

Centennial plans are afoot

In 2001, The Rockefeller University will formally celebrate the 100th anniversary of its founding by John D. Rockefeller. In a real sense, however, the Centennial is already upon us.

In 1898, plans for the creation of The Rockefeller Institute for Medical Research were well under way. John D. Rockefeller Jr., the Reverend Frederick T. Gates and others were studying the research laboratories of the Koch Institute in Berlin and the Pasteur Institute in Paris to determine what shape the first American medical research institute should take. The groundwork was being laid for one of the most important and successful ventures in the history of science and philanthropy.

"The Centennial will provide the university with a unique opportunity to celebrate its contributions to science and medicine and to enhance its profile with new audiences locally, nationally and internationally," says Arnold J. Levine, president-elect. "It is a great privilege for me to serve as president during this historic time and to oversee the Centennial planning process."

Initial planning for the 100th anniversary



An archival image shows Founder's Hall in the early 1900s. The site had previously been a working farm.

celebration has begun. Activities will include several faculty-sponsored symposia, an alumni scientific symposium and reunion, rotating exhibits highlighting key discoveries, publications featuring stories about the university's history and special events for the RU community both within and beyond the university's gates.

Festivities will culminate in a grand campus-wide celebration on Thurs., June 14, 2001, the day of the university's 100th birthday. The landmark anniversary

coincides with Rockefeller's 43rd Convocation.

Members of the university community are encouraged to send their thoughts and ideas on possible Centennial projects, outreach initiatives, celebratory events and other programs to *News&Notes*, Box 68. Planning will continue throughout the year, with the immediate goal of establishing a schedule of Centennial events and activities for fiscal year 2000 and fiscal year 2001.

FRIDAY LECTURE

Nobel laureate physicist T.D. Lee to discuss symmetry and asymmetry

Physicist Tsung-Dao Lee will discuss "Symmetry and Asymmetry" at the Friday lecture today (Oct. 30). Lee will begin by discussing the interplay of symmetries and asymmetries in nature and human artifacts, and he will move on to discuss symmetry violations in modern physics and the search for phase transitions in the physical vacuum. If you're not sure what all this means yet, don't worry. Lee is tailoring his talk to be understandable to nonphysicists.

The issue of symmetry and asymmetry has long been an interest of Lee's. He and Cheng Ning Yang were jointly awarded the 1957 Nobel Prize for their investigation of the so-called parity laws, which led to important discoveries regarding the elementary particles. Those who want to learn more about the topic might consult Lee's book *Symmetries, Asymmetries, and the World of Particles* (University of Washington Press, 1988).

Lee received his undergraduate training in his native China and earned his Ph.D. at the University of Chicago in 1950. In 1953, he joined the faculty of Columbia University, where he has spent the bulk of his career. Professor Lee is also no stranger to the RU campus. Among his many laurels is an honorary Ph.D. from RU in 1994.

Lee's talk today is the second of the Gemant Prize Lectures, sponsored by the American Physical Society. It will begin at 3:45 p.m. in Caspary Auditorium and will be preceded by a tea in Abby Aldrich Lounge at 3:15 p.m. All are welcome.



Physicist T.D. Lee will discuss symmetry and asymmetry today (Oct. 30) in a Friday lecture geared toward physicists and nonphysicists alike.

Campus trees deemed safe, for now



The London plane trees along the RU driveway are being monitored for safety.

As with surgery, it pays to get a second opinion when someone tells you to cut down 100-year-old trees—especially if they are the beloved London planes flanking the driveway to Founder's Hall. Recently an arborist had warned RU's director of physical facilities, Robert Francis, that the damage to these trees might be severe enough to warrant removing them. Then, *deus ex machina*, a new device that measures internal wood strength gave the driveway trees a much rosier diagnosis.

The London planes give the campus what Francis calls "the signature

Rockefeller look" and are about 100 years old (planted in 1915, they were already mature when installed). In the wild, this species can live about 200 years, but an urban environment puts stress on trees. What's more, the driveway trees were planted too close together in 1915. London planes should be spaced 35 feet apart; these are about half that distance. (The trees around Caspary Hall are planted the recommended distance apart and are healthy.) Competition for light in close quarters has made the trees grow tall, but it has also made them vulnerable.

