rockefeller from Princeton University, where he was the Harry C. Wiess Professor of Life Sciences. Between 1984 and 1996, he presided over a major expansion of Princeton's life sciences programs as chairman of the Department of Molecular Biology.

Levine helped shape U.S. science priorities as chairman of an influential 1996 review panel on federal AIDS research funding. He also chairs the National Cancer Advisory Board, which advises the National Academy of Sciences and its Institute of Medicine on cancer policy.

Born in Brooklyn, N.Y., Levine received a B.A. from Harpur College, SUNY, in 1961 and a Ph.D. from the University of Pennsylvania in 1966. After postdoctoral work at the California Institute of Technology, he joined Princeton in 1968 as an assistant professor, becoming a professor of biochemistry in 1976. In 1979, Levine moved to the SUNY Stony Brook School of Medicine to chair the Department of Microbiology. He returned to Princeton in 1984.

Levine was elected to the National Academy of Sciences in 1991 and to its Institute of Medicine in 1995. In addition to this year's Albany Medical Center Prize, he has received numerous awards including the 2001 Alfred Knudson Award in Cancer Genetics from the National Cancer Institute.

In 2000, he received the Keio Medical Science Prize from the Keio University Medical Science Fund in Japan, and the Medal for Outstanding Contributions to Biomedical Research from the Memorial Sloan-Kettering Cancer Center. He was named co-recipient of the 1999 Louisa Gross Horwitz Prize from Columbia University, and he received the 1999 General Motors Cancer Research Foundation's Charles F. Kettering Prize for the most outstanding recent contribution to the diagnosis or treatment of cancer. In 1998, he received the Paul Ehrlich and Ludwig Darmstaeder Prize, the Bertner Award from the University of Texas M. D. Anderson Cancer Center and Eli Lilly's Clowes Award. Among his other awards are the 1993 Katharine Berkan Judd Award from Memorial Sloan-Kettering Cancer Center, the 1994 Bristol-Myers Squibb Award for Distinguished Achievement in Cancer Research and the first Strang Award from the Strang Cancer Prevention Center, also in 1994.

The lecture is named in honor of the late Jane Darnell, wife of Vincent Astor Professor James E. Darnell Jr., mother of Professor Robert Darnell and mother-in-law of Research Associate Jennifer Darnell.

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

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

calendar

MAY 4 THROUGH JUNE 3

EVENTS

Friday Lectures

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, MAY 11

Jane Darnell Memorial Lecture: The Regulation of p53-mediated Apoptosis. Arnold J. Levine, President, RU.

FRIDAY, MAY 18

Hijacking the Ribosome: Structural Basis for Translation Initiation in Hepatitis C. Jennifer Doudna, Henry Ford II Professor of Molecular Biophysics and Biochemistry, Yale University, and Associate Investigator, Howard Hughes Medical Institute.

FRIDAY, MAY 25

Group II Intron Mobility via Reverse Splicing into DNA and Its Potential Applications in Targeted Gene Disruption and Site-specific DNA Insertion. Alan Lambowitz, Professor and Director, Institute for Cellular and Molecular Biology, University of Texas, Austin.

MONDAY, MAY 7

12:00 P.M. **Involvement of Host Gene Products in Retroviral Replication.** Steven Goff, Columbia University. CFAR Seminar. SIXTH FLOOR CONFERENCE ROOM, ADARC, 455 FIRST AVE.

1:30 P.M. **Gene Regulation in the Immune Response.** Anjana Rao, Professor, Department of Pathology, Harvard Medical School. Immunology Seminar. WEILL AUDITORIUM, WMCCU, 1300 YORK AVE.

2:00 P.M. **Phosphorylation as a Mechanism to Regulate Cytoplasmic Dynein Targeting.** Kevin T. Vaughan, Assistant Professor, Department of Biological Sciences, University of Notre Dame. Cell Biology and Genetics Seminar. PAPANICOLAOU LIBRARY, A-106 WMCCU, 1300 YORK AVE. COFFEE WILL BE SERVED.

4:00 P.M. **Cellular Signaling by Tyrosine Phosphorylation.** Joseph Schlessinger, Chairman, Pharmacology Department, New York University Medical Center. *Alton Meister Memorial Lecture.* WEILL AUDITORIUM, WMCCU, 1300 YORK AVE. RECEPTION IN ROOM A126 AT 5:00 P.M.

