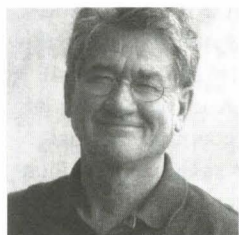


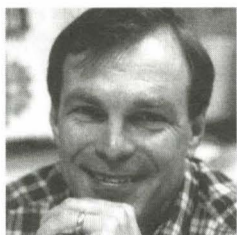
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T E S S E N T I A L S

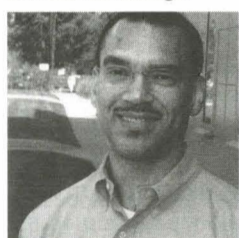
The campus community biweekly
April 29, 2004, vol. 4, no. 9



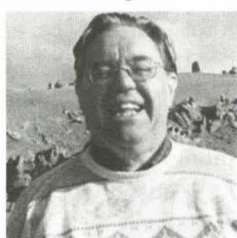
Donald Helmberger



Andrew Lange



Stephen Mayo



David Stevenson

Four faculty named to NAS

Four Caltech professors are among the 72 new members and 18 foreign associates named to the National Academy of Sciences on April 20. The election was announced during the academy's 141st annual meeting in Washington, D.C.

Caltech's new members are Donald Helmberger, Smits Family Professor of Geological and Planetary Sciences; Andrew Lange, Goldberger Professor of Physics; and Stephen Mayo, professor of biology and chemistry and Howard Hughes Medical Institute associate investigator. David Stevenson, Van Osdol Professor of Planetary Science and a native of New Zealand, was named a foreign associate.

In addition, five Caltech graduates—Paul Chaikin, BS '66; Andrea Ghez, MS '89, PhD '93; Raymond Jeanloz, PhD '80; Alan Title, PhD '66; and Margaret Tolbert, PhD '86—were also named members.

Helmberger's primary research interests are seismic wave propagation and the inversion of waveforms to recover detailed information about earthquake characteristics and Earth structure. He is interested in mapping ultralow velocity zones at the core-mantle boundary and inner-core structure.

The former director of Caltech's Seismological Laboratory, Helmberger has been a member of the faculty since 1970 and previously was a research associate at MIT and an assistant professor at Princeton University. In 1997 he became the first recipient of the American Geophysical Union's Inge Lehmann Medal.

Lange is a cosmologist who has pioneered new techniques for studying the cosmic microwave background radiation, a relic of the primeval "fireball" that filled the universe at the time of the Big Bang. He has used telescopes deployed on high-altitude balloons over Antarctica to determine the fundamental geometry and composition of the universe.

A Caltech faculty member since 1994, Lange was previously an associate professor at UC Berkeley. He earned his BA

see NAS, page 6

Dean Revel steps down early

Dean of Students Jean-Paul Revel, who was scheduled to leave his post in June, has had to step down immediately. Revel's wife, Galina, who had been battling cancer, passed away on Saturday, April 24.

Vice President for Student Affairs Margo Post Marshak had written in an April 23 e-mail to the Caltech community, "I regret to write today to say that Dean Revel, effective immediately, is unable to continue in his position due to a serious family matter. We do not know that he will be able to return before Commencement. We all send Dean Revel our heartfelt support."

In his absence, Professor of Political Science Rod Kiewiet, who was the former dean of students and of graduate studies, will serve as the acting dean of students in order to fulfill Revel's duties relating to the graduation ceremonies and to handle any urgent issues.

For routine business, Marshak referred students and faculty to Associate Dean Barbara Green. A search committee, chaired by Professor John Hall, is continuing to work to identify a new dean; any Caltech community member may contact Hall with suggestions or nominations of tenured faculty members.

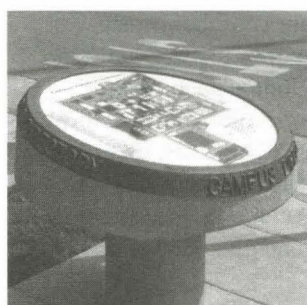
Upgraded mushrooms show the way

Among the many varieties of plants and trees on Caltech's campus is a crop of three-foot-tall "mushrooms."

These structures are not your garden-variety fungi—they are actually round, acrylic-covered cases set on concrete pedestals that hold upgraded and improved maps of campus. According to Associate Vice President for Campus Planning Art Elbert, the mushroom maps are the first step in a campaign to improve signage all across the Institute.

The six mushrooms now hold colorized maps of the campus that have also been organized on an alphanumeric grid, à la the renowned *Thomas Guide* street maps, to help wanderers find their way more easily.

see Mushrooms, page 6



3, 2, 1 . . . Blast off!



Youngsters use drinking straws, and lots of lung power, to launch "rockets" into space during "Into Orbit." The game, sponsored by the Caltech Precollege Science Initiative, was one of many activities during Take Our Children to Work Day, which took place all over campus on April 22. For more pictures, see page 6.

Alumni to visit for Seminar Day weekend

Nostalgic reunions with former classmates and instructors, walking tours of the Caltech campus, fascinating seminars, and, of course, a bountiful barbecue await visiting alumni and their guests at this year's Alumni Reunion Weekend and 67th Seminar Day.

Graduates from the class of 1939 and earlier will visit Caltech for this four-day suite of lectures and homecoming activities that begins on Thursday, May 13, and winds down on Sunday, May 16. Caltech alumni from all graduating classes are invited to attend.

The weekend is also the premier opportunity for alumni to get updates on the important research that continues to be conducted at Caltech. This year's rich offering of seminar lectures, delivered by Caltech and JPL faculty and researchers, ranges from the field geology conducted by the Mars rovers, to the search for the roots of language, to the Galaxy Evolution Explorer's quest to map the formation of stars. These lectures, scheduled to take place over five sessions on Saturday, showcase the wide variety of innovative and original scientific inquiry taking place at Caltech.