Virtually all of the trees are damaged, some rather dramatically. In addition

to open wounds, several have horizontal stress cracks caused by movement in heavy winds; those are the points at which trees fail. The Physical Facilities staff at Rockefeller routinely monitors the situation, commissioning arborist reports every two years. Damage has been accruing since the 1960s, but it seems to have stopped now—thanks in part, Francis thinks, to repairs of the Founder's Hall pipes, which had been leaking beneath the driveway.

Over the decades, arborists have examined the trees visually and by drilling core samples—a time-consuming and subjective process. A new device, called a Resistograph, can now analyze wood strength quickly, accurately and with minimal disturbance to the tree. The tool resembles a small drill and works by measuring trunk and branch resistance in quantifiable terms. Healthy tree tissues resist the drill up to a certain point, but dead wood gives way readily. If the drill readings show a low resistance, then the arborists know they have a problem. In the case of the RU trees, the Resistograph showed that the damage was not as bad as it looked from the outside. The consultant who had originally advised buzz saws sheepishly changed his mind when he saw the new data.

"The new evidence makes me feel a lot more comfortable about leaving the trees in place over the next few years," says Francis. "Later, if we have to make a decision based on safety, we can make it selectively."

see TREES, page 2

2 Music, Maestro

3 AIDS update

4 Calendar of Events

Con Edison awards RU \$15,000



Linda Linton, director of community relations at Con Edison, and Betty Smith, manager of public affairs at Con Edison, visited the campus on Thurs., Oct. 22, to present an award for \$15,000 to Professor Bruce McEwen (at left) and Bonnie Kaiser (at right), of the RU's Science Outreach Program.

Potpourri

Benefits Fair Open Enrollment 1998

Human Resources will host the 1998 Benefits Fair on Wed., Nov. 4, in the Weiss lobby. From 11:30 a.m. to 2:00 p.m., health insurance representatives from 21st Century, Oxford and Aetna U.S. Healthcare will be available to answer questions. In addition, TIAA-CREF representatives will be there to provide information about retirement annuities and long-term care insurance.

The fair also marks the beginning of the open enrollment period. You may join or make changes to your health insurance plan as well as to the voluntary accidental death and dismemberment insurance. In addition, this is the only time to sign up for the 1999 flexible spending accounts. All enrollment changes will be effective Jan. 1, 1999. Please note that the last day for open enrollment is Fri., Dec. 11, 1998. If you have any questions, please call the Human Resources Office at x8300.

Anniversary-Retirement Dinner

The Anniversary-Retirement Dinner will be held on Mon., Nov. 23 at 6:30 p.m. in the Abby Aldrich Lounge. If any retirees on campus would like to attend, please call Amy Ites in the Human Resources Office, x8300, before Fri., Nov. 13, to receive an invitation.

It's 10/30. Do you know where your graduate students are?

This weekend is the annual student retreat. RU students will be traveling today to Arden House, in Harriman, New York.

Novemberfest

The Abby Aldrich Dining Room rings in the season with a Fall Harvest Festival on Wed., Nov. 11. The menu features creative variations on traditional autumnal foods: chesnut soup, sweet potato dumplings with lobster, pork loin with cranberry-rutabaga puree and more. The price is \$10.50 per person plus tax. Reservations are recommended. Call x8894.

Child and Family Center applications

The RU Child and Family Center is now accepting applications for the 1999-2000 school year. The center serves children from 3 months to 4 years old. Please call the educational director, Marjorie Goldsmith, x8580, for more information.

New RU events hotline

Trying to find information about an upcoming event at RU? The university has a new phone number with information about RU events, including the Peggy Rockefeller Concerts, Tri-institutional Noon Recitals, public lectures and symposia, along with directions to the campus. Call 327-7007.

Pennies for the pantry

Diners in the RU cafeteria may notice new coin collection boxes. By contributing your spare change, you will help support the Yorkville Common Pantry, a local non-profit organization that has long been providing food to needy New Yorkers.

Influenza vaccines

The Employee Health Office is offering free influenza vaccinations to all RU students and employees. Those wishing to be vaccinated should go to Hospital 118 between 10:00 a.m. and 4:00 p.m. Monday through Friday. No appointment is necessary.

Election Day

Next Tues., Nov. 2, is Election Day. The university will be open as usual.

Literary?

If you have recently published a book, *News&Notes* would like to know about it. Please send your publication particulars, along with a brief summary of the book, to Lisa Stillman at Box 68, e-mail stillml or fax x7876.

