

# Caltech 336

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

The campus community biweekly  
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## Lego my Mars Rover!



Amani Odom and Michael Youu of 32nd Street School work on their Lego model for last Saturday's Mars Robotics! conference on the Beckman Mall. Sponsored by Caltech, JPL, and the Lego Company, the conference drew approximately 100 local middle school students to talk with and learn from professional roboticists, engineers, and each other.

## Program connects staff, faculty

At many universities, the prevailing culture often seems to be that the faculty perform research, staff members administrate, and never the twain shall meet—unless it's to butt heads. If that's sometimes the case at Caltech, Vice President for Business and Finance Al Horvath is out to change things.

Horvath and Sue McHugh, outreach coordinator for Business and Finance, have launched the Research Spotlight for Staff, a new program with the goal of bridging the divide between Caltech's academic and administrative sectors. He describes it as "kind of a mini Watson lecture" in which faculty members present their work to a staff audience.

"Recently, we've been searching for ways to create a more supportive environment for staff and to connect them more with what really goes on here—the research," he says. "It's been a challenging year in lots of ways, so we're trying to do lots of smaller things to let people know they're appreciated."

The idea of a faculty presentation arose, which would be similar to Business and Finance's Leadership Forum for management but geared toward all staff.

see Staff program, page 6

## News you can choose

With the brand-new Caltech Today E-Mail Alert System now up and running, finding out what's new and noteworthy at Caltech has never been easier. Getting the campus scoop is a snap with this online system that provides all the news and information you want—and none of the stuff you don't.

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## Physicists trap ultracold neutrons

Free neutrons are usually pretty speedy customers, buzzing along at a significant fraction of the speed of light. But physicists have created a new process to slow neutrons down to about 15 miles per hour—the pace of a world-class mile runner—which could lead to breakthroughs in understanding the physical universe at its most fundamental level.

According to Caltech professor of physics Brad Filippone, he and colleagues from Caltech and several other institutions recently succeeded in collecting record-breaking numbers of ultracold neutrons at the Los Alamos Neutron Science Center. The new technique resulted in the capture of about 140 neutrons per cubic centimeter, a number that could be raised to five times higher.

"Our principal interest is in making precision measurements of fundamental neutron properties," says Filippone, explaining that neutrons have a half-life of only 15 minutes. In other words, if a thousand neutrons are trapped, 500 will have broken down after 15 minutes into a proton, electron, and antineutrino.

Neutrons normally exist in nature in a stable state within the nuclei of atoms, joining the positively charged protons to make up most of the atom's mass. Neutrons become quite unstable if they are stripped from the nucleus, but the very fact that they decay so quickly can make them useful for various experiments.

The traditional way physicists obtained free neutrons was by trying to slow them down as they emerged from a nuclear reactor, making them bounce around in material to burn up their energy. This procedure worked fine for slowing down neutrons to a few feet per second, but that's still pretty fast.

The new technique at Los Alamos involves a second stage of slowdown that is impractical near a nuclear reactor but that works well at a nuclear accelerator where the event producing the neutrons is abrupt rather than ongoing. The process begins with smashing protons from the accelerator into a solid material like tungsten, which results in neutrons being knocked out of their nuclei.

The neutrons are then slowed down as they bounce around in a nearby plastic material, and then some of them are slowed much further if they happen to enter a birthday-cake-sized block of solid deuterium (or "heavy hydrogen") that has been cooled down to a temperature a few degrees above absolute zero.

When the neutrons enter the crystal latticework of the deuterium block, they can lose virtually all their energy, and emerge from the block at speeds so slow they can no longer zip right through the walls of the apparatus. The trapped ultracold neutrons bounce along the

see Neutrons, page 2



Babak Hassibi Mark Simons Brian Stoltz

## White House honors faculty members

Three Caltech faculty members are among the most recent winners of the Presidential Early Career Award for Scientists and Engineers (PECASE), the White House announced on May 4.

The three are Associate Professor of Electrical Engineering Babak Hassibi, who studies data transmission and wireless communications systems; Associate Professor of Geophysics Mark Simons, who specializes in understanding Earth's behavior using radar and other satellite observations of the motions of the planet's surface; and Assistant Professor of Chemistry Brian Stoltz, who focuses on the synthesis of structurally complex, biologically active molecules.

Hassibi was cited for his "fundamental contributions to the theory and design of data transmission and reception schemes that will have a major impact on new generations of high-performance wireless communications systems. He has nurtured creativity in his undergraduate and graduate students by involving them in research and inspiring them to apply new approaches to communications problems."

A faculty member since 2001, Hassibi earned his bachelor's degree from the University of Tehran in 1989, and his master's and doctoral degrees from Stanford in 1993 and 1996, respectively. He is the holder or coholder of four patents for communications technology, and is a winner of the National Science Foundation Career Award, the American Automatic Control Council O. Hugo Schuck Best Paper Award, the David and Lucille Packard Fellowship for Science and Engineering, and the Okawa Foundation Grant for Telecommunications and Information Sciences.

Simons combines satellite data with continuum mechanical models of Earth to study ongoing regional crustal dynamics, including volcanic and tectonic deformation in Iceland, crustal deformation

see PECASE, page 6

## Save the date

Caltech will hold its first-ever staff appreciation event on Tuesday, June 29, from 11 a.m. to 1:30 p.m. "A Fair to Remember," to take place on the Beckman Mall, will include food, games, a bake-off, prizes, and more. Additional details will be available in *Caltech 336* and around campus.

# NewsBriefs



Winding down Caltech's 11th annual *Semana Latina* celebration, a samba dancer leads a conga line around the Winnett patio. The weeklong observation included live music, dance, films, food, and an art exhibit that showcased a variety of Latin American cultures.

## Personals

### Welcome to Caltech

#### April

**Kai Beriones-Barlow**, production coordinator, Graphic Resources; **Gilbert Borrego**, senior store clerk, JPL Bookstore; **Jianming Chen**, visitor in physics; **Suk Hen Chow**, research assistant I, biology; **Patrick Hurley**, postdoctoral scholar in chemistry; **Nahoko Iwata**, research assistant II, biology; **Keita Kawabe**, scientist, Laser Interferometer Gravitational-Wave Observatory (Hanford, Washington); **Alexander Kraskov**, postdoctoral scholar in biology; **Bing Yee Icy Ma**, office assistant, Graduate Office; **Erik Maldonado**, security officer, Campus Security and Parking Services; **Kurt Murdoch**, health and welfare benefits specialist, Human Resources; **Roberto Robledo Godinez**, bus person, Athenaeum; **Jorge Rodriguez**, postdoctoral scholar in biochemistry; **Juraj Sucik**, research engineer, high-energy physics; **Phillip Truong**, retail sales manager, Dining Services; **Shu Zhen Zhou**, research assistant II, biology.