TUESDAY, MAY 8

12:00 P.M. **Financial Education Seminar for Women.** Deborah Meyers, TIAA-CREF. Seminar. COHN LIBRARY. REFRESHMENTS AT 11:45 A.M. OPEN TO RU COMMUNITY AND GUESTS.

2:00 P.M. **Dyslipidemia Due to HIV Infections and Its Therapies: Implications for Atherosclerosis.** Carl Grunfeld, University of California, San Diego. **HIV Protease Inhibitor Induces Lipodystrophy and Hyperlipidemia Due to the Accumulation of Activated SREBP in the Nucleus.** David Hui, University of Cincinnati. **Progression and Regression of Coronary Artery Disease: Insights from New Imaging Modalities.** Yadon Arad, St. Francis Hospital. NY Lipid and Vascular Biology Research Club Meeting: HIV and Dyslipidemia. 305 WEISS. CONTACT KIE CUNDEY, 327-7708. OPEN TO RU/WMCCU/NYPH/MSKCC COMMUNITY AND GUESTS.

4:00 P.M. **Attachment of Dietary Fatty Acids to Src Family Kinases: You Are What You Eat.** Marilyn Resh, Member, Cell Biology Program, SKI, and Professor of Cell Biology and Genetics, and of Biochemistry, WMCCU. Clinical Nutrition Research Seminar. 117 ROCKEFELLER RESEARCH LABORATORIES, MSKCC, 430 EAST 67TH ST.

4:00 P.M. **Quantum Phases of Electrons in Two Dimensions: Spectroscopy in Electron Wonderland.** Aron Pinczuk, Department of Physics, Columbia University. Center for Studies in Physics and Biology Seminar. B LEVEL CONFERENCE ROOM, SMITH HALL ANNEX. CONTACT ERIK VAN NIMWEGEN, 327-8184.

4:00 P.M. **The Epigenetic Code: Recognition and Removal of Damaged DNA Bases.** Gregory L. Verdine, Professor of Chemical Biology, Department of Chemistry and Chemical Biology, Harvard University. Molecular Pharmacology and Therapeutics Seminar. 116 ROCKEFELLER RESEARCH LABORATORIES, MSKCC, 430 EAST 67TH ST. TEA AT 3:45 P.M.

WEDNESDAY, MAY 9

12:00 P.M. **Gene Expression Profiling Using Microarray Analysis.** Vendor Demonstration. 305 WEISS. CONTACT GREGORY KHITROV, 327-7064.

12:00 P.M. **Insights into Microbial Transport, Metabolism and Evolution from Genome Sequencing.** Ian Paulsen, Assistant Investigator, The Institute for Genomic Research. Student-Sponsored Seminar. 301 WEISS. PIZZA LUNCHEON AT 1:00 P.M. ON THE WEISS 17TH FLOOR. OPEN TO RU/WMCCU/NYPH/MSKCC COMMUNITY AND GUESTS.

12:00 P.M. **Pathways of Cholesterol Catabolism.** David W. Russell, Professor, Department of Molecular Genetics, University of Texas Southwestern Medical Center. Seminars in Clinical Research. 110B NURSES RESIDENCE. CONTACT DALE MILLER, 327-8411.

4:30 P.M. **Beyond Tumor Killing: Innate Immunity by Natural Killer Cells.** Wayne Yokoyama, Investigator, Howard Hughes Medical Institute, and Chief, Rheumatology Division, Department of Medicine, Washington University School of Medicine. MSKCC President's Research Seminar. AUDITORIUM, ROCKEFELLER RESEARCH LABORATORIES, MSKCC, 430 EAST 67TH ST. TEA AT 4:00 P.M.

THURSDAY, MAY 10

11:00 A.M. **Cyclopropanated Mycolic Acids: Novel Effectors of *Mycobacterium tuberculosis* Pathogenesis.** Michael Glickman, Instructor, Department of Medicine, Albert Einstein College of Medicine and Montefiore Medical Center. Infectious Disease Conference Seminar. 116 ROCKEFELLER RESEARCH LABORATORIES, MSKCC, 430 EAST 67TH ST.

12:00 P.M. **Conversion of Poorly Immunogenic Malaria Repeat Sequences into a Vaccine Candidate.** David R. Millich, President, Vaccine Research Institute of San Diego. LFKRI Research Seminar. LOWER LEVEL CONFERENCE ROOM, NEW YORK BLOOD CENTER, 310 EAST 67TH ST. TEA AT 11:45 A.M. CONTACT ROSANNA MARTINEZ, 570-3357.