AwardsCorner

Vincent Astor Professor Paul Greengard has been selected as an Ellison Medical Foundation Senior Scholar. One of the objectives of the Ellison Medical Foundation is to foster cutting-edge research on aging.

Music news at RU

Juilliard and RU to host 20th-century music concerts

Aficionados of serious 20th-century music often lament that it is not performed frequently enough. "Twentieth-Century Retrospectives," a concert series presented under the aegis of RU and the Juilliard School, should help fill this gap, with performances of modern masters from George Gershwin to John Cage. Two performances take place in Caspary Auditorium on Wed., Jan. 27, and Wed., Mar. 31; a bonus concert will be presented at Juilliard on Wed., Dec. 2. Tickets for the Juilliard concert are free but available only from the Juilliard box office. For information on the RU concerts, call the RU Events Hotline at 327-7007.



Lang Lang

Vienna Philharmonic musicians will give benefit concert at RU

The sounds of old Vienna will be heard on campus next Tues., Nov. 3, when musicians from the Vienna Philharmonic present a benefit chamber music concert in Caspary Auditorium. This event will benefit the Salzburg Cornell Seminars, which sends doctors from the tri-institutions to Austria, where they share their expertise with doctors from Central and Eastern Europe, as well as from the former Soviet Union. Tickets to the benefit concert cost \$125 per person. For more information and tickets, call 856-1129.

Pianist Lang Lang performs today at the Tri-institutional Noon Recital

Only 16 years old, Lang Lang has already shown himself to be an artist of maturity and depth. He began piano studies at the age of 3 and currently studies with Gary Graffman at the Curtis Institute of Music in Philadelphia. Lang has performed with orchestras on three continents and has also won first prize in numerous competitions. Lang's Tri-institutional Noon Recital will take place today (Oct. 30) in Caspary Auditorium. Admission is free for the Tri-institutional community and guests.

TREES, continued from page 1

Only two of the driveway trees are actually threatened, and they will be watched closely by Plant Operations. Fortunately for campus aesthetics, the trees in trouble could be lost without destroying the "Rockefeller look." One is behind the guard house, and the other is next to the parking lot entrance. If one or both of these trees had to be removed, the canopies of the remaining trees would fill in to take the missing trees' place. Francis notes that losing these two might actually help the remaining London planes thrive, since the removal would correct the spacing interval between the trees.

How does the Physical Facilities Office ensure public safety in the meantime? "If you look carefully at the canopy of the trees," Francis says, "you'll notice a lattice of steel wires." These unobtrusive cables hold the branches in place and keep them from breaking and falling to the driveway and possibly injuring someone. Traditional cross-cable methods only connect limbs to other limbs on the same tree. Here, Plant Operations has linked the cables from tree to tree, so even if an entire tree were to fail, this "safety net" would prevent a catastrophe.

Ultimately, though, there's a problem. The trees won't live forever and will have to be replaced someday. "When the time comes," Francis says, "it's best to make the decision based not on storm damage or an accident but on the diminishing life expectancy of the trees. We have to make a decision that guarantees the look of the campus over another full century."

That look may not be quite as beautiful at first, though. Even if the university were to install mature London planes, the

new trees would only go to about the second floor of the buildings. Says Francis, "You'd probably have a 20 year period when the look would not be as grand."

Why not just replace individual trees as they are damaged? The problem with that idea, says Francis, is that "even if you buy already mature trees, the new ones won't match the rest of the trees in the driveway. If you replace them at different intervals, all the trees will all be at different heights." The look would be destroyed. A full replacement of all trees at the same time is a better long-term choice, but it's also a painful one.

"Nobody wants to be the person who makes that decision," says Francis, looking as if he, rather than the trees, had just been given the arborist's reprieve. Happily that's a decision nobody has to make right now.

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David Ho on AIDS:

The road to remission and the challenges ahead

BY PAUL C. FOCAZIO

The human immunodeficiency virus (HIV), which causes AIDS (acquired immunodeficiency syndrome), has infected more than 30 million people worldwide. Current estimates place new infections at 16,000 each day. Although HIV is an infant compared to the life span of other epidemic-inducing plagues such as malaria and tuberculosis, the virus has, in its very short history, become one of the world's major killers. In another 10 years, says David Ho, RU professor and scientific director of the Aaron Diamond AIDS Research Center (ADARC), it could become the major killer.