The Seminar Day lectures will begin on Saturday with the first hour-long session at 9 a.m. At 11 a.m., visitors will congregate at Beckman Auditorium,

where six Caltech graduates will receive the Distinguished Alumni Award to recognize their achievements.

Caltech's 2004 distinguished alumni are M. Blouke Carus, BS '49; Naren K. Gupta, MS '70; Kenneth I. Kellermann, PhD '63; Robert P. Kirshner, PhD '75; Gerhard H. Parker, BS '65, MS '66, PhD '70; and H. Gerard Schwartz Jr., PhD '66. The award ceremony will be followed by general session speaker Paul B. MacCready Jr.'s address "Frontiers of Aeronautics and Fluid Mechanics." MacCready is himself a Caltech alum, having earned his PhD here in 1952.

It's not only professors who will be delivering seminars; Caltech students also take part in Seminar Day, namely through the Everhart and SURF lecture series. This year, Houman D. Hemmati, a graduate student in biology, and Melinda J. Kellogg, a graduate student in physics, will discuss their research findings. Sophomores Joseph E. Gonzalez and Miling Yan, the winners of the Doris S. Perrell Summer Undergraduate and Research Fellowships (SURF) Speaking Awards for Excellent Oral Presentation, will also speak.

This weekend coincides with the Jet Propulsion Laboratory's Open House, which will take place on Saturday and

see Seminar Day, page 2

NewsBriefs



The Brothers Wouk—Victor (left), MS '40, PhD '42, a pioneer in electric and hybrid vehicle development, and Herman, the noted author—are feted at a recent campus reception to celebrate Herman's new novel, *A Hole in Texas*, and Victor's donation of his papers to the Caltech Archives. A Wouk exhibit can be viewed in the Beckman Room (151 Beckman Institute) Mondays, Wednesdays, and Fridays from noon to 1 p.m. through the end of spring term. For more information, call the Archives at ext. 2704.

Personals

Welcome to Caltech

April

Postdoctoral scholars **Reto Dorta** and **Thomas Driver**, both in chemistry, **Rafael Gomez-Sjoberg**, in applied physics, **Pierre Haguenaue**, in JPL's astrophysics element, **Shengli Hao**, in biology, **Gregory Markowski**, in JPL's multi-angle imaging element, **Gerald Mathis**, in chemistry, **Hiromasa Miyasaka**, in physics, **Jong-Ah (Jay) Paik**, in JPL's materials and device technologies section, **Andrew Straw**, in bioengineering; **Jason Tsai**, visitor in biology.

July

Richard "Rick" Bischoff has been appointed Caltech's new director of admissions, effective July 1. Currently serving as director of recruitment strategy and associate director of admissions at the University of Chicago, Bischoff brings to the Institute a strong background in management, effective use and implementation of information technology, research on effective admissions and financial-aid practices, and strategic planning. He earned his BA in mathematics and political science at Macalester College and his MBA in management information systems at the University of Minnesota's Carlson School of Management. Former Caltech admissions director **Dan Langdale** has been serving as interim director of admissions for the current academic year. Ferkel Professor of Chemistry **Jack Beauchamp** chaired the search committee.

Deaths

Nancy Alpine Wilder died on March 3; she was 81. She came to Caltech in 1979 to work at the Athenaeum, retiring in 1995 as senior department clerk, and for the past few years had lived at the Kensington Episcopal Home in Alhambra. A longtime San Marino resident, she left college during World War II to serve in the Navy as a WAVE. She later met, and in 1950 married, naval officer Henry B. "Hank" Wilder. A lifelong member of the Church of Our Saviour, she was active in the Junior Philharmonic Society, the Assistance League, the Pasadena Crown Guild (later the National Charity League), the PTA, and the San Marino Women's Club. She is survived by a son, John; a daughter, Anne Coultrup; a brother, Peter; and two grandsons.

Honors and awards

Caltech Public Relations has won a gold medal in the website category of the CASE (Council for the Advancement and Support of Education) Circle of Excellence awards. The honor is for Caltech's undergraduate admissions site, which was conceived, designed, and written by the Public Relations team of **Charlie White** (now an art professor at USC), electronic media publications manager **Gail Anderson**, and staff writer **Barbara DiPalma** (with back-end programming by Aure Prochazka and much cooperation and feedback from the **Caltech Admissions** staff).

Mark Konishi, Bing Professor of Behavioral Biology, has been selected by the McGovern Institute at MIT to receive the inaugural Edward M. Scolnick Prize in Neuroscience Research. The prize, which includes a public lecture by the recipient and an award equal to \$50,000, recognizes Konishi's "fundamental discoveries concerning mechanisms in the brain for sound location," as well as "the positive influence of his rigorous approach, and the cadre of young scientists he has mentored and trained." Konishi is known for his discoveries concerning sound location by the barn owl—which utilizes an auditory-space map within its brain—and the song system in birds. The Scolnick Prize is named after a former president of Merck Research Laboratories, whose tenure saw the introduction of 29 new medicines and vaccines.

Elliot Meyerowitz, Beadle Professor of Biology and chair of the Division of Biology, has been appointed one of 14 Phi Beta Kappa Visiting Scholars for 2004–05. The scholars travel to universities and colleges that have Phi Beta Kappa chapters, and spend two days on campus meeting informally with undergraduates, participating in classroom lectures and seminars, and giving one major address open to the entire academic community. Founded in 1776, Phi Beta Kappa is the nation's oldest academic honor society, with chapters at 270 colleges and universities and over 600,000 members. The purpose of the Visiting Scholars Program, which began in 1956, is to enrich the intellectual atmosphere of academic institutions and enable undergraduate students to talk with distinguished scholars from diverse disciplines.