3:00 P.M. **Anterior Cingulate Cortex: An Interface between Cognition and Emotion.** John Allman, Frank P. Hixon Professor of Neurobiology, California Institute of Technology. Systems Neuroscience Seminar. 305 WEISS. OPEN TO RU/WMCCU/NYPH/MSKCC COMMUNITY AND GUESTS.

4:00 P.M. **Dynamics of the Early Cellular Immune Response to the Hepatitis C Virus.** Frank Chisari, Professor and Head, Division of Experimental Pathology, The Scripps Research Institute. Center for the Study of Hepatitis C Seminar. CASPARY AUDITORIUM. REFRESHMENTS AT 3:45 P.M. CONTACT PATRICIA HOLST, 327-7047. OPEN TO RU/WMCCU/NYPH/MSKCC COMMUNITY AND GUESTS.

FRIDAY, MAY 11

12:00 P.M. **Dissecting Transcriptional Regulatory Mechanisms in Vivo: Combining Rapid Transcription Factor Disruption and High Resolution Analysis of Promoter Architecture and Function.** John Lis, Professor, Department of Molecular Biology and Genetics, Cornell University, Ithaca. Cell Biology Seminar. 116 ROCKEFELLER RESEARCH LABORATORIES, MSKCC, 430 EAST 67TH ST.

1:30 P.M. **Reflections on Nursing and Advocacy.** Diana Mason, Editor, *American Journal of Nursing.* Nurses' Day Lecture. 110B NURSES RESIDENCE. REFRESHMENTS AT 1:30 P.M. CONTACT JEAN DOONER, 327-8405. OPEN TO RU COMMUNITY AND GUESTS.

MONDAY, MAY 14

1:30 P.M. **Human MUC1 as a Therapeutic Target.** Donald Kufe, Professor of Medicine, Dana-Farber Cancer Institute. Immunology Seminar. 116 ROCKEFELLER RESEARCH LABORATORIES, MSKCC, 430 EAST 67TH ST.

TUESDAY, MAY 15

10:30 A.M. **Institute for Scientific Information.** Database Presentation. Welch Hall. Contact Patricia E. Mackey, 327-8909. Open to RU/WMCCU/NYPH/MSKCC community and guests.

4:00 P.M. **Rhythms and Cell Assemblies in the Nervous System.** Nancy Kopell, Department of Mathematics and Center for Biodynamics, Boston University. Center for Studies in Physics and Biology Seminar. B LEVEL CONFERENCE ROOM, SMITH HALL ANNEX. CONTACT ERIK VAN NIMWEGEN, 327-8184.

WEDNESDAY, MAY 16

11:00 A.M. **What Genomes Can Tell Us about Protein-DNA Interactions.** Leonid Mirny, Junior Fellow, Harvard Society of Fellows, Department of Chemistry, Harvard University. Bioinformatics Search Seminar. 301 WEISS. CONTACT BOBBIE LARRAGA, 327-7240. OPEN TO RU COMMUNITY AND GUESTS.

4:30 P.M. **Telomerase, Cell Proliferation, and Cell Death.** Elizabeth H. Blackburn, Professor, Departments of Biochemistry and Biophysics, and of Microbiology and Immunology, University of California, San Francisco. MSKCC President's Research Seminar—Katharine Berkan Judd Award Lecture. AUDITORIUM, ROCKEFELLER RESEARCH LABORATORIES, MSKCC, 430 EAST 67TH ST. TEA AT 4:00 P.M.

THURSDAY, MAY 17

4:00 P.M. **Financing Biotechnology Companies in 2001.** Barbara J Dalton, Vice President, S.R. One, Limited, West Conshohocken, Penna. LFKRI Research Seminar. AUDITORIUM, THE NEW YORK BLOOD CENTER, 310 E. 67TH ST. TEA AT 3:45 P.M. CONTACT ROSANNA MARTINEZ, 570-3357. OPEN TO RU/WMCCU/NYPH/MSKCC COMMUNITY AND GUESTS.