Since 1991, Ho says, he and his colleagues at the ADARC have made a commitment to uncover solutions to end the AIDS epidemic. A wide range of HIV/AIDS studies are conducted at the Center, including comparisons between long-term HIV infected individuals who have not experienced full-blown AIDS and analyses of the dynamics of viral replication in the body, as well as a clinical emphasis on determining the effectiveness of viral therapies, developing an effective HIV vaccine and a new generation of antiviral drugs.

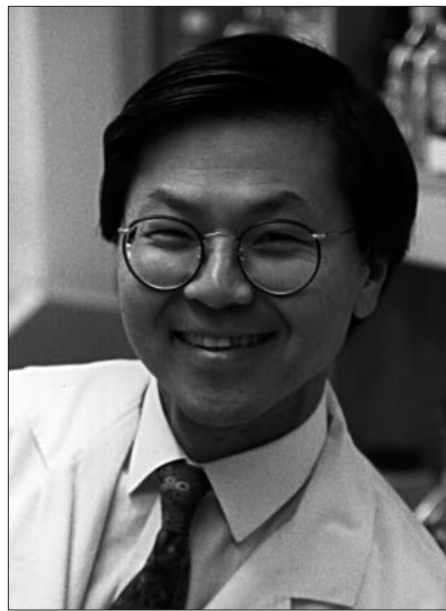
"In the decade since HIV was identified," Ho says, "researchers have learned more about this virus than about any other in history. All of us remain optimistic in believing that research will ultimately succeed in finding a way out of the crisis. A long road, however, still lies ahead and the challenge is extraordinary."

Controlling the virus

Scientists have identified some dozen steps in the life of AIDS, which cripples its host's immunity by invading and destroying immune system cells known as CD4, or helper, T lymphocytes. Each step in the life of the virus is a possible target for drugs designed to disrupt activity. For example, antiviral drugs such as AZT (Zidovudine) and 3TC (Lamivudine), affect a single step in the viral life cycle by inhibiting the HIV enzyme reverse transcriptase from copying its RNA instructions into the DNA strands the virus needs to infect other cells once it has escaped its host cell.

Some scientists hypothesize that if one were able to stop HIV's cycle of reproduction in the blood, the immune system's defenses should rebound and be able to fight off the remaining virus. As Ho and others in the field have come to realize, though, this theory has a major glitch: no one knows how to stop the viral reproduction entirely.

Despite the challenge, the advent of combination-drug treatment—which marries older drugs such as AZT and 3TC with protease inhibitors—has now made it possible to achieve more comprehensive control of HIV-1 replication in the human body. Until the Food and Drug Administration (FDA) first began approving protease inhibitors such as Saquinavir, Indinavir, Nelfinavir and Ritonavir in 1995 and 1996, only one step in the HIV life cycle was attacked by medication. Now it is possible to attack the virus at two critical steps of the viral life cycle.



Professor David Ho's multi-drug treatment strategies have, in recent studies, reduced the HIV virus to undetectable levels in certain patients.

Although cocktail therapies carry with them a heavy price tag (up to \$12,000 annually), as well as the risk of a variety of side effects (including gastrointestinal tract and liver problems and unusual changes in triglyceride and cholesterol levels) and a daunting daily regimen that sometimes includes over a dozen pills, these therapies have benefited more than 100,000 people in the United States and Europe.

Ho reports an 80 percent success rate with patients in ADARC programs on triple therapy, taking into account that failures are related to being unable to continue the regimen because of side effects or the complex procedure of taking medication. "By and large, the current therapies are holding up for a majority of the patients," he says. "Taken in combination, the prescribed drugs keep HIV under control so that, in most cases, the virus is not measurable in the blood."

In addition to monitoring the effectiveness of current anti-HIV strategies, members of the ADARC continue to work on a new generation of antiviral drugs. This endeavor is fueled mainly by the emergence of drug-resistant viral strains, which scientists estimate affect between 20 and 30 percent of infected individuals. Ho cites the importance of studying "drug alternatives" such as co-receptor inhibitors, treatments that would prevent HIV from overtaking healthy human cells (such as T cells) by interrupting the first step in the viral life cycle: binding to a co-receptor on the cell surface. If the virus cannot bind both with a co-receptor and to CD4 itself, it cannot fuse with the cell membrane and subsequently release its contents—various enzymes and two strands of RNA that each carry the genetic blueprint for making new HIV particles—into the cytoplasm.