Tom Tombrello, Kenan Professor, professor of physics, and chair of Physics, Mathematics and Astronomy, has been named a Caltech Honorary Alumnus for 2004. The letter notifying him reads, "This award recognizes individuals like you who have given significant service and support to Caltech students, the Caltech campus community, and the Caltech Alumni Association." He will be recognized for his achievements at the Annual Alumni Dinner on June 11 at the Athenaeum.

Child-care aid deadline is May 16

Many parents feel the heavy weight of their child-care bills every month, but that burden has gotten lighter for many members of the Caltech community. With the introduction of the Child Care Assistance Program (CCAP) last fall, participants who meet certain financial criteria won't have to worry about paying a hefty chunk of next year's bills.

The program is open to Caltech faculty and staff members, postdoctoral scholars, and graduate students who have dependent children up to five years old.

The next application period, for employees hired since the last application deadline or who have since added child dependents, is May 1 through May 16. Any financial assistance will be prorated over the last six months of 2004.

Details, including CCAP policies, care-provider criteria, and an online application, are available on the Web at http://cit.hr.caltech.edu/ccap_program.htm. Employees who do not have online access may use the computer kiosks in the Human Resources office.

Spring music is in the air

Student music groups are once again heralding the arrival of spring with their annual concerts. All performances are free and open to the public.

The Caltech Jazz and Concert Bands are pleased to present the 26th annual Bandorama concert on Saturday, May 8, at 8 p.m. in Beckman Auditorium. Directed by William Bing, the performance will feature "Metropolis Dawn" by Chris Renk, winner of the first Caltech competition for new music for concert band. Bing calls Renk's composition "very interesting," noting it is "descriptive of the construction of the Empire State Building. So, as you can imagine, it's a very dramatic work."

The concert band will also play a medley of songs from Puccini's opera *La Bohème*, and the jazz bands will perform such memory-evoking big band classics as "String of Pearls," "Sweet Georgia Brown," "Pennsylvania 6-5000," and "My Romance."

Chamber-music fans will have several chances to hear student ensembles, starting on Sunday, May 9—Mother's Day—at 3:30 p.m. in Ramo Auditorium. Highlighting the concert will be the Octet for Strings, composed by Felix Mendelssohn at age 16, which chamber music director Delores Bing terms "magnificent."

She says, "His mother must have been very proud of him, and we're honored that some proud mothers of our Caltech student musicians will be in the audience!" Music by Telemann and Brahms will round out the performance.

The chamber-music season will conclude with concerts on Friday, May 14, at 8 p.m. and Sunday, May 16, at 3:30 p.m., both in Ramo Auditorium. Friday's event will feature works by Schubert, Dohnányi, and Martinu for various combinations of piano, strings, and flute. The Sunday program, marking the end of 25 seasons of Caltech student chamber music, will center around Fauré's Piano Quartet no. 1. A reception will follow each concert.

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

Seminar Day, from page 1

Sunday from 9 a.m. to 5 p.m. Exhibits and demonstrations will celebrate the Laboratory's accomplishments in space exploration while researchers will answer questions about the ways they use technology to explore Earth and the planets beyond our solar system.

On the social side, class reunion plans are in place for alumni celebrating their first-year reunion and those from every fifth year (fifth through 65th year). These reunions are ideal social events at which to reconnect with college buddies and research colleagues, to network, and to catch up on old times.

Alums celebrating their 50th class reunion—the Half Century Club—will be treated on Thursday to a tour of the Huntington Library, Art Collections, and Botanical Gardens. Alumni from the earliest classes (1939, 1944, 1949, and 1954) will be able to choose from a selection of events that include a reception at president David Baltimore's residence, an illustrated lecture on Caltech's architectural gems by Romy Wyllie, a walking tour of the campus led by the Caltech Architectural Tour Service, and two student chamber-music concerts.

This weekend of events is all the more noteworthy in that it will mark the first reunion of members of Caltech's varsity football teams from the years 1964 to 1970. This special reunion is scheduled for Saturday at 6 p.m., in the Avery Center.

The deadline to arrange reservations for this weekend falls on May 3. Same-day registration will be available for Seminar Day only on Saturday, May 15, at the registration tent on the Beckman Mall. For further information, visit the Caltech Alumni Association at www.its.caltech.edu/~alumni, or call (626) 395-8366.

Mars Rover team to share stories

It's been a year of triumphs for the Jet Propulsion Laboratory's Mars Exploration Rover team, with the successful landing of not one but two robotic Mars rovers and the subsequent exploration of that alien landscape. On Tuesday, May 4, the MER team members will take part in a panel discussion to share their fascinating experiences at the helm of the rovers.

JPL Director Charles Elachi will introduce MER team members Pete Theisinger, Richard Cook, Joy Crisp, and others in "Seeing Mars from Both Sides," a panel discussion sponsored by the Caltech Management Association. The event will run from noon to 1:30 p.m. in Beckman Auditorium.

In addition to listening to the stories of these men and women who exemplify leadership, attendees will see the latest results from the always-surprising surface of Mars. Joining the MER team on the stage will be a full-scale rover model named "Marvin," and in the auditorium's foyer visitors will be able to view a 15-foot panoramic view of a landing site in full three-dimensional glory, as well as other large-format pictures.

Members of the association will get special seating at this event as well as a chance to win one of two Lego rover kits with the boxes signed by the panelists. Caltech Management Association membership signups and renewals will be available outside of the auditorium for \$10.

