

# Caltech336

T E S S M T W T F S S M T W

The campus community biweekly  
May 19, 2005, vol. 5, no. 10

## Science stars for a day



Senior pranksters had stars in their eyes as they plastered a stretch of the Hollywood Walk of Fame with the names of some 500 famous scientists during the wee hours of May 4, creating the "Scientists' Walk of Fame." The roster included David Baltimore, Kip Thorne, and Richard Feynman, as well as Isaac Newton, Albert Einstein, Stephen Hawking, and Marie Curie. The prank coincided with the release of the American-scientist stamp series (see article this page).

## Here comes the Sonne

There will be a world premiere this Memorial Day weekend, when Theater Arts at Caltech (TACIT) presents *Sonne*, an original play by senior Nicholas Rupprecht.

The plot concerns two hikers, clearly (although not explicitly) Caltech alums of recent vintage. These two wind up in a twilight land where the sun has not shone in living memory and whose inhabitants await the day when they are found worthy of its return. "It's the story of two people who come into this community, and what effect they have on it," says Rupprecht, adding that the play "explores the difference between religion and fanaticism, the questions of the nature of courage and what morality means to a god."

A mathematics major, Rupprecht wrote his first full-length play the summer before he came to Caltech and has continued writing at a rate of about one per year ever since. He is a founding member of the Caltech Filmmaking Club and was behind last spring's Shakespeare Read-A-Thon event. TACIT has organized readings of several of Rupprecht's scripts, but this is the first to be performed.

see *Sonne*, page 6

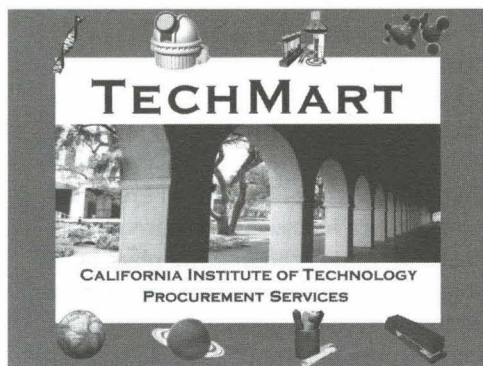
## TechMart debuts

TechMart, a new online purchasing system for the Caltech professional, makes its debut at the Institute in June. The system is designed to facilitate the procurement process while providing lower prices on items that are essential for laboratory and office work alike.

"TechMart's one-stop shopping experience is a tremendous improvement from our current processes," says Bill Cooper, director of Caltech's procurement office. "It will better support the focus of our research community by allowing users to purchase products quickly and easily."

The implementation of TechMart is a move away from Caltech's current Oracle-based procurement system, which

see *TechMart*, page 6



## Three elected to Board of Trustees

Caltech president David Baltimore recently announced the election of three new members to the Institute's Board of Trustees. They are John E. Bryson, chairman, president, and chief executive officer of Edison International; A. Michael Lipper, founder and chief executive officer of Lipper Advisory Services Inc.; and Donald W. Tang, vice chairman of Bear, Stearns & Co. Inc.

Bryson is a graduate of Stanford University and Yale Law School. His company is based in Rosemead, California, and is the parent company of Southern California Edison, Edison Mission Energy, and Edison Capital. He joined Edison in February 1984, and was elected chairman and CEO of Edison International and Southern California Edison in 1990.

Prior to joining Edison, Bryson was a partner in the law firm of Morrison & Foerster. From 1979 to 1982 he served as president of the California Public Utilities Commission, and before that he was chairman of the California State Water Resources Control Board. Earlier, he served as a cofounder and attorney for the Natural Resources Defense Council.

Bryson is a director of the Boeing Company, the W. M. Keck Foundation, and the Walt Disney Company. He is cochair of the Pacific Council on International Policy and serves or has served on a number of educational, environmental, and other nonprofit boards, including as chairman of the California Business Roundtable and as a trustee of Stanford University.

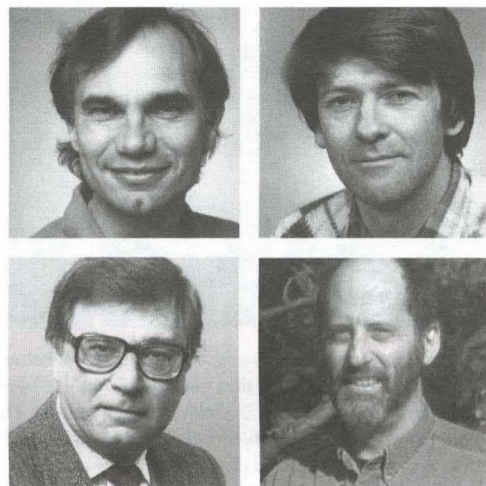
see *Trustees*, page 2

## Feynman's stamp of approval

Persistence has paid off in a push to put late Caltech professor Richard Feynman on the face of a postage stamp. The Nobel Prize-winning physicist is scheduled to appear in a May rollout of the American Scientists stamp series.

Caltech plans to celebrate with a commemorative event Friday, May 20, timed to coincide with the Alumni Association's annual Seminar Day / Reunion Weekend. For that day, the Caltech post office will be officially designated the Feynman Station at Caltech, and it will issue a special limited-edition commemorative envelope bearing the four stamps that compose the American Scientists series, and a special cancellation stamp from the Feynman Station. Stamps and cachets, as well as Feynman books and memorabilia, will be available for purchase.

see *Feynman stamp*, page 2



Clockwise from top left: Richard Andersen, Roger Blandford, James Eisenstein, and Wallace Sargent.

## Four named to NAS

Three Caltech faculty members are among the 72 new members and 18 foreign associates being named to the National Academy of Sciences on May 3. The election was announced during the 142nd annual meeting of the academy in Washington, D.C. The academy also elected a former faculty member, who is now a visiting associate.

Caltech's newest members are Richard Andersen, the Boswell Professor of Neuroscience; James Eisenstein, the Roshek Professor of Physics; and Wallace Sargent, the Bowen Professor of Astronomy. Roger Blandford, a former Caltech faculty member and current visiting associate in physics, is also among the electees. This brings the total number of Caltech faculty members of the National Academy of Sciences to 70.