Ho says, "Studies at the ADARC relating to how co-receptor usage influences the neutralization of HIV-1 by antibodies are in progress. An important extension of these studies will be the evaluation of drugs targeted at the viral entry stage."

Draining the viral pool

No patient has yet been cured. Even when treatment administered in the acute stages of HIV infection reaps the best results, viral pools remain in the immune system and in the brain; current drugs cannot penetrate the blood-brain barrier.

According to Ho, "The residual



Mathematics of an epidemic: A month's supply of AIDS drugs, above, may contain hundreds of pills. In some parts of the world, the cost for this therapy is prohibitive. The annual price of AIDS drugs per patient is about \$12,000. The annual income per capita in some developing countries is less than \$1,000.

reservoir is the main hurdle to eradicating HIV since such 'embers' could rekindle the full infection if the patient stops taking the antiviral drugs." Some scientists have declared that this obstacle is insurmountable. Ho disagrees, but, he says, "Based on the information available today, it's going to require a long treatment period before this residual pool of virus will go away."

To combat the drug-inaccessible viral populations of the lymph nodes and elsewhere, Ho says, "You almost have to wake the cells up using activators, although activation is likely to be associated with toxicity. There is a narrow window of opportunity for scientists to activate these T cells without causing either too much toxicity or too little activation."

Because each of the activators Ho suggests as viable candidates—cytokine mixtures and polyclonal activators such as bacterial superantigens—are associated with clinical toxicity, he says, "Their utility in this setting should be carefully examined."

The haves and have-nots

In the 11 years since the first AIDS drug, the antiretroviral compound AZT, was approved by the FDA, therapy has greatly improved. An estimated 90 percent of HIV-infected people, however, live in developing nations, and more than 90 percent of the money for care and prevention is spent in industrial countries.

Says Ho, "Current anti-HIV and AIDS therapies are beyond what is conceivable to help the world's epidemic. Therefore, to have a real impact, we have to bolster prevention procedures, which can be tackled on two fronts. First, government and society need to continue educating individuals through various educational campaigns. Secondly, as a basic scientist, I feel it is the science community's responsibility to come up with an efficacious vaccine to curtail the epidemic."

The course of vaccine development so far, though, has been anything but smooth. The main problem is that vaccine developers usually try to mimic the natural immune process of people who have survived infection. But HIV is so deadly that no such blueprint exists for AIDS. Current attempts at vaccine development are hampered because the genomes of HIV strains can differ from one another by as much as 10 percent and the virus is categorized into 10 different subtypes. By searching the DNA of a common HIV ancestor, though, investigators may be able to isolate segments of the virus' genome that have remained relatively intact through the years and

across strains, thereby pinpointing viable vaccine targets.

Scientists also fear that because HIV mutates and replicates so quickly, a single vaccine may not blanket everyone at risk from being infected. "We know this virus is quite error prone when it tries to copy its genes," Ho says. "So, the virus is going to make a lot of mutant viruses."

Traditionally, Ho says, "Many vaccines could work by simply raising humoral immunity, antibodies that would bind and inactivate the virus. Hepatitis B is a perfect example of this. Work in the field of HIV studies so far suggests that, unlike with other viruses, just raising antibodies against HIV does not allow for binding to sugar-coated surface molecules, which are important elements necessary for deactivation."

"A growing body of literature over the last several years suggests that the more important protective immune response against HIV is cellular immunity, killer T cells that recognize the virus specifically and subsequently destroy it," Ho continues. The creation of such vaccines—which include DNA vaccines and live vector vaccines—would require the transport of relevant HIV genes into the host for adequate immunization.

Overall, Ho is optimistic that treatment will improve, but not necessarily where it is needed most. While foreseeing AIDS as a more controllable disease in the United States and in Europe over the next two decades, Ho cautions, "For much of the world, where the epidemic is spreading—in Africa and Asia—the situation is getting worse."

"Ultimately, in our effort to achieve long-term suppression of HIV-1 replication," Ho says, "it seems sensible to explore the feasibility of substituting a vaccine for drugs to see if enhanced immunity could keep the residual virus in check. We as scientists in the field haven't accomplished our ultimate objective yet because HIV is persistent despite years of therapy. But it is certainly a major step forward to see that patients are living longer and that hospitalization for AIDS complications has decreased due to the benefits of combination therapies."

The task of eradicating HIV-1 or inducing its remission is undoubtedly a daunting one, but, Ho says, "Solutions to each avenue must be vigorously pursued."