### New positions

**Anton Kapustin**, assistant professor of theoretical physics, has been appointed associate professor of theoretical physics, effective April 1. He received his PhD from Caltech in 1997 and joined the faculty in 2001.

**Charles Peck**, professor of physics, became emeritus on March 1, after more than 40 years at Caltech. He received his PhD from the Institute in 1964, joining the faculty that same year. A full professor since 1977, he served as executive officer for physics from 1983 to 1986 and as chair of the Division of Physics, Mathematics and Astronomy from 1993 to 1998.

**Jose Luis Riechmann**, a member of the biology staff, has been appointed senior research associate in biology.

**Ed Stone**, Morrisroe Professor of Physics, has been appointed vice provost for special projects. A member of the Caltech faculty since receiving his PhD from the University of Chicago in 1964, Stone served as chair of the Division of Physics, Mathematics and Astronomy from 1983 to 1988, as vice president for astronomical facilities from 1988 to 1990, and as director of the Jet Propulsion Laboratory from 1991 to 2001.

### Deaths

**Lloyd "Fergie" Ferguson** died on March 18; he was 86. An equipment manager in Athletics, he retired in 1979 after 19 years at Caltech. He is survived by his wife, Rose.

## Honors and awards

**Thomas Ahrens** has been named the Fletcher Jones Professor of Geophysics, effective June 1; this title replaces that of professor of geophysics. He joined Caltech in 1967 as associate professor of geophysics, becoming professor in 1976 and serving as W. M. Keck Foundation Professor of Earth Sciences from 1996 to 2001. He earned his BS from MIT in 1957, his MS from Caltech in 1958, and his PhD from Rensselaer Polytechnic Institute in 1962.

**John Doyle** has been named the John G Braun Professor of Control and Dynamical Systems, Electrical Engineering, and Bioengineering, effective June 1; this title replaces that of professor of control and dynamical systems, electrical engineering, and bioengineering. Doyle received his BS and MS from MIT in 1977 and his PhD from UC Berkeley in 1984, and began his relationship with Caltech as a visiting assistant professor of electrical engineering in 1985. He joined the faculty as associate professor of electrical engineering in 1987, and was named professor in 1991 and professor of control and dynamical systems, electrical engineering, and bioengineering in 2002.

**James Eisenstein** has been named the Frank J. Roshek Professor of Physics, effective June 1; this title replaces that of professor of physics. He received his bachelor's degree from Oberlin College in 1974 and his PhD from UC Berkeley in 1980, and joined Caltech as professor of physics in 1996.

**Thomas Hou** has been named the Charles Lee Powell Professor of Applied and Computational Mathematics, effective June 1; this title replaces that of professor of applied and computational mathematics. He will continue as executive officer for applied and computational mathematics. Hou joined Caltech as associate professor of applied mathematics in 1993 and became professor in 1998; computational mathematics was added to his title in 2000, the same year he was named executive officer. He received his BS from South China University of Technology in 1982 and his PhD from UCLA in 1987.

**Joseph Kirschvink** has been named the Nico and Marilyn Van Wingen Professor of Geobiology, effective June 1; this title replaces that of professor of geobiology. After graduating from Caltech with both his BS and his MS in 1975, he went on to receive his MA from Princeton University in 1978, and his PhD in 1979. He came to Caltech as an assistant professor in 1981, and was appointed professor in 1992.

**Nick Nichols**, director of Caltech's Industrial Relations Center (IRC), has been named a Caltech Honorary Alumnus for 2004. Formerly of the Jet Propulsion Laboratory, where he helped manage lunar projects, he came to the campus in 1983. He established the Caltech/MIT Enterprise Forum, and the IRC itself has become one of the largest executive training programs in the nation. He will be recognized for his achievements at the Annual Alumni Dinner on June 11 at the Athenaeum.

**Charles Steidel** has been named the Lee A. DuBridge Professor of Astronomy, effective June 1; this title replaces that of professor of astronomy. He received his bachelor's degree from Princeton in 1984 and his PhD from Caltech in 1990, and joined Caltech as an assistant professor in 1995, becoming associate professor in 1997 and professor in 1998.

**Joann Stock**, professor of geology and geophysics, has been selected to be a fellow of the John Simon Guggenheim Memorial Foundation. The fellowship will grant her \$30,000 to perform research on "A Comparative Tectonic History of Two Rift Basins," during which she will spend three months in Mexico. She has also been awarded a Fulbright grant to Japan for 2004-05. Created to promote mutual understanding between the people of Japan and the United States, the Japan Fulbright program will allow Stock to spend six months there, working in her field of marine geophysics. Stock received her BS and PhD degrees from MIT and joined Caltech's faculty in 1992 as an associate professor, becoming full professor in 1998.

**Ed Stolper**, Leonhard Professor of Geology, chair of the Division of Geological and Planetary Sciences, and acting provost, has been named a Caltech Honorary Alumnus for 2004. After receiving his PhD from Harvard in 1979, he came to Caltech as an assistant professor. He was appointed professor in 1983 and Leonhard Professor in 1990, and served as executive officer for geochemistry from 1989 to 1994, the year he became division chair. He was appointed acting provost this year. Stolper will be recognized for his achievements at the Annual Alumni Dinner on June 11 at the Athenaeum.

**Yuk Yung**, professor of planetary science, has been elected a fellow of the American Geophysical Union, an honor that "recognizes scientists who have achieved eminence in the geophysical sciences and is bestowed on only a tenth of a percent of the union's membership in any given year." He received his BS from UC Berkeley in 1969 and his PhD from Harvard in 1974, joining Caltech's faculty in 1977 as an assistant professor and becoming full professor in 1986.

**Ahmed Zewail**, Pauling Professor of Chemical Physics and professor of physics, has been selected to receive a doctor of science, honoris causa, from the University of Oxford; the honorary degree will be presented at the university's Encaenia Ceremony. Zewail received his BSc from Alexandria University in 1967 and his PhD from the University of Pennsylvania in 1974, and he joined Caltech's faculty in 1976. His many honors include the 1999 Nobel Prize in chemistry and the 1997 Welch Award.