4:00 P.M. **Why Does Immunity Fail in Chronic Hepatitis C?** Chris Walker, Associate Professor of Pediatrics, Children's Research Institute, Ohio State University. Center for the Study of Hepatitis C Seminar. 305 WEISS. REFRESHMENTS AT 3:45 P.M. OPEN TO RU/WMCCU/NYPH/MSKCC COMMUNITY AND GUESTS.

8:00 P.M. **A Transcription Factor Network Controlling Cell Growth and Differentiation.** Robert N. Eisenman, American Cancer Society Research Professor and Member, Division of Basic Sciences, Fred Hutchinson Cancer Research Center. Harvey Society Lecture. CASPARY AUDITORIUM.

CONTINUED ON OTHER SIDE WITH ARTS AND OTHER EVENTS.

news & notes
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calendar-2

MAY 4 THROUGH JUNE 3

FRIDAY, MAY 18

9:00 A.M. **Psoriasis and Atopic Dermatitis: A Genomic Approach to Understanding Inflammatory Skin Disease.** Edmund Lee, Research Associate and Clinical Scholar, RU. Clinical Scholar's Grand Rounds. 110B Nurses Residence. Open to RU/WMCCU/NYPH/MSKCC community and guests.

MONDAY, MAY 21

1:30 P.M. **Immune Adherence Revisited.** John Atkinson, Grant Professor of Medicine and Immunology, Washington University School of Medicine. Immunology Seminar. Second Floor Conference Room, HSS, 535 East 70th St.

4:30 P.M. **Microtubule Motors, Myosin Va, and Rab27a Cooperate to Determine Melanosome Transport and Distribution in Mouse Melanocytes.** John A. Hammer III, Section Chief, Molecular Cell Biology, National Heart, Lung and Blood Institute, NIH. Cell Biology and Genetics Seminar. Papanicolau Library, A-106 WMCCU, 1300 York Ave. Coffee will be served. Open to RU/WMCCU/NYPH/MSKCC community and guests.

TUESDAY, MAY 22

11:00 A.M. **Protein Interactions.** David Eisenberg, Professor, University of California, Los Angeles. Pels Family Center for Biochemistry and Structural Biology Seminar. 305 Weiss. Contact Roser Busquets, 327-7050. Coffee and cookies at 10:45 A.M.

3:00 P.M. **Expression Linkage Approaches for Mapping Type 2 Diabetes Genes.** Susan Sell, Assistant Professor, Department of Nutrition Science, University of Alabama at Birmingham. Starr Center for Human Genetics Seminar. 110B Nurses Residence. Contact Emily Huffman, 327-7387.

4:00 P.M. **Modulating the Affinity between Proteins and Ligands.** Thomas James Wandless, Assistant Professor, Department of Chemistry, Stanford University. Bio-Organic Chemistry Seminar. 116 Rockefeller Research Laboratories, MSKCC, 430 East 67th St. Tea at 3:45 P.M.

WEDNESDAY, MAY 23

12:00 P.M. **DNA Damaging Agents That Hijack Transcription Factors.** John Essigmann, Professor of Chemistry and Toxicology, Department of Chemistry, Massachusetts Institute of Technology. Student-Sponsored Seminar. 301 Weiss. Pizza luncheon at 1:00 P.M. on the Weiss 17th floor. Open to RU/WMCCU/NYPH/MSKCC community and guests.

12:00 p.m. ***Helicobacter pylori* Diversity and Risk of Human Disease.** Martin J. Blaser, Professor and Chair, Department of Medicine, and Professor of Microbiology, New York University School of Medicine. Seminars in Clinical Research. 110B Nurses Residence. Contact Dale Miller, 327-8411.

4:30 P.M. **Proteolysis: The Cell Cycle and Beyond.** Marc W. Kirschner, Chair, Department of Cell Biology, Carl W. Walter Professor of Cell Biology, Harvard Medical School. MSKCC President's Research Seminar. Auditorium, Rockefeller Research Laboratories, MSKCC, 430 East 67th St. Tea at 4:00 P.M.

THURSDAY, MAY 24

4:00 P.M. **Biomarkers of Tobacco Use: Implications for Nutrition Research.** Joshua Muscat, Research Scientist, American Health Foundation, Valhalla, N.Y. CNRU Special Nutrition Lecture. S-701 WMCCU, 515 East 71st St.

4:00 P.M. **Prime-boost Vaccination for Malaria.** Adrian V.S. Hill, Professor, Infectious Disease Laboratory, Wellcome Trust Centre for Human Genetics, Oxford, England. 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.