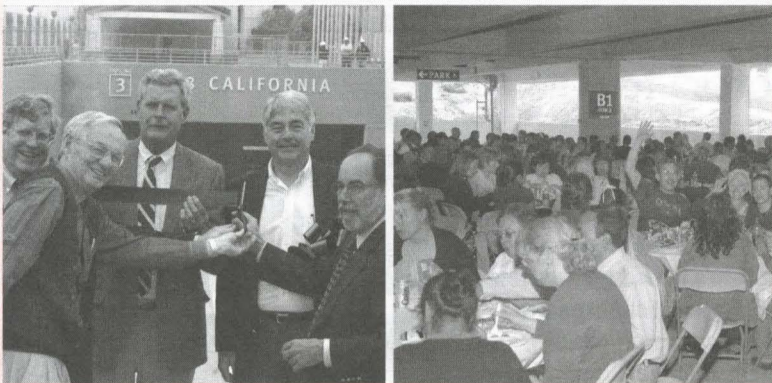
Membership in the National Academy of Sciences is considered one of the most important honors that a scientist can achieve. In addition to the 1,976 active members of the academy following this year's election, 360 foreign associates are also listed in the organization's roster as nonvoting members.

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.

Andersen is a neuroscientist who has garnered considerable attention in recent years for his progress toward the goal of controlling prosthetic devices with brain signals. Much of his current work focuses on severely paralyzed human patients who can think about making movements, but due to brain lesions from trauma, stroke, or peripheral neuropathies, can no longer make movements. His approach is to create brain-implant technology that will act as an interface between a patient's thoughts for movement and artificial

see *NAS*, page 6

# NewsBriefs



Numbering in the hundreds, Caltech staff members, students, and faculty attended the ribbon-cutting ceremony and barbecue for the new parking structure located south of California Boulevard. The subterranean structure holds spaces for 700 vehicles and will be crowned by a field of grass, marking the return of Caltech's baseball diamond and soccer field. The lot officially opened to cars on May 17.

## Personals

### Welcome to Caltech

#### April

**Sharon Asadoor**, department assistant, Housing Office; **Kaji Gurung**, custodian, Physical Plant; **Christina He**, grants manager, engineering and applied science; **Micah Jackson**, assistant animal lab technician, biology; **Fukagawa Misato**, visitor in astronomy; **Joanne Ramirez**, research and laboratory coordinator, applied physics.

#### May

**Sequoyah Aldridge**, research engineer, condensed-matter physics; **Kimberly Faulkner**, administrative assistant, chemistry and chemical engineering; **Osamu Miyakawa**, experimental-research scientist, Laser Interferometer Gravitational-Wave Observatory; **Edward Myers**, research engineer, condensed-matter physics; **Bjoern Philipps**, director, Protein Expression Center, Beckman Institute; **Veronica Rojas**, research technician, geological and planetary sciences; **Leif Strand**, software engineer for software integration, geological and planetary sciences; **Shawn Wagner**, MRI technologist, biology; **Jana Watkins**, accounts payable specialist, Payment Services.

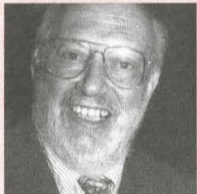
## Honors and awards

**Chris Brennen** has been named the Richard L. and Dorothy M. Hayman Professor of Mechanical Engineering; this title replaces that of professor of mechanical engineering. He received both his BA, in 1963, and his doctorate, in 1966, from the University of Oxford, and he joined Caltech as a research fellow in 1969. He was appointed associate professor in 1976 and professor in 1982. During his long career at Caltech, he has served as master of student houses, from 1983 to 1987; dean of students, from 1988 to 1992; executive officer for mechanical engineering, from 1993 to 1997; and vice president for student affairs, from 1997 to 2002.

**Chris Martin**, professor of physics, has received his second NASA Public Service Medal, in recognition of "exceptional scientific achievement in ultraviolet astrophysics and contributions to the success of the Galaxy Evolution Explorer." He received his first medal last year, for "outstanding leadership in the development of the Galaxy Evolution Explorer mission." Martin received his BA from Oberlin College in 1978 and his PhD from UC Berkeley in 1986. He joined Caltech as professor of physics in 1993, and he is principal investigator for JPL's Galaxy Evolution Explorer, or GALEX.

### KNI informational session

The newly founded Kavli Nanoscience Institute (KNI) at Caltech will hold an informational session. Come and learn about the nanoscience facilities, academic activities, and fellowship programs that are being launched to nurture Caltech's nanoscience community. This gathering will take place on May 26 at 5 p.m. on the lawn between Millikan Library and West Bridge. Refreshments will be served. For further information about the KNI, see <http://kni.caltech.edu>.



### Revel to step down

Vice President for Student Affairs Margo Marshak recently announced that Jean-Paul Revel, the Ruddock Professor of Biology, will step down from the position of dean of students after this year's commencement. John Hall, professor of civil engineering, has agreed to serve as dean.

In a letter to the campus community, Marshak praised Revel's work as dean, a position he has held since 1996.

"His advice, compassion, and guidance have been invaluable to students and to me personally," she wrote. "I have greatly appreciated and relied on his wisdom, experience, and knowledge of Caltech."

Hall also serves as the executive officer for civil engineering and applied mechanics. He came to Caltech 24 years ago, and he specializes in earthquake engineering and the structural dynamics of dams, steel structures, and wood-frame buildings. He will assume his new responsibilities in June.

### Trustees, from page 1

A native of New York and a resident of New Jersey, Lipper founded Lipper Analytical Services Inc. in 1973 as an investment firm dedicated to the analysis of funds and brokerage firms. He sold it to Reuters Group PLC in 1998, and Reuters has transformed the firm into Lipper Inc.

Lipper is also a managing member of L&S Partners, a private financial services hedge fund. He is president of Lipper Advisory Services, a registered investment advisor, utilizing mutual funds for institutional investors. He also continues to accept a limited number of consulting assignments dealing with funds and brokerage firms, through Lipper Consulting Services Inc.

