

# Caltech336

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

The campus community biweekly

November 14, 2002, vol. 2, no. 17

## From haunting to humorous



The bookstore's annual Halloween costume contest brought out a bevy of unusual folks. Clockwise from top left: Julie Hiroto of Development won first place as a software pirate; dead bookstore cashier Sydney Garstang showed what happens if you stay in a job too long; and Mike Stutson, Campus Card Services, was tickled to be with Albert Einstein (aka Lee Stevens, Human Resources, who won for best historical character) and a pregnant Snow White (Sandy Koceski, Biology).

## Job reclassification process continues

Two years into the project of converting Caltech's staff salary and job classification structure to a new system, the Human Resources compensation group is making headway as three "job families" have been completed. Their goal is to complete the project by late 2003.

Under the former structure, positions were assigned to one of five separate salary structures—administrative (A), engineering (E), office and clerical (O), service (S), and technical (T)—with a total of 46 pay ranges. After consulting with staff members and managers in many different Caltech divisions and departments as well as conducting extensive research, the compensation unit has developed a single, unified pay schedule of 15 ranges, designed to be competitive in the overall job market. Now they're converting all existing and new positions to the unified pay schedule, one job family at a time. A job family consists of positions from a discrete profession, such as information technology, finance, and dining services.

The new compensation structure provides more flexibility, is market-based, and is intended to provide employees

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## New class is tops in smarts, service

The admissions office opened Caltech's doors wide for 252 freshmen this year, admitting them into the Institute's hallowed temples of science. Like their predecessors, this group of scholars exhibits impressive academic ability and a high level of achievement. The data they provided on their applications show that they are a group marked by diversity—with varied origins and wide-ranging interests—and involvement in their communities.

Freshman applications came from 49 states (the only holdout was North Dakota), the District of Columbia, Puerto Rico, and Guam. Some 600 students from 79 different countries also sent in their bids. In all, less than 10 percent of the 2,612 applications resulted in a successful acceptance and subsequent enrollment.

The class of 2006 comprises 179 men and 73 women. The population of incoming women is down to 29 percent, a dip in the three-year trend that had held steady at about 36 percent. In terms of race or ethnicity, this class reflects Caltech's continued commitment to diversity as well as excellence. Three

see *Frosh*, page 6

## All-campus event to herald campaign

One down, one to go. With its capital campaign officially introduced to key and prospective donors last month, Caltech is now planning an all-campus celebration to bring the entire community into the fold.

With the slogan "There's only one. Caltech," the ambitious, \$1.4 billion campaign emphasizes the Institute's uniqueness—its "singular brand of discovery and invention," enabled by its small size, its resulting camaraderie and interdisciplinary research nature, and its pioneering spirit.

Taking place at noon on Monday, November 18, in Beckman Auditorium, the all-campus presentation will provide faculty, students, postdocs, and staff with a snapshot of Caltech's innovative accomplishments and research, and a vision of its plans and hopes for the future. Attendees will view a 15-minute video, "Infinite Possibilities," and President David Baltimore and Wally Weisman, Caltech trustee and chair of the campaign committee, will share more about the campaign's background and goals and will answer questions. There will be giveaways and, following the program, free hot dogs and live music.

For more information about the campaign, visit the new Web site at [www.one.caltech.edu](http://www.one.caltech.edu).

## Conservation needed during upgrade

In view of the critical need for consistent electricity supplies to carry on research activities, Caltech is continuing to implement new measures to reduce consumption and become more efficient, saving both energy and dollars.

Physical Plant is in the process of replacing its existing turbine and boiler power-cogeneration system with a 10-megawatt gas turbine and heat-recovery boiler, and replacing a one-megawatt steam turbine with a high-efficiency 1.6-megawatt model. The new system, to be located at the same site as the current central plant, west of the athletic fields on Wilson Avenue, would make Caltech nearly self-sufficient in electrical supply, says Art Elbert, associate vice president for campus planning.

"In case of an earthquake or power outage, we could fire up the system and be up and running again in just a few hours," he says. Powered by natural gas, the

see *Conservation*, page 6



Professor Oscar Mandel (left); his wife, Adrienne; and project staff member Rudy Hirschmann chat at the recent Einstein Papers Project celebration.