This event is free and open to all Caltech and JPL community members and retirees. For further information, send an e-mail to cma.announce@jpl.nasa.gov, or call (818) 354-6689.

May 3–9, 2004

M T W T F S S

Monday, May 3

High Energy Physics Seminar

469 Lauritsen, 4 p.m.—Topic to be announced. Alex Friedland, Los Alamos National Laboratory. Information: www.theory.caltech.edu/people/helen/seminar1.html.

Inorganic-Organometallics Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Discovery and Understanding of New Transition Metal-Catalyzed Reactions,” Professor John F. Hartwig, department of chemistry, Yale University.

Shirley A. Kliegel Lectureship in Geological and Planetary Sciences

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Elastic and Anelastic Tomography of the Earth’s Mantle: Inferences on Global Dynamics,” Professor Barbara Romanowicz, director, Berkeley Seismological Laboratory, UC Berkeley.

William Bennett Munro Memorial Seminar

25 Baxter, 4 p.m.—“Cognitive Conflict and Control in Moral Judgment,” Joshua Greene, postdoctoral fellow, department of psychology and the Center for the Study of Brain, Mind, and Behavior, Princeton University. Refreshments.

Applied and Computational Mathematics Colloquium

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4:15 p.m.—“A Group-Theoretic Approach to Fast Matrix Multiplication,” Chris Umans, assistant professor of computer science, Caltech. Refreshments, 3:45 p.m. Information: www.acm.caltech.edu/colloq.shtml.

Tuesday, May 4

Chemical Structure Searching

Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—Learn to search with chemical structures (both drawn and with templates) for property data and chemical reactions using Beilstein, Gmelin, SciFinder Scholar, and the Combined Chemical Dictionary. Information: <http://library.caltech.edu/learning/default.htm>.

Institute for Quantum Information Seminar

74 Jorgensen, 3 p.m.—Topic to be announced. Professor Vwani Roychowdhury, department of electrical engineering, UCLA.

Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—“The Role of Starbursts in the Evolution of Galaxies,” Betsy Barton, department of astronomy, University of Arizona. Refreshments.

Chemical Physics Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Hydrocarbons in the Atmosphere,” Professor Sherwood Rowland, department of chemistry, UC Irvine.

James Michelin Seminar Series

25 Baxter, 4 p.m.—“Math and the *Mona Lisa*: The Art and Science of Leonardo da Vinci,” Bulent I. Atalay, professor of physics, Mary Washington College. Refreshments.

Planetary Science Seminar

365 S. Mudd, Salvatori Room, 4 p.m.—“Variability on Different Timescales in a Mars General Circulation Model,” Claire Newman, Earl Postdoctoral Scholar in Planetary Science, Caltech. Refreshments, 3:45 p.m. Information: www.gps.caltech.edu/seminars/pss.html.

Tyler Memorial Lecture

119 Kerckhoff, 4 p.m.—Topic to be announced. Joan Massague, department of cell biology, Memorial Sloan-Kettering Cancer Center.

Thomas Wolff Memorial Lectures in Mathematics 2004

151 Sloan, 4:15 p.m.—“Ginzburg-Landau Minimizers and Related Harmonic Analysis Issues, Part 1,” Jean Bourgain, professor of mathematics, Institute for Advanced Study, and Dobb Professor of Mathematics, University of Illinois, Urbana-Champaign.

Wednesday, May 5

Mathematical Physics Seminar

351 Sloan, noon—“An Extended Variational Principle for the Sherrington-Kirkpatrick Model,” Shannon Starr, McGill University. Information: www.math.caltech.edu/events/mathphys.html.

Astronomy Colloquium

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“The COSMOS Galaxy and Large-Scale-Structure Evolution Project with HST,” Nick Scoville, Moseley Professor of Astronomy, Caltech. Information: www.astro.caltech.edu/~gma/colloquia.html.

Environmental Science and Engineering Seminar

142 Keck, 4 p.m.—“Four-Dimensional Quantitative Microbial Ecology,” Professor Anne Summers, department of microbiology, University of Georgia. Refreshments, Keck lobby, 3:40 p.m.

Everhart Lecture Series

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4 p.m.—“The Interplanetary Transport Network: Space Transportation Architecture for the 21st Century,” Shane Ross, graduate student in control and dynamical systems, Caltech. Refreshments, 3:45 p.m. Information: <http://www.its.caltech.edu/~els>.

Organic Chemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Complementing Genetic Mutations by Molecular Design; Chemical Rescue of Nuclear Receptor Mutations,” Professor John Koh, department of chemistry and biochemistry, University of Delaware.

Thomas Wolff Memorial Lectures in Mathematics 2004

151 Sloan, 4:15 p.m.—“Ginzburg-Landau Minimizers and Related Harmonic Analysis Issues, Part 2,” Jean Bourgain, professor of mathematics, Institute for Advanced Study, and Dobb Professor of Mathematics, University of Illinois, Urbana-Champaign.

Thursday, May 6

Joint Chemical Engineering and Bioengineering Seminar

106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—“Cell Interactive Polymers for Tissue Regeneration,” Professor David J. Mooney, departments of biologic and materials sciences, chemical engineering, and biomedical engineering, University of Michigan, Ann Arbor. Refreshments, 113 Spalding Lab, 3:30 p.m.

Friday, May 7

High Energy Theory Seminar

469 Lauritsen, 11 a.m.—“Braneworld Inflation,” Professor Alex Buchel, department of applied mathematics, University of Western Ontario, and Perimeter Institute, Waterloo, Ontario. Information: www.theory.caltech.edu/people/seminar/schedule.html.