## Fulbright Scholar on campus

**Frederic Gabern Guilera**, a teaching assistant in the department of applied mathematics and analysis at the University of Barcelona, Spain, is spending a year on campus as the recipient of a 2003-04 Fulbright Scholar grant. A preeminent international educational exchange program, the Fulbright Scholar awards are sponsored by the U.S. Department of State's Bureau of Educational and Cultural Affairs. Since its establishment in 1946 under legislation introduced by the late Senator J. William Fulbright of Arkansas, thousands of U.S. faculty and professionals have studied, taught, or done research abroad, and thousands of their counterparts from other countries have done likewise in the United States. Gabern Guilera's stint at Caltech extends from January 2004 to January 2005, and he is doing research in the area of binary asteroids.

A second recipient of a 2003-04 grant, **Berend Poolman**, a professor in the biochemistry department at the University of Groningen, the Netherlands, was on campus from July to October 2003. Poolman was performing research regarding the crystallization of membrane transport proteins.

In addition, Caltech's own Professor **Joann Stock** has received a Fulbright grant for 2004-05 (see the honors and awards column, this page).

## Biologist Dreyer passes away

William J. Dreyer, a professor of biology at Caltech since 1963, died Friday, April 23, after a long illness. He was 75.

A native of Kalamazoo, Michigan, Dreyer earned his BA degree at Reed College in 1952 and his PhD in biochemistry at the University of Washington in 1956. After graduating, he worked as a research biochemist at the National Heart Institute and the National Institute of Arthritis and Metabolic Diseases before joining Caltech.

Dreyer was perhaps best known for developing an automated sequencer that allowed researchers to quickly determine the order of amino acids in a protein, an instrument that helped to launch the field of biotechnology. He also experimentally demonstrated in the 1960s that genes could be "reshuffled" to provide additional information for the formation of proteins. At first controversial, the theory came into prominence after it was confirmed by other researchers.

At a Society for Biomolecular Screening conference last year, Caltech alum Leroy Hood credited Dreyer for mentoring his early career, teaching him to think conceptually, and introducing him to "the exhilaration of rapidly paced molecular immunology." Dreyer always emphasized two principles, he added: "Always practice biology at the leading edge" and "If you really want to change biology, develop a new technology for pushing back the frontiers of biological knowledge."

Dreyer authored a number of journal articles and held many patents, including one for an immunological reagent and radioimmunoassay and two for poly-acrylate beads that he developed with two colleagues.

An avid pilot since 1960, Dreyer often flew to Baja California and around the western United States and British Columbia. He once remarked that his taste for flying his Cessna P210 at 15,000 feet—high for a small plane but low for commercial aircraft—was "an allegory for my tastes in scientific research. I like to work where research isn't too competitive and crowded—to move beyond the current mob scene, even if the place where I end up is lonely."

He is survived by his wife and colleague, Janet Dreyer; three daughters; five grandchildren; one great-grandchild; and a sister.

## Neutrons, from page 1

nickel walls of the apparatus and eventually emerge, where they can be collected for use in a separate experiment.

According to Filippone, the extremely slow speeds of the neutrons are important in studying their decay at a minute level of detail. The fundamental theory of particle physics known as the Standard Model predicts a specific pattern in the neutron's decay, but if the ultracold neutron experiments were to reveal slightly different behavior, then physicists would have evidence of a new type of physics, such as supersymmetry.

Future experiments could also exploit an inherent quantum limit of the ultracold neutrons so that they bounce lower and lower but no lower than about 15 microns on a flat surface—or about a fifth the width of a human hair. With a well-designed experiment, Filippone says, this limit could lead to better knowledge of gravitational interactions at very small distances.

The next step for the experimenters is to return to Los Alamos in October, when they will use the ultracold neutrons to study the neutrons themselves.

The research was supported by about \$1 million in funding from Caltech and the National Science Foundation.

M T W T F S S

## Monday, May 17

### Special High Energy Theory Seminar

469 Lauritsen, 11 a.m.—"Hagedorn and Gregory-Laflamme Transitions in Yang-Mills," Professor Shiraz Minwalla, department of physics, Harvard.

### Center for Neuromorphic Systems Engineering Seminar

24 Beckman Labs, 2 p.m.—Topic to be announced. Professor Geoffrey Hinton, department of computer science, University of Toronto.

### Thesis Seminar

100 Broad Center, 2 p.m.—"Oxidative DNA Damage by Long-Range Charge Transport," Sarah Delaney, graduate student in chemistry, Caltech.

### Thesis Seminar

151 Crellin, 2 p.m.—"Site-Specific Incorporation of Unnatural Amino Acids into Receptors Expressed in Mammalian Cells," Sarah Monahan, graduate student in chemistry, Caltech.

### Thesis Seminar

151 Crellin, 3 p.m.—"Design and Characterization of Layered Tunnel Barriers for Nonvolatile Memory Applications," Julie Caspersen, graduate student in chemistry, Caltech.

### Bioengineering Seminar

142 Keck, 4 p.m.—"Time-Resolved X-Ray Diffraction Patterns from Indirect Flight Muscles in Living *Drosophila* during Tethered Flight," Professor Tom Irving, department of biological, chemical, and physical sciences, Illinois Institute of Technology.

### Center for Neuromorphic Systems Engineering Seminar

24 Beckman Labs, 4 p.m.—"Cybernetic Crickets: Developing a Data-Driven Modeling Platform for Computational Neuroscience," Ross Snider, assistant professor, electrical and computer engineering, Montana State University.

### General Biology Seminar

119 Kerckhoff, 4 p.m.—Topic to be announced. Stanley Korsmeyer, Farber Professor of Pathology, Dana-Farber Cancer Institute, and professor of medicine, Harvard Medical School.

### High Energy Physics Seminar

469 Lauritsen, 4 p.m.—"The Supersymmetric Composite 'Fat Higgs' Model," Graham Kribs, School of Natural Sciences, Institute for Advanced Study. Information: [www.theory.caltech.edu/people/helen/seminar1.html](http://www.theory.caltech.edu/people/helen/seminar1.html).

### Inorganic-Electrochemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Titanium Catalyzed C-N and C-C Bond Forming Reactions Based on Hydroamination Chemistry," Professor Aaron Odom, department of chemistry, Michigan State University.