## New book reveals Einstein's politics

Student protests in Albert Einstein's classroom? Who would have shown the world-renowned genius such disrespect? But according to a new publication, first in a series from Caltech's Einstein Papers Project, the protest was very real and political, based on anti-Semitism.

His students were protesting the presence of poor Eastern European refugees auditing his relativity lecture in Berlin in 1920. Einstein dealt with the protest by offering free classes, but six months later, journalists, students, and scientists leveled even more attacks at the scientist and his work.

*The Collected Papers of Albert Einstein: Volume 7, The Berlin Years: Writings, 1918–1921*, published by Princeton University Press, includes many previously unknown articles and drafts by the scientist, showing that politics had become a large part of his life. The Einstein Papers Project recently celebrated the book's release with a dinner and panel discussion. Titled "Einstein at Caltech," the event brought together former and current collaborators, associates, and supporters of the project and formally recognized the support of the Swiss Federal Institute of Technology and the Swiss National Science Foundation.

Included in the volume is Einstein's course notebook from November 9, 1918—the date Kaiser Wilhelm abdicated—with an entry that "due to revolution" the day's lecture was canceled.

"Soon after, he met with the new head of the German interim government and secured the release of several University of Berlin professors and its rector, detained by revolutionary students," says Diana Kormos-Buchwald, associate professor of history and director of the Einstein Papers Project.

"Four days later, Einstein addressed a crowd of over 1,000 and, emphasizing the rights of the individual, declared that 'all true democrats must stand guard lest the old class tyranny of the right be

see *Einstein*, page 6



# NewsBriefs



A recent campus reception honored Caltech's 2002 Medal of Excellence award winner Denise Nelson Nash (center), director of Caltech Public Events; and finalists Mary Ellen Barba (left), IPAC, and Suzette Cummings, Student Affairs. The annual award is sponsored by the local nonprofit organization Women at Work.

## Personals

### Welcome to Caltech

#### October

**Mark Changizi**, postdoctoral scholar in biology; **Nikolaus Correll**, visitor in electrical engineering; **Orlando Dungca**, custodian, Physical Plant; **Jay Hanan**, scientist, materials science; **Jin Montclare**, postdoctoral scholar in chemical engineering; **Ricardo Oseguera**, print shop helper, Graphic Arts Facilities; **Mirna Perez**, custodian, Physical Plant; **Erin Ryan**, research assistant, Space Infrared Telescope Facility (SIRTF) Science Center; **Elvira Serpa**, dishwasher, Dining Services; **Michael Suh**, research assistant, biology; **Tom Taghon**, postdoctoral scholar in biology; **Pururav Thoutireddy**, scientist, Center for Advanced Computing Research; **Jorge Villanueva**, custodian, Physical Plant.

#### November

**Benoit Boulat**, scientist, biology; **Prabha Dias**, electron-microscope scientist and lab manager, biology.

### New positions

**David Anderson**, postdoctoral scholar in aeronautics, has been appointed a research scientist in aeronautics.

### Retirements

**Herman Engelhardt** retired on November 1 after 15 years at Caltech. He was a senior research associate in the Division of Geological and Planetary Sciences.

**Albert Johnson**, a specialist in application development with the Infrared Processing and Analysis Center (IPAC), will retire on December 1, after 14 years at Caltech.

**Thanh Nguyen** retired on November 1. A custodian with Custodial Services, he had worked at Caltech for 11 years.

**Stephen Schindler**, a member of the professional staff in the Space Radiation Lab, will retire on December 1, after 23 years at Caltech.

## Honors and awards

**Frances Arnold**, Dickinson Professor of Chemical Engineering and Biochemistry, has been selected by the Delaware Section of the American Chemical Society to receive the 2003 Carothers Award, for her "outstanding contributions and advances in industrial applications of chemistry." A member of Caltech's faculty since 1987, Arnold was named Dickinson Professor in 2000.

**Jacqueline Barton**, Hanisch Memorial Professor and professor of chemistry, has been chosen by the American Chemical Society to be the 2003 recipient of the Ronald Breslow Award for Achievement in Biomimetic Chemistry. Sponsored by the Breslow Endowment, the award recognizes "outstanding contributions to the field of biomimetic chemistry" and consists of \$5,000 and a certificate. Professor of chemistry at Caltech since 1989, Barton was named Hanisch Professor in 1997.