HIV/AIDS studies at the ADARC are funded by the Aaron Diamond Foundation, the NIH's National Institutes of Allergy and Infectious Diseases and the National Cancer Institute, the Pediatric AIDS Foundation and the American Foundation for AIDS Research. The center's web site is <http://www.adarc.org>.

OCTOBER
30

15
NOVEMBER

calendar of events

<http://www.rockefeller.edu/rucal>

THE ROCKEFELLER UNIVERSITY — Please Post

FRIDAY, OCTOBER 30

10:00 a.m.-12:00 p.m. **The Regulation of Appetite and Feeding.** Jeff Friedman, Professor, RU, and Investigator, HHMI. **Raven Cognition.** Bernd Heinrich, U. of Vermont. Neurobiology of Behavior and Learning Seminar. **301 Weiss.** Contact *Fernando Nottebohm, 914-677-3059.*

11:00 a.m. **Polyelectrolyte Complexes.** Phil Pincus, Professor, Dept. of Physics, U.C.-Santa Barbara. Center for Studies in Physics and Biology Seminar. **B Level Conference Room, Smith Hall Annex.** Contact *Hao Li, 327-8861.*

2:00 p.m. **Structure and Function of the Hepatitis Delta Virus.** Adrian R. Ferre-D'Amare, Dept. of Molecular Biophysics and Biochemistry, Yale U. Center for Biochemistry and Structural Biology Seminar. **305 Weiss.**

MONDAY, NOVEMBER 2

11:00 a.m. **Novel Strategies for Analysis and Modulation of Antigen-specific Responses: Implications for Development of Cancer Vaccines.** Jonathan Schneck, Associate Professor, Pathology and Medicine, Johns Hopkins U. School of Medicine. Immunology Seminar. **116 Rockefeller Research Laboratories, MSKCC, 430 East 67th St.**

11:00 a.m. **Role of DNA Conformational Fluctuations in DNA-protein Interactions as Demonstrated from Micromanipulation Experiments.** Didier Chatenay, Professor, LDFC, Institut de Physique, Strasbourg, France. Center for Studies in Physics and Biology Seminar. **B Level Conference Room, Smith Hall Annex.** Contact *Albert Libchaber, 327-8185.*

12:00 p.m. **The Primary Immune Response to SIV in Rhesus Monkeys.** Norman Letvin, New England Regional Primate Research Center, Harvard Medical School. CFAR Seminar. **6th Floor Conference Room, Aaron Diamond AIDS Research Center, 455 First Ave.**

12:30 p.m. **Clearance of Apoptotic Cells: Mechanisms and Consequences.** Valerie Fadok, Research Assistant Professor, National Jewish Medical and Research Center. Immunology Lecture. **Second Floor Conference Room, HSS, 535 East 70th St.**

4:00 p.m. **Biochemistry of Marathon Running.** B.E.H. Maden, Johnston Professor, Biochemistry, U. of Liverpool. Seminar. **301 Weiss.**

4:00 p.m. **Genetic Clues Implicate Developmental Genes in the Alzheimer Disease Process.** Kenneth Kosik, Professor, Neurology, Harvard Medical School. Cell Biology and Genetics Seminar. **Weill Auditorium, C-200 CUMC, 1300 York Ave.**

The *Calendar of Events* is published Fridays throughout the academic year. Deadline for submitting events is 2:00 p.m. Tuesday. Events submitted by the Tuesday two weeks before the event will be announced in two consecutive calendars—space permitting.

Events may be submitted via e-mail to rucal@rockvax.rockefeller.edu, through the World Wide Web (<http://www.rockefeller.edu/rucal/ru-entry.html>), or by fax (212-327-7876). Contact Paul C. Focazio (212-327-8969) for more information.

To reserve space for on-campus events, e-mail roomres@rockvax.rockefeller.edu or contact Julie Ranton-Francis via fax (212-327-7876) or phone (212-327-8072). Items will not be listed in the calendar without a previously confirmed room reservation.

To subscribe to the *Calendar of Events* mailing list, send e-mail to macjorndomo@comm.rockefeller.edu with SUBSCRIBE RUCAL-L <Your Name> in the body of the message.