### Shirley A. Kliegel Lectureship in Geological and Planetary Sciences

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—"The Dynamics of Magnetic Field Generation in Planetary Cores: Observations and Computations," Jeremy Bloxham, Harvard College Professor and professor of geophysics, Harvard.

### Applied and Computational Mathematics Colloquium

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4:15 p.m.—Topic to be announced. John Preskill, MacArthur Professor of Theoretical Physics, Caltech. Refreshments, 3:45 p.m. Information: [www.acm.caltech.edu/colloq.shtml](http://www.acm.caltech.edu/colloq.shtml).

## Tuesday, May 18

### Joint Geophysics and Planetary Science Seminar

151 Arms, Buwalda Room, noon—"Three Modes of Dynamo Action in the Solar System: Uranus and Neptune; Earth, Jupiter, and Saturn; and Mercury," Jeremy Bloxham, Harvard College Professor and professor of geophysics, Harvard.

### Doctoral Examination

253b Sloan, Mathematics Conference Room, 2 p.m.—Jay Bartroff. Committee: Lorden (chair), Wales, Candes, Sherman. Thesis Title: Asymptotically Optimal Multistage Hypothesis Tests.

### Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—"6 - 10 - 17," Professor Nick Gnedin, department of astrophysical and planetary sciences, University of Colorado. Refreshments.

### Caltech/JPL Association for Gravitational-Wave Research Seminar Series

114 E. Bridge, 4 p.m.—"GW from Binaries with Spin-Orbit Precession," Professor Benjamin Owen, department of physics, Pennsylvania State University, University Park.

### Chemical Physics Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Hydrophobicity at Small and Large Length Scales: Two Phases of Water," David Chandler, professor of chemistry, UC Berkeley.

## Wednesday, May 19

### Astronomy Colloquium

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—"Chemical Evolution of Galaxies and Enrichment of the Intergalactic Medium," Professor Yong-Zhong Qian, school of physics and astronomy, University of Minnesota, Twin Cities. Information: [www.astro.caltech.edu/~gma/colloquia.html](http://www.astro.caltech.edu/~gma/colloquia.html).

### Environmental Science and Engineering Seminar

142 Keck, 4 p.m.—"Trace Element Cycling in Meromictic Lakes of the McMurdo Dry Valleys, Antarctica," Eric Heinen DeCarlo, research professor, department of oceanography, University of Hawaii at Manoa. Refreshments, Keck lobby, 3:40 p.m.

### Organic Chemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Now Accepting Donations: Molecular Folding and Assembly in Aqueous Solution," Professor Brent Iverson, department of chemistry and biochemistry, University of Texas at Austin.

### Leakey Speaker Series on Human Origins

Beckman Auditorium, 8 p.m.—"The Evolution of Human Skin Coloration," Nina Jablonski, Irvine Chair and Curator of Anthropology at the California Academy of Sciences. Tickets and information: 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).

## Thursday, May 20

### Ulric B. and Evelyn L. Bray Seminar

25 Baxter, 4 p.m.—Topic to be announced. Maxwell Stinchcombe, E. C. McCarty Centennial Professor, University of Texas at Austin. Refreshments.

### Chemical Engineering Series

106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—"Thermodynamics and Kinetics of Protein Adsorption," Professor Igal Szleifer, department of chemistry, Purdue University. Refreshments, 113 Spalding Labs, 3:30 p.m.

### Physics Research Conference

201 E. Bridge, 4 p.m.—"Doing Atomic Physics with Electrical Circuits: Strong Coupling Cavity QED," Steve Gervin, departments of physics and applied physics, Yale University. Refreshments, 114 E. Bridge, 3:45 p.m.

### Von Karman Lecture Series

JPL, von Karman Auditorium, 7 p.m.—"Step by Step, Robotically, at the Red Planet," Nagin Cox, deputy team chief, spacecraft rover engineering team, Mars Exploration Rover Project, JPL. Admission is free. Information: [www.jpl.nasa.gov/lecture](http://www.jpl.nasa.gov/lecture).

## Friday, May 21

### Carnegie Observatories Memorial Symposium

Beckman Institute auditorium, 9 a.m. to 5 p.m.—One-day memorial symposium honoring Horace W. Babcock, 1912-2003. For program details and names of speakers, go to [www.ociw.edu](http://www.ociw.edu).

### High Energy Theory Seminar

469 Lauritsen, 11 a.m.—"The Standard Model from Intersecting D-Brane Models," Christos Kokorelis, National Center for Scientific Research (NCRPS) "Demokritos," Athens. Information: [www.theory.caltech.edu/people/seminar/schedule.html](http://www.theory.caltech.edu/people/seminar/schedule.html).

### Fluid Mechanics Seminar

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 3 p.m.—Topic to be announced. Matthew Ringuette, graduate student in aeronautics, Caltech. Information: [www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html](http://www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html).

### Institute for Quantum Information Seminar

114 E. Bridge, 3 p.m.—"Quantum Teleportation and Its Applications," Akira Furusawa, University of Tokyo. Abstract: [www.iqi.caltech.edu/seminar\\_abstracts.html#furusawa04](http://www.iqi.caltech.edu/seminar_abstracts.html#furusawa04).

### Inorganic-Organometallics Seminar

151 Crellin, 4 p.m.—"Modeling Oxygen Activation at Mononuclear Nonheme Iron(II)  $\alpha$ -Keto Acid-Dependent Dioxygenases," Mark Mehn, postdoctoral scholar in chemistry, Caltech.

### Kellogg Seminar

Lauritsen Library, 4 p.m.—Topic to be announced. Xin-Nian Wang, Lawrence Berkeley National Laboratory.

### William Bennett Munro Memorial Seminar

25 Baxter, 4 p.m.—"Objectivity in Taste and Emotion," Professor Justin D'Arms, College of Humanities, Ohio State University. Refreshments.

### Von Karman Lecture Series

Pasadena City College, 1570 E. Colorado, the Vosloh Forum (south of Colorado on Bonnie), 7 p.m.—"Step by Step, Robotically, at the Red Planet," Nagin Cox, deputy team chief, spacecraft rover engineering team, Mars Exploration Rover Project, JPL. Admission is free. Information: [www.jpl.nasa.gov/lecture](http://www.jpl.nasa.gov/lecture).

# May 24–30, 2004

M T W T F S S

## Monday, May 24

### Biophysics Lecture Series

153 Noyes, Sturdivant Lecture Hall, 2 p.m.—Topic to be announced. Professor Eric Davidson, Chandler Professor of Cell Biology, Caltech.