He was president of the New York Society of Security Analysts for the 1993–94 term, and for many years was chairman of the organization's investment strategy forum/portfolio management committee. In May 2003 he was reelected to the organization's board as its treasurer.

Lipper has been a regional director of the Financial Analysts Federation and was a founding member and director of the International Society of Financial Analysts of the Association for Investment Management and Research. He is a past chairman of the specialty firms advisory committee (now known as the New York Firms Committee) of the New York Stock Exchange. Lipper chairs the investment committees for the New Jersey Performing Arts Center and the Atlantic Health System.

Tang is a native of Shanghai, China, and has been affiliated with Bear Stearns since 1992. Originally assigned to the Los Angeles office as senior managing director, he went to Hong Kong as president and chief executive officer of Bear Stearns Asia, where he built and managed the firm's four Asian offices.

He was elected to the board of directors in 1997, and assigned to Chicago in 1999 as head of the Midwest region. In 2001, he returned to Los Angeles to assume his current Asia and West Coast responsibilities, and in May 2004 received his new appointment as vice chairman. Prior to his Bear Stearns career, Tang held senior positions at Lehman Brothers and Merrill Lynch.

Tang is a trustee of the Los Angeles County Museum of Art, a member of the RAND Center for the Asia Pacific Policy advisory board, and chairman of RAND's banking reform committee on China. He is also chairman of the Asia Society of Southern California, a member of the board of trustees of the Asia Society, and a trustee of the California Science Center Foundation.

Tang is a member of the boards of United Friends of the Children and the United Way of Greater Los Angeles, a member of the business advisory board of the California NanoSystems Institute, a member of the Committee of 100, and a member of the Pacific Council on International Policy.



### Feynman stamp, from page 1

Starting at 4 p.m., the classic documentary on Feynman, *The Pleasure of Finding Things Out*, will be screened in Ramo Auditorium. The program at 5 p.m. will feature guest speakers including Caltech alum ('62) and Feynman Professor of Theoretical Physics Kip Thorne, Professor of Theoretical Physics Steve Frautschi, and Tolman Professor of Theoretical Physics and Nobel Laureate David Politzer. Also on hand will be Michelle Feynman, the daughter of Richard Feynman and editor of the newly published *Perfectly Reasonable Deviations from the Beaten Track: The Letters of Richard P. Feynman*; as well as the Pasadena postmaster.

Feynman's selection was championed by a 1995 petition and letter-writing campaign by his friend and collaborator Ralph Leighton; Thorne and other faculty members supported it. Leighton also attended a Citizens' Stamp Advisory Committee meeting in 1997 and stayed in contact with committee members. He says, "I'm not sure what exactly triggered approval for the scientist stamps—persistence, probably, and perhaps the fact that scientists have not been recognized on stamps for decades, while cartoon characters and movie actors have had plenty of commemoratives." The series also includes the likenesses of geneticist Barbara McClintock, mathematician John von Neumann, and thermodynamicist Josiah Willard Gibbs. (Interestingly, McClintock spent 1931–1933 at Caltech as a postdoc in the biology division.) The first-day issue of the American Scientists stamp series was May 4 at Yale.

The Feynman-stamp citation reads: "Richard P. Feynman (1918–1988) developed a new formulation of quantum theory based, in part, on diagrams he invented to help him visualize the dynamics of atomic particles. In 1965, this noted theoretical physicist, enthusiastic educator, and amateur artist was awarded the Nobel Prize in Physics."

The commemorative Feynman postmark will be available through June 20 and can be ordered by contacting Mail Service's Darrell Goudeau at 626/395-6359 or via e-mail at [darrell.goudeau@caltech.edu](mailto:darrell.goudeau@caltech.edu). For more information, visit [www.usps.com/communications/news/stamps/2004/sr04\\_076.htm](http://www.usps.com/communications/news/stamps/2004/sr04_076.htm).

## Grad students win Intel fellowships

The Intel Foundation recently awarded PhD fellowships to Michal Brown, a graduate student in materials science, and Robert Walters, a graduate student in applied physics.

Brown's fellowship research uses X-ray diffraction to validate an optical measurement method called coherent gradient sensing. His advisor is Ares Rosakis, the von Kármán Professor of Aeronautics and Mechanical Engineering.

Walters's fellowship research will focus on understanding the physics relevant to novel silicon nanocrystal-based optoelectronic devices, including optical memory elements, modulators, and

nanocrystal LEDs. His advisor is Harry Atwater Jr., the Howard Hughes Professor and professor of applied physics and materials science.

Each fellowship includes a cash award, access to an Intel technologist who serves as a mentor, an Intel architecture-based laptop, and the opportunity to participate in an internship at Intel.

Brown and Walters were selected from more than 200 applicants. This year, the Intel Foundation awarded 43 fellowships totaling \$1.8 million to outstanding PhD candidates pursuing leading-edge research at 17 U.S. universities.

# May 23–29, 2005

Monday Tuesday Wednesday Thursday Friday Saturday Sunday

## Monday, May 23

**High Energy Physics Seminar**  
469 Lauritsen, 4 p.m.—“Parity Violating Electron Scattering: Past, Present, and Future,” Krishna Kumar, associate professor, department of physics, University of Massachusetts Amherst.

**Shirley A. Kliegel Lecture in Geological and Planetary Sciences**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Deformation and Rotation at Instantaneous and Geologic Timescales in the Central Andes: Real-Time Oroclinal Bending and Other Conundrums,” Professor Richard Allmendinger, geological sciences, Cornell University.

## Tuesday, May 24

**Thesis Seminar**  
151 Crellin, 10 a.m.—“Theoretical and Experimental Investigations in MEMS-Based Force-Detected NMR,” Ramez Elgammal, graduate student in chemistry, Caltech.

**Beckman Institute Seminar Series**  
Beckman Institute auditorium, 10:30 a.m. to noon—“High-Throughput Behavior Capture and Screening,” Alan Barr, professor of computer science, principal investigator of the high-throughput behavior capture and screening Beckman Institute pilot project. Refreshments, 10 a.m. Information: 395-2791.