4:00 P.M. **Relationship among Sperm Maturation, Fertility, and Chromosomal Aneuploidy in Man: The Role of the HspA2 Chaperone Protein.** Gabor Huszar, Director, Sperm Physiology Laboratory, Department of Obstetrics and Gynecology, Yale University School of Medicine. Endocrinology and Reproductive Biology Seminar. 301 Weiss.

FRIDAY, MAY 25

12:00 P.M. **Characterizing Early Stages in Hematopoiesis: Relationship of Cell Surface Phenotype, Gene Expression and Lineage Potential.** Richard Hardy, Senior Member, Institute for Cancer Research, Fox Chase Cancer Center. Cellular Biochemistry and Biophysics Seminar. 116 Rockefeller Research Laboratories, MSKCC, 430 East 67th St.

TUESDAY, MAY 29

12:00 P.M. **Infection of CD8+ T-lymphocytes: A New Target for HIV-1.** Kunal Saha, Children's Research Institute, Ohio State University. CFAR Seminar. Sixth Floor Conference Room, ADARC, 455 First Ave.

WEDNESDAY, MAY 30

12:00 P.M. **Platelet Integrin Receptors in Blood and Vascular Diseases.** Barry S. Coller, Director and Chief of Medicine, Mount Sinai Hospital. Rufus Cole Memorial Lecture. Caspary Auditorium. Contact Dale Miller, 327-8411.

3:00 P.M. **Protein Folding with a Purpose: Insertion of Soluble Protein Toxins in Membranes.** Anil Lala, Professor of Chemistry and Biotechnology, Indian Institute of Technology. Seminar. 301 Weiss.

4:30 P.M. **Controls on the Progression of Autoimmune Diabetes, Revealed in a Simplified Murine Model.** Diane Mathis, Head, Section on Immunology and Immunogenetics, Joslin Diabetes Center, Professor of Medicine, Harvard Medical School. MSKCC President's Research Seminar. Auditorium, Rockefeller Research Laboratories, MSKCC, 430 East 67th St. Tea at 4:00 P.M.

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

THURSDAY, MAY 31

4:00 P.M. **Biology and Transplantation of Stem and Progenitor Cells.** Irving L. Weissman, Professor of Pathology and Developmental Biology, Stanford University School of Medicine. 24th Alexander S. Wiener lecture. Auditorium, New York Blood Center, 310 E. 67th St. Tea at 3:45 P.M. Contact Rosanna Martinez, 570-3357.

4:00 P.M. **Stem Cell and Lineage Biology: Relevance to Growth and Tissue-specific Gene Expression in Liver.** Lola M. Reid, Professor, Department of Cell and Molecular Physiology, Program in Molecular Biology and Biotechnology, University of North Carolina School of Medicine. Center for the Study of Hepatitis C Seminar. 305 Weiss. Refreshments at 3:45 P.M. Open to RU/WMCCU/NYPH/MSKCC community and guests.

Arts and Other Events

THURSDAY, MAY 10

7:30 A.M. **African Violet Sale.** Benefits The Rockefeller University Child and Family Center. Weiss Café Lobby.

Chua lab uncovers second line of defense in plants

Resting peacefully inside its seed, a newborn plant is completely safeguarded against drought and other harsh conditions. Toss a handful of seeds onto a parched patch of sandy land, for example, and the plants will remain happily asleep. Only when the seedlings sense that the soil is ripe for growth will they break through their seed coats and blossom into full-grown plants.

But what if a hibernating plant is accidentally triggered to germinate by an unusually cold night in the midst of a hot summer? New research in the laboratory of Professor Nam-Hai Chua suggests that newly sprouted plants may have a second opportunity to defend themselves against drought, once they have left the safety of their seeds. The work shows that a well-known plant hormone delays the growth of experimental plants in order to give them one last chance to monitor their environment for signs of dryness before initiating growth. Furthermore, the researchers have identified a specific protein as a key player in the process.

"You have a seed that's asleep, but when it wakes up it looks around and asks: do I have enough water?" says Chua, Andrew W. Mellon Professor and head of the Laboratory of Plant Molecular Biology.

The findings, reported in the April 3 issue of the *Proceedings of the National Academy of Sciences* (Early Edition #14), are of immediate interest to agricultural and biotechnology industries, because they suggest that crops potentially could be genetically modified to be more resistant to drought. Dry, salty lands in developing countries tend to depress food productivity, hence tougher crops that are less sensitive to arid conditions might prove beneficial.