### Doctoral Examination

253b Sloan, Mathematics Conference Room, 3:30 p.m.—Dapeng Zhan. Committee: Makarov (chair), Simon, Borodin, Berger. Thesis: Random Loewner Chains in Riemann Surfaces.

### Geological and Planetary Sciences Seminar

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Mass Dependent and Mass Independent Sulfur Isotope Signals in the Geologic Record,” James Farquhar, assistant professor of geology, University of Maryland, College Park.

### Inorganic-Electrochemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Diluted Magnetic Semiconductors: From Nanocrystal Synthesis to Ferromagnetism,” Professor Daniel R. Gamelin, department of chemistry, University of Washington.

## Tuesday, May 25

### Mechanical Engineering Seminar

206 Thomas, 3 p.m.—“Gait Adaption in Rapid Dynamic Locomotion,” Jorge Cham, instructor in mechanical engineering, Caltech.

### Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—“The Dark Side of Matter in Galaxies,” Dr. Robert Swaters, department of physics and astronomy, Johns Hopkins University. Refreshments.

### General Biology Seminar

119 Kerckhoff, 4 p.m.—“Nuclear Cloning, Stem Cells, and Reprogramming of the Genome,” Rudy Jaenisch, MD, member, Whitehead Institute, and professor of biology, MIT.

## Wednesday, May 26

### Doctoral Examination

253b Sloan, Mathematics Conference Room, 3:30 p.m.—Kimball Martin. Committee: Ramakrishnan (chair), Flach, Goins, Wales. Thesis: Four-Dimensional Galois Representations of Solvable Type and Automorphic Forms.

### Astronomy Colloquium

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—Topic to be announced. Andrei Beloborodov, associate professor of physics, Columbia University. Information: [www.astro.caltech.edu/~gma/colloquia.html](http://www.astro.caltech.edu/~gma/colloquia.html).

### Arnold O. Beckman Lecture

22 Gates Annex, 4 p.m.—“Controlling Cellular Responses with Multivalent Ligands,” Professor Laura L. Kiessling, department of chemistry, University of Wisconsin–Madison. Refreshments.

### Environmental Science and Engineering Seminar

142 Keck, 4 p.m.—“Biological Implications of the Atmospheric Input of Fe into the Mediterranean Sea,” Cecile Guieu, visitor in geochemistry, Caltech. Refreshments, Keck lobby, 3:40 p.m.

## Thursday, May 27

### Thesis Seminar

106 Spalding Lab, Hartley Memorial Seminar Room, 10:30 a.m.—“High-Pressure Microdischarges as Microreactors for Materials Applications,” Mohan Sankaran, graduate student in chemical engineering, Caltech.

### Chemical Engineering Graduate Seminar

106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—Topic to be announced. Alex Tobias, graduate student in chemical engineering, Caltech. Information: <http://cheme.caltech.edu/~gradtalks/feature.html>.

### USGS Public Lecture Series

Baxter Lecture Hall, 8 p.m.—“Finding Fault in Los Angeles,” Dr. Sue Hough, USGS Pasadena office. Information: <http://pasadena.wr.usgs.gov/info/lectures>.

## Friday, May 28

### Fluid Mechanics Seminar

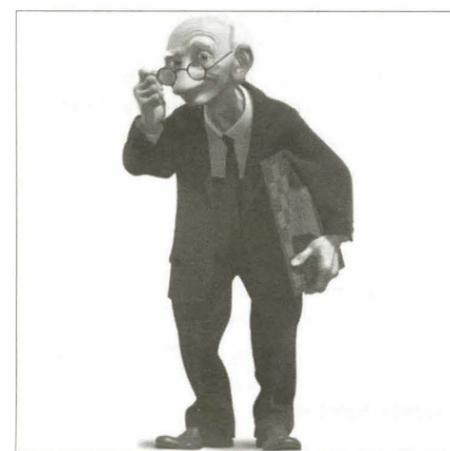
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 3 p.m.—“Extreme Fluid Dynamics of White Dwarfs and Neutron Stars,” Professor Lars Bildsten, department of physics, UC Santa Barbara. Information: [www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html](http://www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html).

### History and Philosophy of Science Seminar

25 Baxter, 4 p.m.—“From Magic to Science: Seeing a Way Out,” Professor Brian Copenhaver, department of history, UCLA. Refreshments.

### Inorganic-Organometallics Seminar

151 Crellin, 4 p.m.—Topic to be announced. Claire Jacobs, graduate student in chemistry, Caltech.



“Geri” was created by Tony DeRose and others at Pixar Animation Studios. On May 26, DeRose will discuss “How Mathematics is Changing Hollywood.”

## Students celebrate math in industry

Laurent Demanet

Tony DeRose of Pixar Animation Studios will come to campus on Wednesday, May 26, to give a much-awaited presentation on “How Mathematics is Changing Hollywood.” The talk is open to the Caltech community and will take place from 3 to 4:30 p.m. in the Beckman Institute auditorium. Refreshments will be served at 2:30.

DeRose is one of the major designers responsible for the character Geri, who appears in the 1997 Academy Award-winning short film *Geri's Game*, as well as in *Toy Story II*. He writes, “Film making is undergoing a digital revolution brought on by advances in areas such as computer technology, computational physics and computer graphics. This talk will provide a behind-the-scenes look at how fully digital films—such as Pixar’s *Monsters, Inc.* and *Finding Nemo*—are made, with particular emphasis on the role that mathematics plays in the revolution.”

The talk will be the second Meeting on Mathematics in Industry, presented by the recently formed Caltech student chapter of the Society for Industrial and Applied Mathematics (SIAM). The first event in this series, in early March, featured guest lecturer Peter Norvig from Google Inc. and centered around the challenges of developing and maintaining one of the leading search engines on the Web.

The purpose of these meetings is to give undergraduate and graduate students representative examples of how mathematics is applied in real life, an aspect not always fully addressed in classes or graduate research. Students seeking jobs will also recognize the interesting contact opportunities offered by these events.

The other main activity initiated by Caltech’s SIAM chapter is an informal biweekly seminar, in which students and postdocs are invited to present their research in applied math or to give an overview of their field. This year some of the talks focused on the IEEE’s top 10 algorithms of the 20th century. Anyone interested in taking part in these chapter activities is encouraged to contact [siam@caltech.edu](mailto:siam@caltech.edu).