TUESDAY, NOVEMBER 3

12:00 p.m. **Integrin-mediated Signaling during Blastocyst Implantation.** D. Randall Armant, Professor, Dept. of Obstetrics and Gynecology, Wayne State U. Endocrinology and Reproductive Biology Seminar. **301 Weiss.**

4:00 p.m. **Chromosome 22q11: Susceptibility Locus for Psychiatric Disease.** Maria Karayiorgou, Assistant Professor, RU. Progress in Neuroscience Seminar. **Weill Auditorium, CUMC, 1300 York Ave.** Reception prior to seminar.

4:00 p.m. **Spatial Spread of Second Messenger Signals in Retinal Rod Photoreceptor Outer Segments.** Peter Detwiler, Professor, U. of Washington, Seattle. Center for Studies in Physics and Biology Seminar. **B Level Conference Room, Smith Hall Annex.** Tea 3:30 p.m. Contact *Hao Li, 327-8861.*

4:00 p.m. **Mutational Mechanisms in Mouse Models of Colon Cancer Risk.** Anthony Brown, Associate Professor, Cellular Biology, CUMC, and Associate Director of Research, Strang Cancer Prevention Center. CNRU Research Lecture. **Conference Room, 117 Rockefeller Research Laboratories, MSKCC, 430 East 67th St.**

WEDNESDAY, NOVEMBER 4

11:00 a.m. **Genetic Analysis of a BMP Signaling Pathway in Dorsal-ventral Pattern Formation in the Zebrafish.** Mary Mullins, Assistant Professor, U. of Pennsylvania School of Medicine. Weekly Research Seminar. **305 Weiss.** Contact *Shauna Sely, 327-8655.*

12:00 p.m. **Hemochromatosis: A Triple Nightmare?** Victor Herbert, Professor, Medicine, Mt. Sinai and Bronx VA Medical Centers. Clinical Research Seminar. **110B Nurses Residence.**

3:45 p.m. **DNA-mediated Charge Transport: Chemistry at a Distance.** Jacqueline K. Barton, Marian Hanisch Memorial Professor, Chemistry, California Institute of Technology. Seminar. **Auditorium, Rockefeller Research Laboratories, MSKCC, 430 East 67th St.** Reception to follow seminar.

6:00 p.m.-8:00 p.m. **Resurrecting the Dead: Dendritic Cells Phagocytose and Cross-present Antigen Derived from Apoptotic Cells on MHC-I.** Matthew Albert, Biomedical Fellow, RU. **b-adrenergic Receptor Initiated PKA-independent Control of Cell Cycle Arrest and Apoptosis.** Ghenghua Gu, Skirball Institute. Cell Death Society Meeting. **305 Weiss.** RSVP to *Ray Birge, 327-7412* with number of people attending.

THURSDAY, NOVEMBER 5

12:00 p.m. **Signal Transduction by Crk Proteins in Neuronal Cells.** Raymond B. Birge, Assistant Professor, RU. Biochemistry Lecture. **E-115 CUMC, 1300 York Ave.**

3:45 p.m. **Functional Interactions between Telomerase and the Telomere.** Elizabeth Blackburn, Professor and Chair, Dept. of Microbiology and Immunology, U.C.-San Francisco. Seminar. **Auditorium, Rockefeller Research Laboratories, MSKCC, 430 East 67th St.** Tea 3:15 p.m.

4:00 p.m. **Black Holes, Thermodynamics and Polymers.** Ramzi Khuri, Professor, Baruch College of CUNY. High Energy Physics Seminar. **B Level Conference Room, Smith Hall Annex.**

4:00 p.m. **Modulation of Immune Functions and Signal Transduction Pathways by Hypericin and Dimethyl-tetrahydroxy Helianthrone.** Gad Lavie, Deputy Head of Transfusion Services, Sheba Medical Center, Tel-Hashomer, Israel, and Assistant Professor, Pathology, NYU Medical Center. LFKRI Research Seminar. **Lower Level Conference Room, New York Blood Center, 310 East 67th St.** Tea 3:45 p.m. Contact *Rosanna Martinez, 570-3357.*

FRIDAY, NOVEMBER 6

10:00 a.m. and 1:00 p.m. **Chromosome 22q11: Susceptibility Locus for Psychiatric Disease.** Maria Karayiorgou, Assistant Professor, RU. **Molecular Neurobiology Approached through the Study of Human Neurologic Disease.** Robert Darnell, Associate Professor, RU. Neurobiology of Behavior and Learning Seminar. **301 Weiss.** Contact *Fernando Nottebohm, 914-677-3059.*