**Caltech Library System Presents: Life Sciences Information Resources**  
Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—Learn the various bibliographic databases to consider for retrieving interdisciplinary information related to the life sciences, as well as options for receiving automatic updates of new literature on your topic, use of subheadings in PubMed/Medline, and other database functions and features. Registration: <http://oliphaunt.library.caltech.edu/forms/cls-classes>.

**Numerical Relativity Seminar**  
114 E. Bridge, 1:30 to 3 p.m.—“Exterior Differential System for Tetrad Vacuum Relativity: Cartan Form and Conservation Laws,” Frank Estabrook, senior research scientist, JPL.

**Thesis Seminar**  
151 Crellin, 2 p.m.—“The Chemistry of Tris(phosphino)borate Supported Iron-Nitrogen Multiply Bonded Linkages,” Steven Brown, graduate student in chemistry, Caltech.

**Institute for Quantum Information Seminar**  
74 Jorgensen, 3 p.m.—Topic to be announced. Andrew Silberfarb, department of physics and astronomy, University of New Mexico.

**Mechanical Engineering Seminar**  
206 Thomas, 3 p.m.—“Conjugated Polymer Microactuators,” Professor Elisabeth Smela, department of mechanical engineering, University of Maryland, College Park.

**Ulric B. and Evelyn L. Bray Seminar**  
25 Baxter, 4 p.m.—Topic to be announced. Elizabeth Maggie Penn, assistant professor of political economy, department of social and decision sciences, Carnegie Mellon University.

**General Biology Seminar**  
119 Kerckhoff, 4 p.m.—“Genes and Molecules That Extend Lifespan: Longevity Research Comes of Age,” Professor David Sinclair, department of pathology, Harvard Medical School.

## Wednesday, May 25

**Plasma Seminar**  
250 Watson, 11 a.m. to 12:30 p.m.—“Laser-Induced Fluorescence Measurements of Spheromak Plasmas,” Steve Pracko, graduate student in applied physics, Caltech.

**Kellogg Seminar**  
Lauritsen Library, 12:15 p.m.—“Polarized Electron Scattering from the Vector/Tensor Polarized Deuterium Gas Target at BLAST,” Vitaliy Ziskin, physics department, MIT.

**Environmental Science and Engineering Seminar**  
142 Keck, 3:40 to 5 p.m.—“Between a Rock and a Hard Place: Homeostatic Mechanisms in Algae for Trace Element Utilization,” Professor Sabeeha Merchant, department of chemistry and biochemistry, UCLA.

**Astronomy Colloquium**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Resonant Rings: The Kuiper Belt and Beyond,” Eugene Chiang, assistant professor of astronomy and earth and planetary sciences, UC Berkeley.

**Organic Chemistry Seminar**  
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Synthesis of Natural and Unnatural Products,” Professor Jeffrey Winkler, department of chemistry, Pennsylvania State University.

**Special Seminar in Applied Mathematics**  
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4 p.m.—“Construction of Artificial Boundary Conditions and Their Discretization for Linear (1d and 2d) and Nonlinear (1d) Schrödinger Equations,” Xavier Antoine, visiting associate in applied and computational mathematics, Caltech.

**Caltech Biotechnology Club Career Series**  
200 Broad Center, 5 to 6:30 p.m.—“Clinical Trials of Gene Therapy,” Professor Donald Kohn, departments of pediatrics and molecular microbiology and immunology, Keck School of Medicine, USC.

**Earnest C. Watson Lecture Series**  
Beckman Auditorium, 8 p.m.—“Powering the Planet: Where in the World Will Our Energy Come From?,” Nathan Lewis, Argyros Professor and professor of chemistry, Caltech. Admission is free.

## Thursday, May 26

**ESE & Society Discussion Group**  
151 Arms, Buwalda Room, 9 a.m.—Discussion groups are held on Thursday mornings from 9 to 10. Refreshments.

**Geology Club Seminar**  
151 Arms, Buwalda Room, 4 p.m.—Topic to be announced. Cody Nash, graduate student in geobiology, Caltech.

**Inorganic-Electrochemistry Seminar**  
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Fundamental Reaction Steps Probed by Organometallic Photochemistry,” Professor Robin Perutz, department of chemistry, University of York.

**Physics Research Conference**  
201 E. Bridge, 4 p.m.—“Toward Two-Channel Kondo Effect: Engineering Hamiltonians in Semiconductor Nanostructures,” David Goldhaber-Gordon, assistant professor of physics, Stanford University. Refreshments, 114 E. Bridge, 3:45 p.m.

**KNi Kickoff**  
On the lawn between the Millikan Library and West Bridge, 5 to 6:30 p.m.—The Kavli Nanoscience Institute will hold an informational session. All are invited to come and learn about planned programs and the capabilities and opportunities made possible with the advent of the KNi. Refreshments. Information: <http://kni.caltech.edu>.

## Friday, May 27

**Thesis Seminar**  
106 Spalding Lab, Hartley Memorial Seminar Room, 9 a.m.—“A New Strategy for Synthesizing Zeolites and Zeolite-Like Materials,” Hyunjoo Lee, graduate student in chemical engineering, Caltech.

**High Energy Theory Seminar**  
469 Lauritsen, 11 a.m.—Topic to be announced. Hisham Sati, University of Adelaide.

**Thesis Seminar**  
147 Noyes, Sturdivant Lecture Hall, 1 p.m.—“Direct Examination of Initiation and Propagation Kinetics of Zirconocene-Catalyzed Alkene Polymerization,” Sara Klamo, graduate student in chemistry, Caltech.

**Thesis Seminar**  
106 Spalding Lab, Hartley Memorial Seminar Room, 1 p.m.—“Partially Reduced Heteropolyanions for the Oxidative Dehydrogenation of Ethane,” Jonathan Galownia, graduate student in chemical engineering, Caltech.

**Thesis Seminar**  
147 Noyes, Sturdivant Lecture Hall, 2:30 p.m.—“Selectivity in the C-H Activation of Methane and Methanol,” Jonathan Owen, graduate student in chemistry, Caltech.