"Our work reveals a novel level of complexity in the early growth process and suggests that it may be possible to manipulate plants so that they can better cope with stressful conditions, such as dry or high salt soils," says Luis Lopez-Molina, one of two lead authors of the paper.

Lopez-Molina and Sébastien Mongrand, both postdoctoral fellows, show that ABA—a plant hormone known to inhibit germination—also arrests growth of newly germinated *Arabidopsis* plants for up to 30 days. Moreover, they provide evidence that ABA activates a recently isolated *Arabidopsis* protein called ABI5, and demonstrate that this protein is essential to the newborn plant's ability to protect itself against drought during this developmental delay.

Arabidopsis, a well-studied weed in the mustard family, is a model system for the study of plant development because of a number of factors, including its small size and rapid generation time.

ABA plays a role in both germination in young plants and stress responses in adult plants. Its levels rise during germination, and it has been shown to have an inhibitory effect on growth. Furthermore, when adult plants are under environmental stress, such as drought, this hormone will induce the stomata—a plant's pores—to close. In essence, it prevents the plant from sweating so that it doesn't lose precious water.

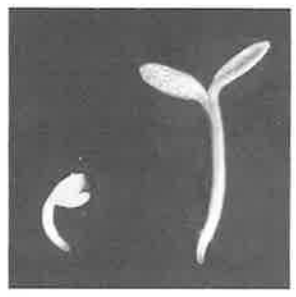
ABA's ability to delay both germination and early growth was discovered when Lopez-Molina and Mongrand realized that seeds would in fact germinate after a certain period of time when grown in the presence of the hormone. They noticed, however, that the germinated plants did not green right away, and they later demonstrated that ABA could effectively block growth for up to 30 days.

"One of the messages of this paper is that ABA delays germination, but is more efficient at keeping germinated embryos in a resting, protective state," says Lopez-Molina.

Because previous studies demonstrated that mutant *Arabidopsis* plants lacking the ABI5 protein grew without interruption after germination, the researchers wondered how this protein was linked to ABA's ability to maintain arrested germinated embryos. To study more precisely the role of ABI5, they genetically engineered strains of *Arabidopsis* to produce an excess of the protein and observed their behavior.

The transgenic plants were found to exhibit a developmental delay only when ABA was present. Therefore, the researchers concluded, ABA must turn on, or activate, ABI5. Next, Lopez-Molina and Mongrand showed that mutant strains lacking the ABI5 protein, when grown in the presence of ABA, had lower survival rates than their normal counterparts if faced with drought conditions. Whereas normal plants survived, on average, after 36 hours of drought treatment, mutants survived after only 12.

Professor Nam-Hai Chua, Sébastien Mongrand and Luis Lopez-Molina (left to right) identified a protein in plants that confers resistance to drought.



The protein ABI5 may protect *Arabidopsis* plants from drought by arresting growth. Above: Normal strains (left) exhibit a developmental delay in the presence of the plant hormone ABA, whereas mutant strains lacking the ABI5 protein do not.

But perhaps the most intriguing finding of all was that adult *Arabidopsis* plants overproducing the ABI5 protein lost less water than average, implying that they were more resistant to drought.

"A normal plant will lose water. A transgenic line overproducing ABI5 loses water less rapidly, probably because it is oversensitive to ABA," says Lopez-Molina.

At present, the researchers are exploring the question of how ABA activates ABI5. Preliminary studies show that ABI5 is phosphorylated in the presence of ABA, but it is not known whether this phosphorylation actually results in an increase in ABI5 activity. To answer this question, the researchers are collaborating with the Laboratory for Mass Spectrometry and Gaseous Ion Chemistry, headed by Professor Brian T. Chait.

Derek McLachlin, a postdoctoral associate in Chait's lab, is using mass spectrometry to locate sites in the ABI5 protein that are phosphorylated in living *Arabidopsis* plants. Once these sites are identified, Lopez-Molina and Mongrand plan to make mutant versions of ABI5 that either contain no phosphorylation sites, or sites that are permanently turned on, in the hopes of ascertaining whether ABI5 is indeed activated via phosphorylation.

The researchers are also searching for "suppressor mutants" as a means to identify proteins, in addition to ABA, that regulate the activity of ABI5. Lopez-Molina says that if their hypothesis about ABI5 being activated via phosphorylation is right, then this technique might allow them to identify the protein kinase responsible for the job.