**James Knowles**, Kenan Professor and Professor of Applied Mechanics, Emeritus, has received the Warner T. Koiter Medal from the American Society of Mechanical Engineers, which is honoring him for "seminal contributions in nonlinear solid mechanics." Knowles joined Caltech's faculty in 1958 and was named Kenan Professor in 1991. He became emeritus in 1997.

**John Ledyard** has been named Allen and Lenabelle Davis Professor of Economics and Social Sciences, effective December 1; this title replaces that of professor of economics and social sciences. A professor at Caltech since 1985, Ledyard served as chair of the Division of the Humanities and Social Sciences from 1992 to 2002.

**Kerry Sieh** has been named Robert P. Sharp Professor of Geology, effective January 1, 2003; this title replaces that of professor of geology. Sieh joined Caltech as an assistant professor of geology in 1977, the same year he received his PhD from Stanford, and was appointed full professor in 1986.

**Jeroen Tromp** has been named Eleanor and John R. McMillan Professor of Geophysics, effective January 1, 2003; this title replaces that of professor of geophysics. Initially a visiting professor at Caltech in 1998–99, Tromp joined the faculty as professor of geophysics in 2000.

## Campus authors

Caltech lecturer in creative writing **Merrill Joan Gerber** has published a memoir, *Botticelli Blue Skies: An American in Florence*, chronicling her three-month stay in Italy. Though reluctant when her husband, a history professor, was asked to take a group of students to study in Florence, Gerber soon found herself leaving the tourist mode and living as a native. "You become privy to real life by living there," she says—for example, having to wear surgical gloves to feel tomatoes at the local store. Gerber earned a master's degree in English from Brandeis University and won a Wallace Stegner Fiction Fellowship to Stanford University. Among her 23 books are two prizewinning novels, and her short stories have appeared in popular and literary magazines.

Gerber will read from *Botticelli Blue Skies* on November 20 at 7:30 p.m. at Distant Lands Bookstore, 56 South Raymond Avenue, Pasadena; RSVP to (626) 449-3220. For more information on the author, visit [www.its.caltech.edu/~mjgerber](http://www.its.caltech.edu/~mjgerber).

## TACIT produces *Double Infidelity*

Love and its attendant tasks—finding it, feeling it, keeping it—can make one go to absurd extremes. And those extremes are evident in Marivaux's play *Double Infidelity*, which is being staged by Theater Arts at Caltech and directed by Shirley Marneus. Caltech professor of literature Oscar Mandel translated the play—*La Double Inconstance* in the original—from the French 35 years ago.

The play concerns a nameless prince; his love interest, Sylvia, a villager; her lover, Robin; and various members of the prince's court, who plot to assist the prince in pursuing the honest and strong-willed Sylvia's affections. The passionate prince brings her and Robin to his palace, where he hopes Robin's affections for Sylvia will be deflected by a fetching temptress. That would leave the despondent Sylvia to seek comfort in his arms, or so he hopes.

A three-act romance, *Double Infidelity* was first performed in 1722. Born in 1688, Marivaux died penniless; but in his short lifetime, this novelist, essayist, and dramatist was considered quite a wit in the fashionable Paris salons.

"He wrote, above all, very light, sometimes very cynical, and very amusing love comedies about young people facing and overcoming obstacles," explains Mandel. "He's known for very refined analysis of one's innermost feelings." The French word *marivaudage* was coined to signify flirtatious banter.

According to Mandel, Marivaux took pains to infuse energy and life into scenes in which even lowly unnamed servants drive the plot forward. In *Double Infidelity*, Marivaux exposes the clever artifice and genteel machinations that marked daily court life. In the prince's palace, love and loyalties shift as easily as identities do.

TACIT's production continues at Dabney Lounge for two more weekends, with Friday and Saturday performances at 8 p.m. and Sunday matinees at 2 p.m.

## Music to ease in the holidays

The holiday season is nearly upon us again, and for many it can bring busyness and anxiety along with the celebrations. Luckily, there's a soothing antidote right here on campus.

Caltech's student music groups will be offering their annual fall and holiday concerts, beginning this weekend. Surround yourself with classical and traditional favorites, or add your voice to a rousing Hallelujah Chorus, and feel your stress wash away. All events are free and open to the public.