**Mathematics of Information Seminar**  
239 Moore, 3 to 4:30 p.m.—Topic to be announced. Ron Lavi, postdoctoral scholar, Social and Information Sciences Laboratory (SISL), Caltech.

**Biology Division Seminar**  
119 Kerckhoff, 4 p.m.—“Bdelloid Rotifers: Habitat and Genome Structure,” Professor Matthew Meselson, department of molecular and cellular biology, Harvard University.

**Inorganic-Organometallics Seminar**  
151 Crellin, 4 p.m.—“Enantioselective Olefin Metathesis,” Jacob Berlin, graduate student in chemistry, Caltech.

**Kellogg Seminar**  
Lauritsen Library, 4 p.m.—“CLEAN,” Dr. Mark Boulay, Los Alamos National Laboratory.

# the academic week at Caltech

is a printed version of selected events from the online master calendar,

<http://today.caltech.edu/calendar>. To publish events online, register as an event planner on the Caltech Today calendar. If unable to submit electronically,

please call (626) 395-3630. For further information or a schedule of deadlines, call (626) 395-3630, fax (626) 449-2159, write 336 Calendar, 1-71,

California Institute of Technology, Pasadena, CA 91125, or e-mail [debbieb@caltech.edu](mailto:debbieb@caltech.edu).

## May 30—June 5, 2005

M T W T F S S

### Monday, May 30

Memorial Day holiday

### Tuesday, May 31

#### Environmental Science and Engineering Seminar

365 S. Mudd, Salvatori Room, 10 a.m.—“The Role of Surface Fluxes and Ocean Coupling in the Madden-Julian Oscillation,” Adam Sobel, associate professor, department of applied physics and applied mathematics, and department of earth and environmental sciences, Columbia University.

#### Caltech Library System Presents: Depositing Papers in CaltechAUTHORS

Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—CaltechAUTHORS is an institutional repository providing free access to articles written by or with Caltech professorial faculty. Learn about how author postprints (author-formatted, post-peer review, and copyedited) can be uploaded and made easily retrievable by a global audience. Registration: <http://oliphant.library.caltech.edu/forms/clsclasses>.

#### Thesis Seminar

151 Crellin, 2 p.m.—“Design of Sequence-Specific DNA Intercalators,” Eric Fechter, graduate student in chemistry, Caltech.

#### Institute for Quantum Information Seminar

74 Jorgensen, 3 p.m.—Topic to be announced. Professor Tien D. Kieu, Centre for Atom Optics and Ultrafast Spectroscopy, Swinburne University of Technology.

#### Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—“Cosmology after WMAP,” Professor David Spergel, department of astrophysical sciences, Princeton University. Refreshments, 3:30 p.m.

#### Chemical Physics Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Multidimensional Coherent Vibrational Spectroscopy of Peptides: Femtosecond Snapshots of Structure and Dynamics,” Chancellor Professor Shaul Mukamel, department of chemistry, UC Irvine.

#### Weigle Lecture

119 Kerckhoff, 4 p.m.—“Beyond the Structure of RNA Polymerase: Understanding Eukaryotic Gene Transcription,” Professor Roger Kornberg, department of structural biology, Stanford University School of Medicine.

### Wednesday, June 1

#### Mathematical Physics Seminar

351 Sloan, noon—“On the Cantor Spectrum Phenomenon for the Quasi-Periodic Schrödinger Operator,” Russell Johnson, University of Florence.

#### Kellogg Seminar

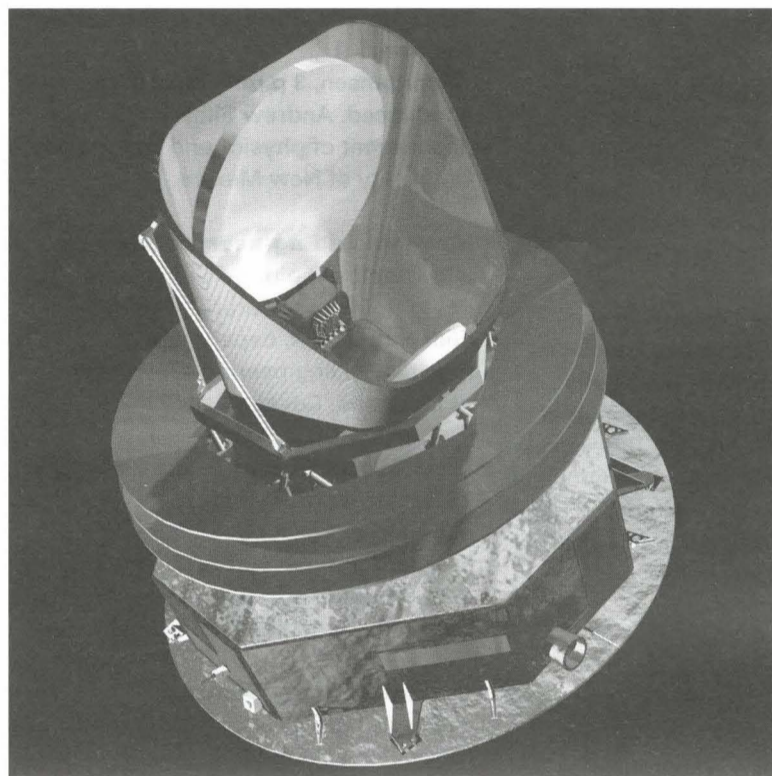
Lauritsen Library, 12:15 p.m.—Topic to be announced. Professor Jiong Qiu, visitor in physics, Caltech.

#### Astronomy Colloquium

55 Arms, Robert Sharp Lecture Hall, 4 p.m.—The 7th Annual Greenstein Lecture: “Probing the Dark Energy,” Professor David Spergel, department of astrophysical sciences, Princeton University.

#### Organic Chemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Tryptophan Catabolism: Gene Identification and Mechanistic Studies,” Professor Tadhg P. Begley, department of chemistry and chemical biology, Cornell University.



<http://planck.esa.int>

An artist's impression of the European Space Agency's Planck satellite, a “third generation” instrument being designed to map cosmic microwave background (CMB) anisotropies. Due to be launched in 2007, the satellite will be the subject of the Kellogg Seminar on Friday, June 3.