12:00 p.m. **Telomere Dynamics in *Saccharomyces*.** Virginia Zakian, Professor, Dept. of Molecular Biology, Princeton U. Molecular Biology Seminar. **116 Rockefeller Research Laboratories, MSKCC, 430 East 67th St.**

2:00 p.m. **The Intercellular Transfer of Engrailed Homeoprotein: Mechanisms and Implications.** Alain Prochiantz, Développement et Evolution Du Systeme Nerveux, Ecole Normale Supérieure, Paris, France. Cellular Biochemistry and Biophysics Seminar. **116 Rockefeller Research Laboratories, MSKCC, 430 East 67th St.**

MONDAY, NOVEMBER 9

11:00 a.m. **Large-scale Characterization of Protein Sequence Data: The Integrative Approach of SWISS-PROT + TrEMBL.** Rolf Apwiler, European Bioinformatics Institute. Bioinformatics Seminar. **B Level Conference Room, Smith Hall Annex.** Contact *Terry Gaasterland, 327-7755.*

TUESDAY, NOVEMBER 10

1:00 p.m. **Microbial Superantigen Peptides and Their Role in Septic Shock.** Kumar Visvanathan, Postdoctoral Fellow, RU. **mRNA Levels in Relation to Activity of Core Metabolic Enzymes in the Parasitic Protists *Trichomonas vaginalis* and *Trypanosoma brucei*.** Benno Ter Kuile, Assistant Professor, RU. RU Microbial Interest Group Lecture. **Northeast Conference Room, 17th Floor Weiss.** Contact *David Thaler, 327-7596.*

WEDNESDAY, NOVEMBER 11

11:00 a.m. **Regulation of the Cell Cycle and Cellular Senescence by the MAP Kinase Pathway.** Martin McMahon, Associate Professor, Cancer Research Institute, Mt. Zion Cancer Center, U.C.-San Francisco. Weekly Research Seminar. **305 Weiss.** Contact *Shauna Sely, 327-8655.*

1:00 p.m. **Molecular Mechanism of T cell Survival during Immune Responses.** Jacqueline Bromberg, Postdoctoral Fellow, RU. Seminar. **C-405 CUMC, 1300 York Ave.** Contact *Selina Chen-Kiang, 746-6442.*

THURSDAY, NOVEMBER 12

4:00 p.m. **Parity Odd Bubbles in Hot QCD.** R. Pisarski, Brookhaven National Laboratory. High Energy Physics Seminar. **B Level Conference Room, Smith Hall Annex.**

THE ROCKEFELLER UNIVERSITY Friday Lectures

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, OCTOBER 30

Symmetry and Asymmetry. Tsung-Dao Lee, Enrico Fermi Professor of Physics and University Professor, Dept. of Physics, Columbia U.

FRIDAY, NOVEMBER 6

Redirection of Cell Fate: From Clones to Morphogens. John Gurdon, Wellcome CRC Institute, England.

FRIDAY, NOVEMBER 13

Evolutionary Adaptations to Anaerobic Life in Eukaryotes. Miklós Müller, Associate Professor, RU.

FRIDAY, NOVEMBER 13

10:00 a.m. and 1:00 p.m. **Gene Synapses and Long-term Memory.** Eric Kandel, Columbia U. **Cocaine Addiction: A Collaboration between Learning and Pharmacology.** Peter Kalavis, Medical U. of South Carolina—Charleston. Neurobiology of Behavior and Learning Seminar. **301 Weiss.** Contact *Fernando Nottebohm, 914-677-3059.*

The Arts and Other Events

FRIDAY, OCTOBER 30

12:00 p.m. **Tri-institutional Noon Recitals.** Lang Lang, piano, performing works by Haydn, Schumann, Tchiakovsky and Balakirev. **Caspary Auditorium.** Free admission. Open to RU/CUMC/NYPH/MSKCC community and guests.

MONDAY, NOVEMBER 2

12:00 p.m. **Tri-institutional Noon Recitals.** Ruth Laredo, piano, performing an all Mozart program. **Caspary Auditorium.** Free admission. Open to RU/CUMC/NYPH/MSKCC community and guests.

FRIDAY, NOVEMBER 6

12:00 p.m. **Tri-institutional Noon Recitals.** Rubio String Quartet, performing works by Bartók and Beethoven. **Caspary Auditorium.** Free admission. Open to RU/CUMC/NYPH/MSKCC community and guests.

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