High Energy Theory Seminar

469 Lauritsen, 1 p.m.—Topic to be announced. Sumit Das, department of physics and astronomy, University of Kentucky. Information: 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. Claudia Pasquero, senior research fellow in geological and planetary sciences, Caltech. Information: www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html.

Inorganic-Organometallics Seminar

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

Kellogg Seminar

Lauritsen Library, 4 p.m.—Topic to be announced. Geoff Green, Oakridge National Laboratory.

William Bennett Munro Memorial Seminar

25 Baxter, 4 p.m.—“Decomposing City: Walt Whitman’s New York and the Science of Life and Death,” Maria Farland, assistant professor of English, Fordham University. Refreshments.

May 10–16, 2004

M T W T F S S

Monday, May 10

- Thesis Seminar**
106 Spalding Lab, Hartley Memorial Seminar Room, 11 a.m.—“Engineering Artificial Proteins for Small-Diameter Vascular Grafts,” Sarah Heilshorn, graduate student in chemical engineering, Caltech.
- Special High Energy Theory Seminar**
469 Lauritsen, 2 p.m.—Topic to be announced. Professor Zvi Bern, department of physics and astronomy, UCLA. Information: www.theory.caltech.edu/people/seminar/schedule.html.
- Bioengineering Seminar**
142 Keck, 4 p.m.—“Is Muscle a Black Box? Translating a Neural Signal into a Mechanical Output,” Professor Anna Ahn, biology department, Harvey Mudd College.
- High Energy Physics Seminar**
469 Lauritsen, 4 p.m.—Topic to be announced. Geraldine Servant, University of Chicago. Information: www.theory.caltech.edu/people/helen/seminar1.html.
- Inorganic-Electrochemistry Seminar**
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Breaking Bonds with Low-Coordinate Iron: Chemistry Inspired by Nitrogenase,” Patrick L. Holland, assistant professor of chemistry, University of Rochester.
- Neurobiology Seminar**
119 Kerckhoff, 4 p.m.—“Genetic Manipulations in the Fruit Fly Fight Club,” Edward Kravitz, department of neurobiology, Harvard Medical School.

- Applied and Computational Mathematics Colloquium**
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4:15 p.m.—“Some Remarks on the Use of Special Shape Functions and the Generalized Finite Element Method,” John Osborn, department of mathematics, University of Maryland at College Park. Refreshments, 3:45 p.m. Information: www.acm.caltech.edu/colloq.shtml.

Tuesday, May 11

- Thesis Seminar**
115 Beckman Institute, 2 p.m.—“Prediction of Structure, Function, and Spectroscopic Properties of G-protein Coupled Receptors: Methods and Applications,” Rene Trabanino, graduate student in chemistry, Caltech.
- Institute for Quantum Information Seminar**
74 Jorgensen, 3 p.m.—“Applications of Matrix Inequalities in Quantum Information Theory,” Professor Christopher King, department of mathematics, Northeastern University.
- Carnegie Observatories Colloquium Series**
William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—“Black Holes and the Central Structure of Galaxies,” Tod Lauer, National Optical Astronomy Observatory (NOAO). Refreshments.

- Chemical Physics Seminar**
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Threshold Photoelectron Photoion Coincidence Studies with Velocity Focusing Optics: The Path to Accurate Thermochemistry of Organic and Organometallic Systems,” Professor Tomas Baer, department of chemistry, University of North Carolina, Chapel Hill.

- General Biology Seminar**
119 Kerckhoff, 4 p.m.—Topic to be announced. Mark Krasnow, Howard Hughes Medical Institute, and department of biochemistry, Stanford University.

Wednesday, May 12

- Astronomy Colloquium**
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Characteristic Scales in Galaxy Formation,” Professor Avishai Dekel, Racah Institute of Physics, Hebrew University of Jerusalem. Information: www.astro.caltech.edu/~gma/colloquia.html.
- Environmental Science and Engineering Seminar**
142 Keck, 4 p.m.—“Flights of Fancy: Fluorinated Chemicals in the Environment,” Scott Mabury, associate professor of environmental chemistry, University of Toronto. Refreshments, Keck lobby, 3:40 p.m.

- General Biology Seminar**
119 Kerckhoff, 4 p.m.—“Wiring Specificity in the Olfactory System of *Drosophila*,” Greg Jefferis, department of biological sciences, Stanford University.
- Organic Chemistry Seminar**
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Evolution of Biomolecule Dynamics,” Professor Floyd Romesberg, department of chemistry, Scripps Research Institute. Refreshments.

Thursday, May 13

- Endnote for Absolute Beginners**
Sherman Fairchild Library, multimedia conference room, 2 to 3:30 p.m.—Learn what Endnote is and how it can work for you to create bibliographies within a document, and as a search interface to online databases and catalogs allowing you to directly export records to your computer. Space is limited. Registration: <http://library.caltech.edu/learning/form.htm>. Walk-ins will be accepted only if space permits.

Friday, May 14

- Condensed Matter Physics Seminar**
107 Downs Lab, noon—Title to be announced. Kung Yang, National High Magnetic Field Laboratory (NHMFL).
- Fluid Mechanics Seminar**
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 3 p.m.—Topic to be announced. Paul O’Gorman, graduate student in aeronautics, Caltech. Information: www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html.
- Inorganic-Organometallics Seminar**
151 Crellin, 4 p.m.—“C-H Activation at Platinum(II) Centers,” Jonathan Owen, graduate student in chemistry, Caltech.

- Kellogg Seminar**
Lauritsen Library, 4 p.m.—Topic to be announced. Seth Hoedl, department of physics, University of Washington.
- William Bennett Munro Memorial Seminar**
25 Baxter, 4 p.m.—“Where Do Pamphlets Come From? Political Writing in Late Medieval England,” Clementine Oliver, Caltech-Huntington Ahmanson Postdoctoral Instructor in History. Refreshments.