### Thursday, June 2

#### ESE & Society Discussion Group

151 Arms, Buwalda Room, 9 a.m.—Discussion groups are held on Thursday mornings. Refreshments.

#### Thesis Seminar

Beckman Institute auditorium, 11 a.m.—“Prediction of Structure and Antagonist Binding Site in Human and Rodent Chemokine Receptor 1,” Shantanu Sharma, graduate student in chemistry, Caltech.

### Friday, June 3

#### High Energy Theory Seminar

469 Lauritsen, 11 a.m.—Topic to be announced. Professor Tapobrata Sarkar, department of physics, Indian Institute of Technology, Kanpur.

#### Mathematics of Information Seminar

239 Moore, 2:30 to 4 p.m.—Topic to be announced. Ron Lavi, postdoctoral scholar, Social and Information Sciences Laboratory (SISL), Caltech.

#### Inorganic-Organometallics Seminar

151 Crellin, 4 p.m.—“Photoinduced Multistep Tunneling in Azurin,” Crystal Shih, graduate student in chemistry, Caltech.

#### Kellogg Seminar

Lauritsen Library, 4 p.m.—“The Planck Mission and the CMB,” Dr. Gary Prezeau, JPL.

# CampusEvents

## Monday, May 23

### Summer Recreation Program Enrollment

Braun Gym—Soccer camp, swim lessons, brand new free weights, and group fitness—what a great way to spend the summer. If you are not currently enrolled for the summer quarter, stop by the Recreation Office and we'll get you registered. Information: [www.athletics.caltech.edu/Recreation/pdf/summer2005.pdf](http://www.athletics.caltech.edu/Recreation/pdf/summer2005.pdf) or Dana, 395-3252.

### Project 2003 Level 1

120 ATC Building, 263 S. Chester, 1 to 5 p.m.—Learn the basic project management concepts for working in Microsoft Project. Attendees will receive course materials for use at their own computers. This course will continue from 1 to 5 p.m. on June 2.

### Bolero Dance Class

Winnett lounge, 7:30 p.m.—Bolero is a dance with the passion of rumba and the grace of the waltz. No partner or previous dance experience is required. This is the final class.

## Tuesday, May 24

### Beginning Ballet Class

Braun Gym, multipurpose room, 3:30 p.m.—A free, introductory ballet class for women and men with no prior dance experience. No special clothing or shoes are required. The seven-week series of classes began on April 12.

## Wednesday, May 25

### Caltech/JPL Toastmasters Club Meeting

Building 167 conference room, JPL, 5:30 p.m.—Enhance your speaking skills in a supportive and positive learning environment. The Toastmasters Club meets every second and fourth Wednesday of the month. Guests are welcome. If coming from outside JPL, contact Frank Maiwald three days before the event at (818) 687-9487. Information: Dirk Runge, (818) 393-0465 or [www.jplcaltechtoastmasters.com](http://www.jplcaltechtoastmasters.com).

### Salsa Dance Classes

Winnett lounge, 7:30 p.m.—Learn the fundamentals of salsa dancing. Basic instruction starts at 7:30 p.m. If you already know the basics, come to the intermediate class at 8 p.m. Free practice starts at 9:30, and the advanced class takes place at 10. Classes started on April 13.

## Thursday, May 26

### Caltech Architectural Tour

Athenaeum, 11 a.m. to 12:30 p.m.—Meet in the entry hall of the Athenaeum. Led by members of the Caltech Architectural Tour Service. Reservations: Susan Lee, 395-6327 or [suz@caltech.edu](mailto:suze@caltech.edu).

### Amnesty International Monthly Meeting

Caltech Y lounge, 7:30 p.m.—Caltech/Pasadena AI Group 22 holds its monthly meeting to discuss current activities and plans. All are welcome. Refreshments. Information: (818) 354-4461 or [lkamp@lively.jpl.nasa.gov](mailto:lkamp@lively.jpl.nasa.gov). Visit our website at [www.its.caltech.edu/~aigp22](http://www.its.caltech.edu/~aigp22).

### Ethnic Visions Film Series: *Better Luck Tomorrow*

Baxter Lecture Hall, 7:30 p.m.—*Better Luck Tomorrow* (2002, 101 min.) is a witty and provocative story about a group of overachieving Asian high school students in the Orange County suburbs who discover their repressed darker sides and lead double lives of mischief and crime to alleviate the pressures of perfection. Justin Lin, the film's director, will be a special guest. This film is being shown in conjunction with an advanced humanities course taught by Professor of History Robert Rosenstone.



© MTV Films

Sung Kang, Jason Tobin, and Parry Shen star in *Better Luck Tomorrow* (2002), which will be shown as part of the Ethnic Visions Film Series at Baxter Lecture Hall on Thursday, May 26.

### Beginning-Intermediate Hip-Hop

Braun Gym, multipurpose room, 9 p.m.—Beginning-intermediate hip-hop is an energetic dance for dancers of all levels. No special clothing or shoes are needed. This seven-week series began on April 14.

## Friday, May 27

### Sonne: Theater Arts at Caltech

Ramo Auditorium, 8 p.m.—*Sonne* is an original play by Caltech senior Nicholas Rupprecht. (See Public Events contact information on this page.)

## Saturday, May 28

### Beginning-Intermediate Belly Dance

Braun Gym, multipurpose room, 12:25 to 1:45 p.m.—Belly dancing is an empowering and energizing form of dance. Classes are taught by Leela, a professional instructor, who was voted best dance instructor in Glendale for 2003. No experience or special shoes are needed. This seven-week series began on April 16.

### Sonne: Theater Arts at Caltech

See Friday, May 27, for details.

## Sunday, May 29

### Sonne: Theater Arts at Caltech

See Friday, May 27, for details.

## Monday, May 30

### Memorial Day holiday

### Credit Union Closure

All branches of the Caltech Employees Federal Credit Union will be closed in observance of the Memorial Day holiday.

### Sonne: Theater Arts at Caltech

See Friday, May 27, for details.