For more information or to join the Caltech chapter’s mailing list, visit [www.its.caltech.edu/~siam](http://www.its.caltech.edu/~siam). Joining the chapter is free and entitles students to free SIAM membership.

Laurent Demanet is a graduate student in applied and computational mathematics and president of Caltech’s SIAM chapter.

# CampusEvents

## Monday, May 17

### ESL Conversation Club for Postdoc Spouses

Winnett clubroom #1, 5:45 to 7 p.m.—The Postdoctoral Scholars/Visitors Services in Human Resources hosts a weekly ESL conversation club. The sessions are led by a TESOL certified instructor; admission is free. Free child care is provided by the Caltech Children's Center. Also open to all foreign nationals of the Caltech community. Registration and information: [eloisa.imel@caltech.edu](mailto:eloisa.imel@caltech.edu) or [leah.carlson@caltech.edu](mailto:leah.carlson@caltech.edu).

### Ceroc Lessons

Winnett lounge, 7:30 p.m.—Ceroc is an exciting and stylish form of dance that blends elements of swing and salsa. It can be performed to a variety of music, ranging from '40s swing to modern dance mixes. This is the eighth week of a 10-week series. No partner or dance experience is needed. Cost: \$1 per class. Refreshments. A free, optional practice session will be held from 9 to 9:30 p.m.

## Tuesday, May 18

### 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). Information: 793-4099 or [camila\\_brunns@hotmail.com](mailto:camila_brunns@hotmail.com).

### Caltech/MIT Enterprise Forum

Baxter Lecture Hall, 5:30 p.m.—"Entertainment Technology: The Next Wave of Opportunities." This program will cover the range of innovative business opportunities based on entertaining consumers, enabled by the emergence of advanced technologies. The program begins at 5:30 p.m. with dinner in Chandler Dining Hall. Registration: 395-3916 or [entfor@caltech.edu](mailto:entfor@caltech.edu). Information: [www.entforum.caltech.edu](http://www.entforum.caltech.edu).

### 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).

## Wednesday, May 19

### Baby Furniture and Household Equipment

234 S. Catalina, 10 a.m. to 12:30 p.m.—Loans of kitchen and household necessities and baby furniture are made to members of the Caltech community. Information: 584-9773. Available today by appointment only. Call 395-6174.

### 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. Information: 403-7163 or [ktclark@caltech.edu](mailto:ktclark@caltech.edu).

### Salsa Dance Class

Winnett lounge, 7 p.m.—The beginners' session begins at 7 p.m. The intermediate lesson starts at 8:30. Lessons began on March 31. Fee: \$28 for 5 classes; \$7 per class.

## Thursday, May 20

### Changes and Trends in Today's English Usage

Brown Gym classroom, 8:30 a.m. to 4 p.m.—This one-day program, for supervisors and nonsupervisors, can help reduce your writing stress and improve the clarity of your written communications. This practical, hands-on workshop is designed to provide you with quick and easy review of the current rules of good writing as they relate to your job. Reservations: 395-8055 or [diane.williams@caltech.edu](mailto:diane.williams@caltech.edu).

### Women's Wellness Series: Spring Cleaning Inside and Out

Caltech Women's Center, noon—"Twelve Things You Can Do to Lighten Up." Calling upon the advice of popular self-help gurus, Dr. Susan Cross, comanager of Caltech's Staff and Faculty Consultation Center, will share wisdom and strategies for a personal spring cleaning. Reservations: [wcenter@studaff.caltech.edu](mailto:wcenter@studaff.caltech.edu).

### FOCAL's Annual Book Preview Party

Winnett lounge, 6:30 p.m.—The Friends of Caltech Libraries (FOCAL) is holding a members-only preview party for their annual book sale. There will be wine and cheese tasting. You must be a FOCAL member to attend. Memberships will be sold at the door starting at 6 p.m. Information: 395-6411 or [brott@library.caltech.edu](mailto:brott@library.caltech.edu).

### Argentine Tango Lessons

Winnett lounge, 7:30 p.m.—Argentine tango, taught by professional instructors. This is the eighth week of a 10-week series. No partner or dance experience is needed. Fee for students: \$6 per class; nonstudents: \$8 per class. Refreshments. A free, optional practice session will be held from 9 to 9:30 p.m.

### Hip-Hop Class for Advanced Beginners

Braun Gym, multipurpose room, 9 p.m.—Hip-hop for advanced beginners, taught by a professional instructor. No special clothing or shoes are required. Open to all who have a valid gym membership. A one-time trial class costs \$5 for Caltech students, \$8 for others. Fees for the full term: \$20 for Caltech students, \$40 for others. Classes started on April 1. Sponsored by the Caltech Dance Troupe.

## Friday, May 21

### FOCAL Annual Book Sale

Winnett lounge, 8 a.m. to 5 p.m.—The first day of the Friends of Caltech Libraries (FOCAL) annual two-day book sale. There will be a large selection of books to choose from, including travel, cooking, children's literature, and science. Information: 395-6411 or [brott@library.caltech.edu](mailto:brott@library.caltech.edu).

### Caltech Tai Chi Club

See Tuesday, May 18, for details.

### 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).

### Caltech Glee Clubs Spring Concert

Ramo Auditorium, 8 p.m.—This concert will feature David Conte's *Carmina Juventutis*, plus works by Bernstein, Handel, Kodály, Massenet, and others. A reception for all will follow the concert.

## Saturday, May 22

### FOCAL Annual Book Sale

Winnett lounge, 9 a.m. to 2 p.m.—The second day of the Friends of Caltech Libraries (FOCAL) annual two-day book sale. There will be a large selection of books to choose from, including travel, cooking, children's literature, and science. Information: 395-6411 or [brott@library.caltech.edu](mailto:brott@library.caltech.edu).

### Beginning Belly-Dancing

Braun Gym, multipurpose room, 12:45 p.m.—Learn basic belly-dance technique with Leela, a popular performer and instructor. No special clothing or shoes are required. Open to all with valid gym membership. Reservations: 395-6763 or [Kathy.Kelly@caltech.edu](mailto:Kathy.Kelly@caltech.edu).

### Hula Lesson

Winnett Center, 2 p.m.—The Hawaiian Club is offering a series of beginning hula lessons, to be taught by Kealoha Sakamoto of Island Style Entertainment. This is the seventh of eight sessions. Both men and women are welcome. Fee: \$5 per class for Caltech community members; \$12 for others. Information: [www.ugcs.caltech.edu/~lilinoe/hula.html](http://www.ugcs.caltech.edu/~lilinoe/hula.html). Reservations: [maruchan@its.caltech.edu](mailto:maruchan@its.caltech.edu).