CampusEvents

Monday, May 3

ESL Conversation Club for Postdoc Spouses

Winnett clubroom #1, 5:45 to 7 p.m.—The Post-doctoral Scholar/Visitor Services in Human Resources hosts a weekly ESL conversation club. The sessions, led by a TESOL certified instructor, are held in the evenings; admission is free. Free child care is provided by the Caltech Children's Center. The ESL Club is also open to all foreign nationals of the Caltech community. For registration and information, please contact Eloisa Imel at eloisa.imel@caltech.edu or Leah Carlson at 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 sixth 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 4

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_bruns@hotmail.com.

Caltech Management Association

Beckman Auditorium, noon to 1:30 p.m.—“Seeing Mars from Both Sides,” a panel discussion with Mars Exploration Rover team members, including Pete Theisinger, Richard Cook, and Joy Crisp. “Marvin,” a full-scale rover, will be on stage, and large-format and panoramic pictures will be displayed in the foyer. Admission is free. A box lunch will be provided after the meeting. CMA members get special seating and the chance to win one of two autographed Lego rovers. Information: (818) 354-6689 or cma.announce@jpl.nasa.gov.

Caltech Tai Chi Club

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

Wednesday, May 5

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. We are temporarily available by appointment only. Please 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.

Electric Cart Safety Training

118 Keith Spalding Building, 3 p.m.—This course teaches participants about safely driving electric carts on campus. Registration: 395-6727 or safety.training@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: \$7 per class.

Thursday, May 6

Argentine Tango Lessons

Winnett lounge, 7:30 p.m.—Argentine tango, taught by professional instructors. This is the sixth 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.

Social Activism Speakers Series

Ramo Auditorium, 8 p.m.—Mike Farrell, an actor and humanitarian who originally became famous on the hit show *M*A*S*H*, will speak. Farrell serves as president of Death Penalty Focus, a nonprofit organization dedicated to the abolition of capital punishment.

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. The trial class costs \$5 for Caltech students, \$8 for others.

Friday, May 7

Caltech Tai Chi Club

See Tuesday, May 4, for details.

Caltech Blitz Chess Championship

Page House dining room, 8 p.m.—Players of all skill levels are welcome to participate, free of charge, in the second annual blitz chess championship. Cash prizes will be awarded. Reservations: hummel@its.caltech.edu, or arrive 10 to 15 minutes early for the event.

Saturday, May 8

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.

Hula Lesson

Winnett Center, 2 p.m.—This is the fifth of eight weekly beginning hula lessons. 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. Reservations: maruchan@its.caltech.edu.

Bandorama: Caltech Concert and Jazz Bands

Beckman Auditorium, 8 p.m.—This year's annual concert will feature Chris Renk, the winner of the first annual Caltech competition for new music for concert band, who will introduce his piece, “Metropolis Dawn.” The concert band will also play a medley of songs from *La Bohème*, and the jazz bands will perform big band music. Admission is free. A reception will follow the concert.

Sunday, May 9

Caltech Student Chamber Ensembles

Ramo Auditorium, 3:30 p.m.—The first concert of the Caltech student chamber-music players' spring series will present Mendelssohn's Octet, along with works by Telemann, Brahms, Dvorák, and others. A reception for all will follow the concert. Admission is free.

Monday, May 10

ESL Conversation Club for Postdoc Spouses

See Monday, May 3, for details.

Ceroc Lessons

See Monday, May 3, for details.

Tuesday, May 11

Preschool Playgroup

See Tuesday, May 4, for details.

Caltech Tai Chi Club

See Tuesday, May 4, for details.

Amnesty International Letter Writing

Athenaeum Rathskeller, 7:30 to 9 p.m.—Caltech/Pasadena AI Group 22 will host an informal meeting to write letters on human-rights abuses around the world. All are welcome. Refreshments. Information: (818) 354-4461 or lkamp@lively.jpl.nasa.gov. Visit our website at www.its.caltech.edu/~aigp22.

Wednesday, May 12

E-Mail Etiquette

Brown Gym classroom, 8:30 a.m. to noon—This half-day workshop for supervisors and nonsupervisors focuses on strategies and techniques for writing e-mails that are effective, communicate your message, and convey that you are a professional. Registration: 395-8055 or diane.williams@caltech.edu. This class will be repeated from 1:30 to 5 p.m. Information: http://cit.hr.caltech.edu/Education/super&non_super/email_etiquette.htm.

Baby Furniture and Household Equipment

See Wednesday, May 5, for details.

Wednesdays in the Park

See Wednesday, May 5, for details.

Emergency Preparedness Training

118 Keith Spalding Building, 3 p.m.—This course will describe the campus emergency operations plan, including information about the emergency operations center, evacuation, fire prevention and protection techniques, behavioral principles during an emergency, and personal preparedness. Reservations: 395-6727 or safety.training@caltech.edu.

Salsa Dance Class

See Wednesday, May 5, for details.

Thursday, May 13

Motivation Workshop

Brown Gym classroom, 8:30 a.m. to 12:30 p.m.—Learn ways to become a self-motivator and to inspire others while maintaining the energy, drive, and enthusiasm that elicits staff cooperation and achieves results. This workshop is intended for both supervisors and nonsupervisors. Registration: 395-8055 or diane.williams@caltech.edu. Information: http://cit.hr.caltech.edu/Education/super&non_super/motivation.htm.

Argentine Tango Lessons

See Thursday, May 6, for details.

Hip-Hop Class for Advanced Beginners

See Thursday, May 6, for details.