## Tuesday, May 31

### Visio 2003 Level 1

120 ATC Building, 263 S. Chester, 8 a.m. to noon—Learn to create diagrams, maps, flowcharts, and organization charts the easy way. Attendees will receive course materials for use at their own computer. This course will continue from 8 a.m. to noon on June 1. Information and registration: [http://cit.hr.caltech.edu/Education/course\\_descriptions.htm](http://cit.hr.caltech.edu/Education/course_descriptions.htm).

## Saturday, June 4

### 19th Annual All-Mozart (Plus Haydn) Concert

Dabney Lounge, 8 p.m.—The Caltech Chamber Orchestra will perform Mozart's Piano Concerto no. 24 in C Minor, K. 491, featuring graduate student Victor Kam as pianist. The Chamber Singers will perform the *Mass in the Time of War* ("Pauken Mass") by Haydn. Donald Caldwell will conduct. Admission is free. A reception for all will follow the concert.

## Sunday, June 5

### 19th Annual All-Mozart (Plus Haydn) Concert

Dabney Lounge, 3:30 p.m.—See Saturday, June 4, for details.

## Mondays

### Lunchtime Pickup Ultimate Frisbee

Fox Stanton Track and Field, 12:15 p.m.—The Caltech Penultimate Frisbee players make up an informal recreational group that plays pickup games of Ultimate Frisbee at lunchtime on Mondays, Wednesdays, and Fridays. No experience is needed, and complete novices are welcome. Information: <http://mailman.its.caltech.edu/penultimate>.

### Floorball Club

Brown Gymnasium, 9 p.m.—Caltech Floorball Club holds pickup floorball games on Mondays from 9 to 11 p.m. For more information, see our website at <http://floorball.caltech.edu>.

## Tuesdays

### Preschool Playgroup

Tournament Park, 10 a.m. to noon—Song and storytime, crafts and free play for toddlers and preschoolers (from walking to age 4). Sponsored by the Caltech Women's Club. Information: 584-0970 or [kimdeman@yahoo.com](mailto:kimdeman@yahoo.com).

### CIT Knitters Group Meeting

256 Mudd Laboratory, South, noon—All levels of knitters and related handicrafters are welcome. We make items for others and ourselves. Information: 395-6905.

### Caltech Tai Chi Club

Winnett lounge, 7 p.m.—Meets Tuesdays and Fridays weekly. Sessions are free. Information: [www.its.caltech.edu/~taichi](http://www.its.caltech.edu/~taichi).

## Wednesdays

### Wednesdays in the Park

Tournament Park, 10 a.m. to noon—Every Wednesday there's conversation and coffee for parents and caregivers, and playtime and snacks for children. Stop by and make new friends from around the world. Sponsored by the Caltech Women's Club. Information: 793-2535 or [nancyhewett@earthlink.net](mailto:nancyhewett@earthlink.net).

### Lunchtime Pickup Ultimate Frisbee

Fox Stanton Track and Field, 12:15 p.m.—The Caltech Penultimate Frisbee players make up an informal recreational group that plays pickup games of Ultimate Frisbee at lunchtime on Mondays, Wednesdays, and Fridays. No experience is needed, and complete novices are welcome. Information: <http://mailman.its.caltech.edu/penultimate>.

## Thursdays

### Baby Furniture and Household Equipment

234 S. Catalina, 10 a.m. to 1 p.m.—Loans of kitchen and household necessities and baby furniture are made to members of the Caltech and JPL communities. Open on Thursdays only. No appointment is necessary. Information: 584-9773 or [furnpool@caltech.edu](mailto:furnpool@caltech.edu).

## Fridays

### Lunchtime Pickup Ultimate Frisbee

Fox Stanton Track and Field, 12:15 p.m.—The Caltech Penultimate Frisbee players make up an informal recreational group that plays pickup games of Ultimate Frisbee at lunchtime on Mondays, Wednesdays, and Fridays. No experience is needed, and complete novices are welcome. Information: <http://mailman.its.caltech.edu/penultimate>.

### Caltech Tai Chi Club

Winnett lounge, 7 p.m.—Meets Tuesdays and Fridays weekly. Sessions are free. Information: [www.its.caltech.edu/~taichi](http://www.its.caltech.edu/~taichi).

### Caltech Chess Club

Page House dining room, 8 p.m.—Be you master or novice, you will enjoy the chess club's weekly meetings. Information: [www.its.caltech.edu/~citchess](http://www.its.caltech.edu/~citchess).

## Public Events information and tickets

Contact 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

TechMart, from page 1

is considered inefficient and has not been adopted by the majority of campus users. "TechMart will revolutionize the way we do business," says Tina Lowenthal, the associate director of purchasing services. A paperless process, TechMart will minimize waste by doing away with most paper requisitions.

"Approximately 80 percent of purchase requisitions we get are hard copies," she says. This translates into reams and reams of paper that pass through her office every week. But once users learn how efficient TechMart can be, Lowenthal expects the purchasing process to create less waste.

"The system is used at more than 50 universities across the nation," Lowenthal adds. "A big plus is that the system is geared to the scientific community."

Indeed, site users will be able to browse and choose products from the catalogs of 30 suppliers. The big names are represented, including science and technology providers Bio-Rad, Grainger, QIAGEN, and Roche, among others; paper and pushpin suppliers such as Office Depot; and hardware and software specialists, including CDW.

"I tell people it's just like shopping on Amazon.com," Lowenthal says, referring to the online book and media merchant. As with that experience, a shopper can browse for a particular item, compare prices and features, and add the selections to a virtual shopping cart. Once the shopping is completed, the system takes over and automatically forwards the order to the supplier.

"The current e-req system in Oracle is not user-friendly," she says. "You can go through 12 screens from browse to order, while TechMart can do the same in only three screens." She credits Doris Shimabukuro, TechMart project manager, and the project team for putting together the "guts" of the project.

TechMart's arrival does not spell curtains for Oracle, however.

"Oracle will still be our official system of record," Lowenthal adds, referring to the Oracle Financials suite of applications that the Institute has used since mid-1999. All TechMart transactions will seamlessly flow into the Oracle financial suite and will be reflected the same as current purchase actions.