Lopez-Molina's research was supported by the Swiss National Science Foundation and the Human Frontier Science Program Organization.

> "Our work suggests that it may be possible to manipulate plants so that they can better cope with stressful conditions, such as dry or high salt soils."

Cutting out public concern for safety of genetically modified crops

Professor Chua's lab also is working on ways to improve methods for genetically modifying crops.

Current protocols depend on the use of "marker genes" to identify which strains of plants have taken up the gene of interest, such as a pest-resistance gene or a gene that allows crops to tolerate higher levels of salt in the soil. But these marker genes often code for antibiotic resistance, and some health officials worry that bacteria will acquire these genes when they encounter genetically modified foods in our gut. These feared "superbugs" would be capable of evading today's already dwindling arsenal of effective antibiotics.

In 1999, Chua came up with a new marker gene. Instead of conferring resistance to antibiotics, this new gene, the isopentenyl transferase gene (ipt), promotes shoot growth in plants when activated by the chemical dexamethasone (dex). By placing transformed plant cells on a surface of dex, transgenic plants can be readily detected by the appearance of shoots.

Nevertheless, this technique might not completely allay public concern, because the ipt gene remains in the final plant product. Though scientists believe this gene to be safe, some people remain skeptical.

Recently, Chua and colleagues, including Jianru Zuo and Simon Geir Moller, both postdoctoral fellows, and Qi-Wen Niu, a visiting researcher, developed a simple and efficient way to eliminate extraneous marker genes altogether. In the February issue of *Nature Biotechnology*, they described a new chemical-inducible DNA removal system, in which all nonessential genes are cut out after the transgenic plants have been created.

"All the unwanted genes are cut out after they have done their business," says Chua. "The whole system self-destructs."

This system takes advantage of a protein called Cre recombinase, which cuts out all of the DNA that lies between two sites, termed loxP sites, and reseals the dangling ends. But in Chua's system, it will do this only when activated by another chimeric protein called XVE, which, in turn, is activated only in the presence of beta-estradiol, a mammalian hormone that does not appear to have any physiological effects on plant growth and development.

By placing the antibiotic-resistance gene, the XVE gene and the Cre recombinase gene between two loxP sites on a strand of DNA, such that the target gene lies outside of the loxP sites, the researchers can excise all of the unnecessary genes simply by adding beta-estradiol to the cells. The only thing left is one foreign gene and a genetically enhanced plant.

The two techniques invented by Chua's lab are not mutually exclusive: a researcher could use the ipt gene as a marker gene, then later cut it out with Cre-based system. Either way, these new techniques are bringing marker gene removal one step closer to commercial implementation.

ETCETERA

Construction updates

Construction alerts and project updates are now available on the Planning and Construction Office Web site. The site is found at www.rockefeller.edu/cgi-bin/planning/projects.cgi. The office welcomes your comments.

Papers and talks

If you are about to publish a paper or give a scientific talk, *News&Notes* would like to know about it. Please send your information by campus mail to Box 68, by E-mail to newsno or by fax to x7876.

Gym schedule

At the end of April, the campus gym was removed from its interim location on the 17th Floor of the Weiss Building. The gym is scheduled to reopen in its new permanent location, on the sixth floor of Founder's Hall, in mid-June.

Electrician and visiting student collaborate on artwork featured in Brooklyn exhibit

While the art on campus may inspire Rockefeller scientists in their work, long-time Rockefeller electrician and artist Roberto Gualtieri says the reverse is true for him.

"I'm continually inspired by the science here," he says. "And you can see evidence of this in my latest work."

Recently, Gualtieri, who is known as "Coco" to friends and family, teamed up with Jan Schmoranzer, a visiting student from Germany, to create an art piece for his latest gallery show. The work, which involves video images of cellular organelles in motion, is now on display at the Mesquita Calvo Gallery in Brooklyn.

An original graffiti artist and subway "writer" of the 1970s, Gualtieri combined his trademark signature with Schmoranzer's videos, such that colorful, swimming organelles form one of the "o"s in *Coco.* Some of Gualtieri's other works currently on display also resemble cells; in one piece, his signature looks more like a mass of dividing cells than a word.

"I wanted to put some organic elements into my art," says Gualtieri.