Friday, May 14

Caltech Tai Chi Club

See Tuesday, May 4, 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.

Caltech Student Chamber Ensembles

Ramo Auditorium, 8 p.m.—The centerpiece of this concert will be a quintet for piano and strings by Dohnányi. Other compositions for piano duet and a variety of small ensembles will complete the program. Admission is free.

Saturday, May 15

67th Annual Seminar Day

Various campus locations, 8:15 a.m. to 8 p.m.—Various sessions and speakers are scheduled throughout the day. Paul B. MacCreedy Jr., PhD '52, will give the general session speech at 11 a.m. Information: Patsy Gougeon, 395-8366.

Beginning Belly-Dancing

See Saturday, May 8, for details.

Hula Lesson

See Saturday, May 8, for details.

Sunday, May 16

Skeptics Society Lecture

Baxter Lecture Hall, 2 p.m.—“The Nigerian Spam Scam Scam,” Dean Cameron, author and actor. Donation is \$8 for nonmembers, \$5 for members and non-Caltech students. Free to the Caltech/JPL community. Tickets and information: 794-3119 or skepticmag@aol.com. Visit the Skeptics Society at www.skeptic.com.

Caltech Student Chamber Ensembles

Ramo Auditorium, 3:30 p.m.—This concert will feature Fauré's Piano Quartet no. 1 in C minor, as well as other music for winds, strings, and piano. Admission is free. A reception for all will follow the concert.

Amnesty International Book Discussion Group

Vroman's Bookstore, 695 E. Colorado Boulevard, second floor, 6:30 p.m.—This month's book is “A Problem from Hell”: America and the Age of Genocide, by Samantha Powers. All are welcome. Sponsored by Caltech/Pasadena AI Group 22. Visit Group 22 at www.its.caltech.edu/~aigp22.

NAS, from page 1

degree at Princeton, and his PhD at Berkeley. He was cowinner of the California Scientist of the Year honor in 2003.

A faculty member since 1992, Mayo has worked for the last several years on a system for designing, building, and testing proteins with novel biochemical properties. The system automatically determines a string of amino acids that will fold to most nearly duplicate the 3-D shape of a target structure.

Mayo earned his BS in chemistry at Pennsylvania State University, and his PhD in chemistry at Caltech in 1987. As a graduate student, he cofounded the company Molecular Simulations Inc. in 1985, and served as its vice president for biological sciences from 1989 to 1990. Mayo also cofounded Xencor in 1997 and serves on its scientific advisory board.

Stevenson, a Caltech faculty member since 1980, works in the field of theoretical planetary science, employing techniques from fields such as condensed-matter physics and fluid dynamics to better understand Earth, the other planets, and their moons. Much of his research involves interpreting data from spacecraft such as Galileo, which orbited Jupiter, but he is also involved in work on the nature and evolution of Earth's deep interior.

Stevenson earned his PhD in theoretical physics from Cornell University, and was a member of the UCLA faculty before joining Caltech. He is the winner of the Whipple Award and the Hess Medal from the American Geophysical Union, and was honored by the late Gene Shoemaker, his wife Caroline, and A. Harris with the naming of the asteroid 5211 Stevenson to commemorate his work in planetary science.

The appointments bring to 70 the number of living Caltech faculty who are academy members. In addition, three current Caltech Trustees are members.

With membership long considered one of the highest honors an American

scientist can achieve, the National Academy of Sciences is dedicated to the "furtherance of science and its use for the general welfare." Established in 1863, the academy acts as "an official adviser to the federal government, upon request, in any matter of science and technology."