TechMart is the moniker given to the system that will be used specifically at Caltech. The technology is a suite of e-procurement systems called HigherMarkets, produced by the North Carolina-based SciQuest, Inc.

TechMart will become available for use on June 20. The system will be introduced to the Caltech community at a June 16 supplier showcase, from 9 a.m. to 2 p.m., on Bechtel Mall. In advance of the implementation, formal training for all end-users will begin the week of June 6.

NAS, from page 1

limbs, computers, or other devices, and "read out," or implement, the patient's desires.

Eisenstein is a specialist in condensed-matter physics, which involves the exploration of the fundamental laws of nature as they apply to the atoms and molecules that compose solid matter. His most significant research accomplishment in the last year has been his demonstration that unusual particles known as "excitons" can inhabit solid semiconductor materials in such a way that each exciton loses its individual identity, and, in certain ways, a large collection of excitons becomes a single quantum entity.

Sargent is particularly well known in the astrophysical community for his work in spectroscopy. His research in extragalactic spectroscopy provided the first evidence for a black hole in galaxy M87, and his work on intergalactic gas has led to new insights into the primeval materials of the early universe. His work in the stellar spectroscopy of A-type stars led to the discovery of the He3 isotope in the star 3 Centauri.

Blandford, a visiting associate in physics at Caltech, is a former faculty member in the Division of Physics, Mathematics and Astronomy. He is the Chen Professor of Physics at Stanford University and director of Stanford's Kavli Institute for Particle Astrophysics and Cosmology.

Sonne, from page 1

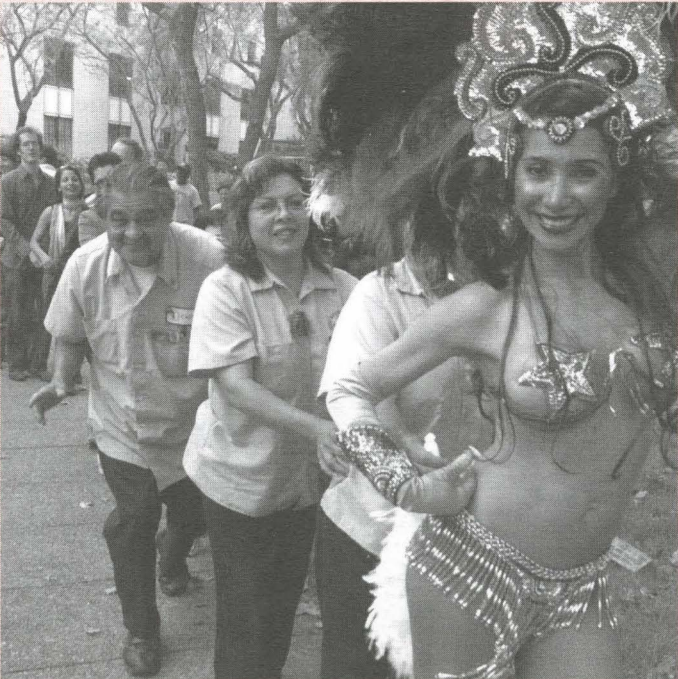
Rupprecht is also directing the show—"I'm just a starring role away from a vanity project," he says with a laugh—which was not his original intent. For an undergraduate, the time commitment tends to be prohibitive. Graduate students are less fettered by course schedules, and several have successfully directed over the years.

"I haven't had an undergrad who I could trust to do this for ages, but Nick has not missed a play since he's been here," says Shirley Marneus, the head of Caltech's theater arts program. "He's been in everything, and that gives him an edge. He is using his time very judiciously." It's something Rupprecht takes in stride.

"I'm not flaming out," he says, "so I must be doing all right."

The premiere of *Sonne* will take place on Friday, May 27, at 8 p.m. in Ramo Auditorium. Subsequent performances will take place on May 28 at 7 p.m., and on May 29 and May 30 at 2 p.m. Tickets are \$5 for the general public and \$3 for students with ID. Veterans and Caltech students will be admitted free to the May 30 show. A discussion session with the author and cast will follow each performance.

Carnival redux



Moving to a samba beat, a lively dancer shakes her tail feathers as she leads a train of Caltech staff and students around Winnett quad. The noontime concerts and meals were part of the 12th Annual Semana Latina festivities.

Inaugural Wouk lecture launches

Erik Antonsson, the chief technologist at the Jet Propulsion Laboratory and a professor of mechanical engineering at Caltech, will give the inaugural Victor Wouk Lecture at 4 p.m. on May 19 in Lees-Kubota Lecture Hall, 101 Guggenheim Laboratory of Aeronautics and Applied Science. Antonsson will discuss "Advanced Technology for Space Exploration" and will provide an overview of the JPL Strategic Technology Plan, along with highlights of recent successes and future missions. A wine and cheese reception will follow. The program is free and open to the public.

This new lectureship is named in honor of Caltech alumnus Victor Wouk, who received his master's and doctoral degrees in electrical engineering from Caltech in 1940 and 1942, respectively. He devoted himself largely to developing hybrid motor vehicles and using semiconductors in electric vehicles. He designed and built a high-performance electric vehicle and a high-performance, low-emission, improved-fuel-use hybrid. He continues to promote the development of hybrid automobiles powered by both electricity and gasoline, such as the Toyota Prius, Honda Insight, and Ford Escape Hybrid.

The range of Wouk's activities is wide, and he has consulted for several institutions and the government on the problems of energy. A space-travel buff since childhood, he also worked with the team that developed fuel gauges for the "dune buggies" that roamed the surface of the moon during the Apollo program.

The Victor Wouk Lectureship was established by the Wouk family in December 2004 to bring to campus experts on the latest advances in science and technology.

Due to health limitations, Wouk himself will not be able to attend the lecture, but his brother, Herman, the author, and Victor's son, Jonathan, will be there.

Antonsson is currently on leave from Caltech as he serves in his position at JPL, where he has responsibility for planning, implementing, and leading JPL's technology strategy. He also serves as a member of JPL's executive council and as the senior representative for JPL basic technology research to NASA headquarters and other NASA centers and government agencies.