Schmoranzer, a student in Professor Sanford Simon's lab, uses fluorescence microscopy to study exocytosis, the process by which proteins are excreted from the cell. "I enjoyed the collaboration very much," he says. "I hope we get a chance to work together again soon."

Nicknamed "Coco" at the age of three months by his parents, Gualtieri grew up in a supportive family environment in upper west Harlem. His father, a former Rockefeller animal caretaker originally from Brazil, always encouraged Gualtieri's artwork. In fact, the two of them used to have drawing competitions on napkins at the kitchen table. Gualtieri's mother is originally from Puerto Rico.

As a teenager, Gualtieri spray-painted his name around the city: on building walls and subway cars. He says that this practice of writing one's name was a form of communication that united youth from a variety of backgrounds. "A lot of negative barriers were broken down," he says.

In 1972, he teamed up with other local graffiti artists to form the United Graffiti Artists, whose mission was to rechannel the energy of street artists onto canvas. The organization was a huge success. After they painted the backdrop of a Joffrey Ballet production of Twyla Tharp's *Deuce Coupe,* a media frenzy ensued and several gallery shows followed.

Since coming to Rockefeller in 1988, Gualtieri has had over a dozen shows in New York City. One of his original paintings, "Hotdog," which depicts his signature covered in a layer of mustard, currently goes for $18,000. Gualtieri recently received an offer for $13,000, but declined it, he says, "because it is a work that has historical significance and value."

For now, Gualtieri is busy working on the expansion of the Child and Family Center at Rockefeller, but he hopes to continue to integrate science into his artwork. For his next project, he's toying with the idea of setting up a mock laboratory in a gallery, replete with petri dishes and pipettes.

"Every single thing that goes on in this place influences my artwork," he says. "I feel fortunate to be here."

Gualtieri's artwork will be on display at the Mesquita Calvo Gallery at 61 Greenpoint Ave., 3rd floor, No. 14, Brooklyn, until Sun., May 13. The gallery is open on Saturdays and Sundays from 12 to 7 p.m. by appointment only. For more information call (718) 349-8954.

Jan Schmoranzer (seated) and Roberto Gualtieri teamed up to create an art piece for a gallery show (top).

Baltimore continued

the Salk Institute in La Jolla, Calif. In 1968, he returned to MIT as an associate professor. He was named full professor in 1972.

At MIT, Baltimore's early investigations focused on questions about the relationship between DNA and RNA in a cell's internal functions—specifically, on how cancer-causing RNA viruses manage to infect a healthy cell. One result of this research was the identification of the enzyme reverse transcriptase.

The existence of reverse transcriptase had been hypothesized some years earlier, but the theory was considered far-fetched until June 1970, when Baltimore and Caltech alumnus Howard Temin published back-to-back papers about their independent and simultaneous identification of the enzyme. Baltimore and Temin (and former Caltech faculty member Renato Dulbecco, for other virological research) shared the 1975 Nobel Prize in physiology or medicine for their discovery, which has greatly expanded scientists' understanding of retroviruses like HIV.

In addition to his research accomplishments, Baltimore has several outstanding administrative and public policy achievements to his credit. In the mid-1970s, he played an important role in creating a consensus on national science policy regarding recombinant DNA research. He served as founding director of the Whitehead Institute for Biomedical Research at MIT from 1982 until 1990.

Baltimore's numerous honors include the 1970 Gustave Stern Award in Virology, the 1971 Eli Lilly and Co. Award in Microbiology and Immunology, and the 1999 Medal of Science. An early advocate of federal AIDS research, Baltimore was appointed in 1996 to head the National Institutes of Health AIDS Vaccine Research Committee. He was also a professor at The Rockefeller University from 1990 to 1994, and Rockefeller's president in 1990–91.

Baltimore's talk will be Webcast live from Caspary Auditorium at 3:45 p.m.

Coller continued

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, Coller 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 Mt. Sinai, Coller was professor of medicine and pathology at Stony Brook.

The lecture is named in honor of Rufus Cole, the first director of the Hospital for the Rockefeller Institute for Medical Research. Cole's bold vision helped create a hospital, unique in its time, where physicians could both care for patients and carry out laboratory investigations toward the eradication of disease. In the 1980s, an anonymous donor funded the Rufus Cole lecture series to honor this pioneer of clinical medicine.

Coller's talk will take place at noon in Caspary Auditorium. All are welcome.

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