Mushrooms, from page 1

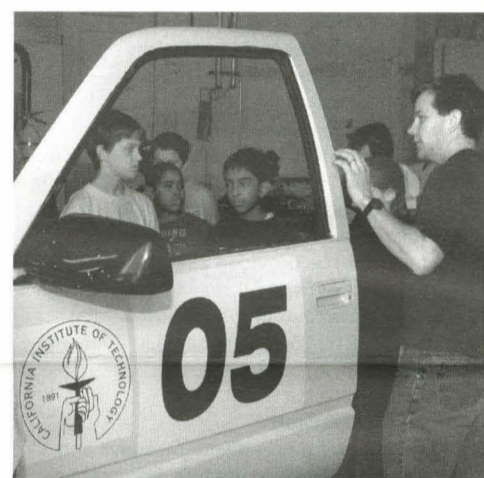
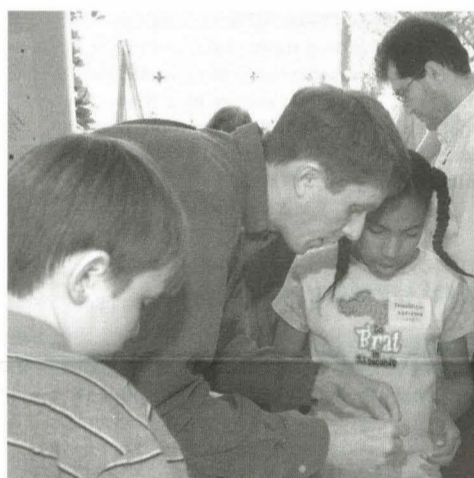
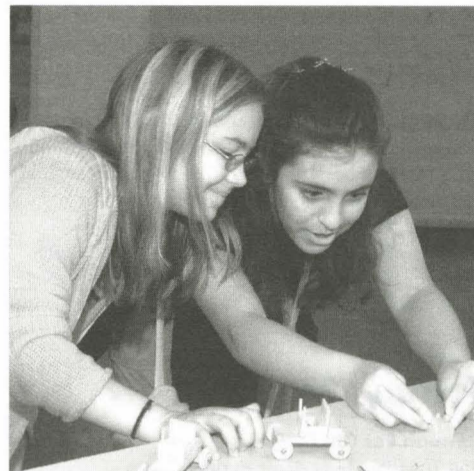
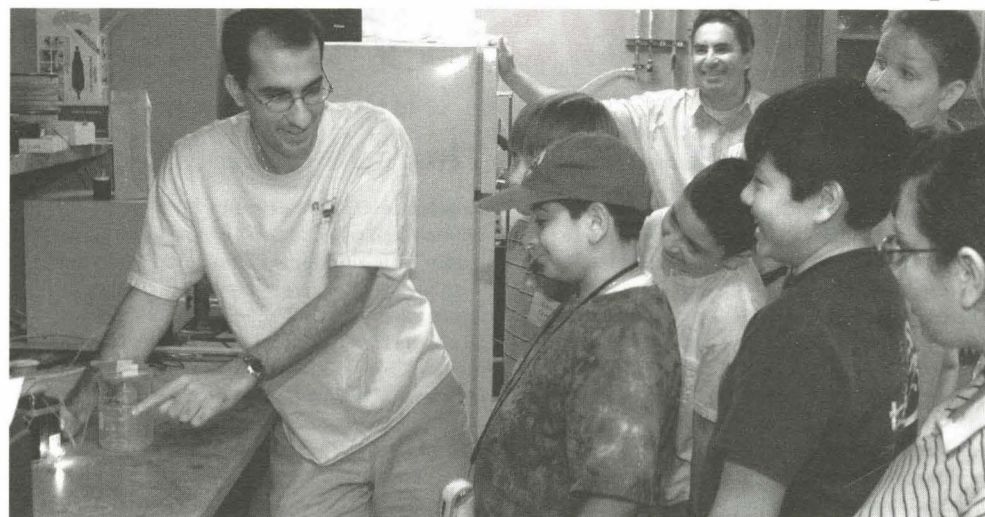
The new maps were digitally printed on vinyl sheets, a process several times faster than the former method of reverse silk-screening, and are now far less susceptible to fading from sun exposure than were the old ones. In addition, the maps have gained clear acrylic covers with a UV-protective coating to shield them from sun damage.

Upgrading the maps more quickly and easily is important in light of ongoing campus expansion and renovation. Elbert stated, "We're now in the process of building the new parking structure [under the south athletic field], and are planning the new astrophysics building and the upgrade of the south undergraduate housing." In addition, Elbert noted, people and offices continue to be relocated on a fairly regular basis.

The upgraded mushroom maps—located at the southwest corner of Braun Lab; the east patio of the Keith Spalding Building; on California Boulevard between Sloan and East Bridge labs; the southeast corner of Lloyd House; the corner of Holliston Avenue and San Pasqual near Campus Planning; and west of Watson Lab—will also be reproduced as handouts for campus guests.

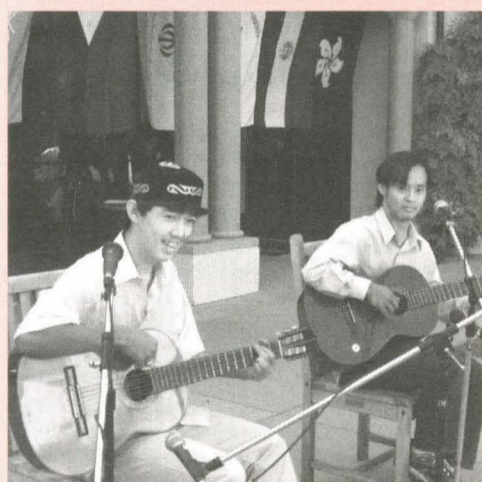
According to Elbert, Caltech is currently evaluating designers, who will eventually create "way-finding" signs that will welcome guests and enable them to navigate the campus and its buildings, whether on foot or driving.

Take Our Children to Work Day



Grad student Peter Babilo, who researches fuel cells in the lab of Professor Sossina Haile, demonstrates that water with table salt added can serve as an electrolyte to complete an electrical path; the kids seem to get a kick out of it, as does chaperone and Safety Office staff member Larry Martinez (background). Kevin Toner and Marie-Lou Avouac prefer the pepperoni during the lunch break held on the Beckman Institute patio; fifth-grader Kevin is the son of Ritsuko Hirai Toner, lecturer in Japanese, and 10-year-old Marie-Lou is the daughter of Postdoctoral Scholar/Visitor Services staffer Barbara Avouac and Professor of Geology Jean-Philippe Avouac. Children got to inspect Bob, an autonomous vehicle and Caltech's entry in the recent DARPA Grand Challenge desert road contest; David van Gogh, a staff member in Engineering and Applied Science, gives a tour of the SUV's computerized innards. IPAC staff member Steve Groom helps his son, Bobby, and Dominique Anderson, daughter of Space Radiation Lab staff member Caprice Anderson, make rockets in an exercise led by Caltech Precollege Science Initiative personnel; in the rear is Mark Abajian, Michelson Science Center staffer, who was also helping the kids. Lydia de Pillis Lindheim (left), daughter of Center for Advanced Computing Research staffer Jan Lindheim, and Andrea Arvizu, daughter of Purchasing and Payment Services staffer Rudy Arvizu, enjoy building model cars while visiting the carpentry shop.

NewsExtras



Yernur Rysmagambetov '07 (left), from Kazakhstan, and Yingkai Ouyang '07, from Singapore, perform a Russian rock song at the annual International Food Fair and Culture Show on April 17.



Caltech's second Health and Work Life Fair on April 17 brought more than 35 campus and community organizations and many attendees to Winnett quad.

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T H S S M T W T F S S M T W

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