### Caltech Glee Clubs Spring Concert

Oneonta Congregational Church, 1515 Garfield Avenue, South Pasadena, 8 p.m.—This concert will feature David Conte's *Carmina Juventutis*, plus works by Bernstein, Handel, Kodály, Massenet, and others. A reception for all will follow the concert.

## Sunday, May 23

### Caltech-Occidental Chamber Orchestra

Ramo Auditorium, 3:30 p.m.—Directed by Allen Robert Gross, featuring Leyan Lo, violin, in works by Ponce, Sibelius, and Dvorák. Admission is free. A reception will follow the concert. Information: 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).

## Monday, May 24

### ESL Conversation Club for Postdoc Spouses

See Monday, May 17, for details.

### Ceroc Lessons

See Monday, May 17, for details.

## Tuesday, May 25

### Preschool Playgroup

See Tuesday, May 18, for details.

### Caltech Tai Chi Club

See Tuesday, May 18, for details.

## Wednesday, May 26

### Baby Furniture and Household Equipment

See Wednesday, May 19, for details.

### Wednesdays in the Park

See Wednesday, May 19, for details.

### Meetings on Mathematics in Industry

Beckman Institute auditorium, 3 to 4:30 p.m.—"How Mathematics Is Changing Hollywood," Tony DeRose, senior scientist, Pixar Animation Studios. This talk will provide a behind-the-scenes look at how digital films, such as Pixar's *Monsters, Inc.* and *Finding Nemo*, are made, with particular emphasis on the role that mathematics plays in the digital revolution. Refreshments, 2:30 p.m.

### Salsa Dance Class

See Wednesday, May 19, for details.

## Thursday, May 27

### Caltech Architectural Tours

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 [suze@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).

### Argentine Tango Lessons

See Thursday, May 20, for details.

## Friday, May 28

### Caltech Tai Chi Club

See Tuesday, May 18, for details.

### Caltech Chess Club

See Friday, May 21, for details.

### Piano Recital by James Boyk

Ramo Auditorium, 8 p.m.—Celebrating his 31st year as Caltech's pianist in residence, James Boyk will give a pair of free recitals. The program will include Schubert's Sonata in A Major and works by Haydn and Beethoven. The second recital will be held on Sunday, May 30.

## Saturday, May 29

### Beginning Belly-Dancing

See Saturday, May 22, for details.

### Hula Lesson

See Saturday, May 22, for details.

## Sunday, May 30

### Piano Recital by James Boyk

Ramo Auditorium, 2:30 p.m.—The program will include Schubert's Sonata in A Major and works by Haydn and Beethoven. Admission is free.

## Spring concerts wind down the year

Caltech student groups will conclude this year's musical season with performances of choral and symphony pieces. All events are free and open to the public.

The Caltech Glee Clubs will give twin performances on Friday, May 21, at 8 p.m. in Ramo Auditorium, and Saturday, May 22, at 8 p.m. at Oneonta Congregational Church, 1515 Garfield Avenue, South Pasadena. The men's chorus, directed by Donald Caldwell, will feature *Carmina Juventutis* by David Conte, a faculty member at the San Francisco Conservatory. Like the well-known *Carmina Burana*, Caldwell says, the three-part work is also inspired by poems from the Middle Ages about love and life.

"[Conte's] style uses a contemporary harmonic vocabulary, tonal with dissonance, and abounds with rhythmic vitality created by an abundance of asymmetrical meter," he says. The men will also perform an English and a Dutch folk song, the latter provided by grad student Peter Spijker, a native of the Netherlands. The women and the combined choruses will cover a range of works by Bernstein, Handel, Kodály, Massenet, and others.

On Sunday, May 23, the Caltech-Occidental Chamber Orchestra, conducted by Allen Robert Gross, will hold its annual spring concert. The program will feature Dvorák's Symphony no. 6 in D Major, and student Leyan Lo '07 will perform the first movement of the Sibelius Violin Concerto. An open reception will follow the concert, which will take place at 3:30 p.m. in Ramo Auditorium.

For more information, contact Public Events at 1 (888) 2CALTECH, (626) 395-4652, or [events@caltech.edu](mailto:events@caltech.edu), or visit <http://events.caltech.edu>. Individuals with a disability can call 395-4688 (voice) or 395-3700 (TDD).

## Book sale is the FOCAL point

Bookworms unite, and then come down to a book sale next week at Caltech.

The Friends of the Caltech Libraries (FOCAL) Annual Book Sale will feature a wide selection of travel, cooking, and science books, as well as children's literature and contemporary fiction. The two-day event will take place on Friday, May 21, from 8 a.m. to 5 p.m., and on Saturday from 9 a.m. to 2 p.m. The sale will be held on both days in Winnett lounge.

Over the years, FOCAL has raised funds to sponsor and supplement projects and services not covered by the Caltech library budget, thereby providing students, faculty, and staff with top-notch research tools.

Placing an emphasis on online resources, FOCAL has helped expand the reach of the Caltech Library System's online Web of Science. The organization has also contributed to the restoration of the Astrophysics Library, provided an archive for the conservation of rare and valuable books, and transferred early Caltech theses to microfilm.

For further information about this book fair and for information about how to join FOCAL, contact Judith Brott at (626) 395-6411 or e-mail [brott@library.caltech.edu](mailto:brott@library.caltech.edu).

**PECASE**, from page 1

and the seismic cycle in California, Chile, and Japan, and volcanic and tectonic deformation in California. He also uses the gravity fields of the terrestrial planets to study the large-scale geodynamics of mantle convection and its relationship to tectonics.

Simons earned his bachelor's degree at UCLA in 1989, and his doctorate from MIT in 1995. He was a postdoctoral scholar at Caltech for two years before joining the faculty in 1997.

A faculty member since 2000, Stoltz earned his bachelor's degree at Indiana University of Pennsylvania in 1993, and his master's and doctoral degrees at Yale University in 1996 and 1997, respectively. Before joining Caltech, he spent two years at Harvard as a National Institutes of Health Postdoctoral Fellow.

His work is aimed at developing new strategies for creating complex molecules with interesting structural, biological, and physical properties. The goal is to use these complex molecules to guide the development of new reaction methodology that may extend fundamental knowledge and lead to useful biological and medical applications.

An Alfred P. Sloan Fellow, Stoltz has received the Research Corporation Cottrell Scholars Award, the Camille and Henry Dreyfus New Faculty Award, and the Pfizer Research Laboratories Creativity in Synthesis Award. He was named an Eli Lilly Grantee in 2003 and has won a number of young faculty awards from Merck Research Laboratories, Abbott Laboratories, GlaxoSmithKline, Johnson & Johnson, Amgen, Boehringer Ingelheim, and Roche. At Caltech he won the 2001 Graduate Student Council Teaching Award and the Graduate Student Council Mentoring Award.

The Clinton administration created the PECASE awards in 1996 "to recognize some of the nation's most promising junior scientists and engineers and to maintain U.S. leadership across the frontiers of scientific research." The awards are made to those whose innovative work is expected to lead to future breakthroughs.

## Correction

A caption in the April 15 *Caltech 336* and an article in the April 29 issue stated that the new parking lot is being built at the south athletic field. It will actually be located at the north athletic field. The caption also stated that construction is expected to last through July; Associate Vice President for Campus Planning Art Elbert estimates that the parking lot will be finished by October.

**E-mail alert**, from page 1

The E-Mail Alert System relies on the master calendar and the news items and event notices that are posted on the Caltech Today website. Contributors located in nearly all Institute departments, divisions, and offices provide the content for that site, so the news-source pool is quite comprehensive. The e-mail alerts include only those news items that you want to know about.

Gone are the pages-long weekly updates that took forever to read. Gone too are the reminders, notifications, and invitations that seemed to have been meant for somebody else. You choose how many times a week the E-Mail Alert System brings you what you want. As long as there's an item that you elected to know about, the system can contact you on Mondays, on Mondays and Thursdays, or on a daily basis.

The alerts that come to you can be selected using different category criteria. Choose your news by science-related subject or by Caltech Today section. Caltech-philes will want to keep abreast of what's in the Top Stories section. Undergraduates will find that Student Affairs issues important scholarship announcements. The Human Resources section is always filled with employee-related news and events. Want to attend more cultural events? Select the Featured Events section to find out about all the entertaining performances taking place around here. And the Caltech Streaming Theater is always playing special lectures that you may have missed.

This system draws from the Caltech master calendar for events taking place on campus. You may select from hundreds of categories identified by sponsor, option, student club, lecture series, athletic team, seminar, film series, student house, publication, division, auditorium, or department. All this is yours, free, and just a few mouse-clicks away.

The alerts can also be set up to notify you of merchandise in the Caltech Market classifieds section. Users can specify what kinds of items they are looking for, such as books, clothing, vehicles, and bicycles, and get only those ads in their e-mails.

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From left, Gregg Henderson, Associate Vice President for Campus Planning Art Elbert, and Mark Stapf award Rene Perez his certificate.

## First class of first responders certified

Eleven Techers recently celebrated their completion of a training course in first response—a big step toward Caltech's becoming self-sufficient in an emergency situation, says Chief of Security Gregg Henderson.

The newly certified first responders are Juan Balcazar, Kathleen Carpenter, and Tim McHugh, security supervisors; John Bender and Jessica Edwards, resident advisors; Aleen Boladian, staff member in geology; Irma Cruz and Loren Kajitani, security administration staff members; and John Gutierrez, Rene Perez, and Robert Shumway, security officers.

Led by the Student Health Center's Mark Stapf, the course comprised 60 hours of classroom training and approximately 40 hours of additional study, which trainees—all full-time students or staff—took on voluntarily. "I want to recognize these folks that gave a lot of their own time," says Henderson, who hosted a dinner and ceremony for the trainees at the Rathskeller. "It means a lot to me, because their dedication and willingness to do this is moving security forward on campus."

More than just first aid and CPR training, the course tested trainees with scenarios such as extracting an accident victim from a vehicle and dealing with disaster situations. Henderson hopes to hold another training course in the fall, with the goal of getting the Caltech community to be "capable of sustaining ourselves medically" in the event of a regional or national emergency. In such cases, he notes, the Institute would not be able to count on overburdened Pasadena city services. "We need to be able to take care of ourselves."

Campus community members interested in first-responder training may e-mail Henderson at [gregg.henderson@caltech.edu](mailto:gregg.henderson@caltech.edu).

**Staff program**, from page 1

Then out of the blue, Horvath received a call from Rosen Professor of Biology Scott Fraser—wanting to discuss ways that faculty could build bridges with staff. "Either my office was bugged or this was just really a good idea, arrived at by different sides of campus," Horvath says.

Fraser liked the idea and offered to give the first talk. They decided to start small, in the Beckman Institute auditorium, and gave out tickets to ensure that people would show up. McHugh also set up tours of the Brain Imaging Center, which is affiliated with the Biological Imaging Center, headed by Fraser.

Held in January, the first event was "amazingly successful," Horvath says, with "tons of very positive feedback." The after-lecture refreshments went largely untouched because most people opted to take the tour. Contributing to the success, Horvath believes, was that the program focused specifically on staff, and that he and Fraser have good rapport, which set an upbeat tone.

"It was really exciting—it got us fired up," he says. And the vision seemed to catch on. Soon he got a call from Andrew Lange, Goldberger Professor of Physics, who Horvath says is "very focused on wanting to recognize and appreciate staff." Lange was about to go on sabbatical, but first wanted to present his work on mapping the cosmic microwave background in Antarctica. His talk, with short notice, had a slightly smaller turnout, but also received good feedback. Enthusiastic staff began suggesting future speakers, and a third lecture took place in April with McMillan Professor of Geophysics Jeroen Tromp, director of the Seismological Laboratory, along with a tour of the lab.

With such positive response, Horvath and McHugh hope to hold the program four times a year, focusing on topics with broad interest. Research areas that lend themselves to lab tours would add extra interest. For now, they will keep the program on a smaller scale, until it "develops its own momentum." Tickets will be given to vice presidents and division administrators, who are encouraged to rotate distribution among their employees. McHugh says, "We emphasize that we want staff rather than VPs to attend—the people who otherwise may not get the chance to learn about the research."

One thing that struck Horvath when he arrived at Caltech, he says, was the faculty's willingness, given the chance, to share with the campus community and laypeople, and their ability to make their work accessible and interesting. "They're approachable and open to everyone, wanting to have them jump on board," he says—an attitude lacking at other universities where he's worked. "This is one of the times our small size is a big advantage."

# Caltech 336

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