Starting things off will be the Caltech-Occidental Symphony Orchestra, presenting a concert on Saturday, November 16. Under the leadership of Allen Robert Gross, the orchestra will perform works by Wagner, Montsalvatge, and Tchaikovsky, and will feature mezzo-soprano Alma Mora Ponce. Taking place in Ramo Auditorium, the show will begin at 8 p.m.

The following Saturday, November 23, the Caltech-Occidental Concert Band, directed by William Bing, will play music by Sousa, Rossini, Saint-Saëns, Alfred Reed, Shostakovich, Marvin Neumann, and others. Featured will be Jay Easton, brother of Caltech grad student and trombonist Kjerstin Easton, who will play the contrabass saxophone, "king of all bass instruments." A versatile musician who has performed with Eartha Kitt, Yes, and Barry Manilow, Easton teaches at the

## Award-winning journalist to speak at FOCAL dinner

Friends of the Caltech Libraries (FOCAL) will present its annual holiday dinner on Tuesday, December 10, featuring award-winning journalist Joe Saltzman. The event will take place at the Athenaeum beginning at 6 p.m. with a no-host reception; dinner will be served at 7.

Saltzman, the associate dean and a professor of journalism at USC's Annenberg School for Communication, will speak on his latest book, *Frank Capra and the Image of the Journalist in American Film*. His book on the film director (a Caltech alum, class of 1918) is the first publication of the Annenberg School's Norman Lear Center Press and of the center's new Image of the Journalist in Popular Culture project; the popular image of journalists is an area that Saltzman has researched for 15 years. In the book, he discusses Capra's representations of journalists, including the iconic news hawks played by Clark Gable and Jean Arthur in *It Happened One Night* and *Mr. Deeds Goes to Town*, as well as numerous lesser-known characters such as editors, publishers, and media tycoons.

A graduate of USC, Saltzman received a BA in journalism, and also earned an MS from Columbia University's Graduate School of Journalism. In his four decades in the field, he has worked in the print and broadcast media and garnered more than 50 awards, including Columbia's Dupont Broadcast Journalism Award (the Pulitzer Prize of broadcasting), four Emmys, four Golden Mikes, two Edward R. Murrow Awards, and one of the first Image Awards from the National Association for the Advancement of Colored People.

Cost for the event is \$50 per person for members and two guests and \$60 for nonmembers. Please make reservations by December 2 with K. C. McBride at (626) 395-6411.

university level and is the only known American to play all 10 sizes of saxophone. Caltech senior Chad Kishimoto and assistant professor of geology and geochemistry Paul Asimow will serve as guest conductors for the performance, which will start at 8 p.m. in Beckman Auditorium.

On Friday and Saturday, December 6 and 7, the Women's and Men's Glee Clubs, conducted by Desiree LaVertu and Donald Caldwell, will do some serious holiday singing at their annual concerts, featuring Charpentier's *Messe de Minuit pour Noël* (Midnight Mass for Christmas) with instrumentalists and professional soloists. Other selections will include Arcadelt's "Ave Maria"; David Conte's "A Stable-Lamp is Lighted"; carols arranged by John Phillips and Ralph Vaughan Williams; and traditional Christmas and Chanukah pieces. Refreshments will be served after each performance, which begins at 8 p.m. in Dabney Lounge.

Finally, the glee clubs will present their traditional and well-loved *Messiah* sing-along on Friday, December 13, from noon to 1 p.m. in Dabney Lounge. Men's Glee Club director Donald Caldwell will conduct, accompanied by Wendy Caldwell. As always, he invites students or others interested in auditioning for solos to contact him at ext. 6197 or [dgc@caltech.edu](mailto:dgc@caltech.edu).



November 25–December 8, 2002

M T W T F S S

Monday, November 25

- Astronomy Tea Talk**  
106 Robinson, 4 p.m.—“The Formation of Very Low Mass Stars and Brown Dwarfs,” Russel White, postdoctoral scholar in astronomy, Caltech. Information: [www.astro.caltech.edu/~cc/tea\\_talks](http://www.astro.caltech.edu/~cc/tea_talks).
- Computation and Neural Systems Seminar**  
24 Beckman Labs, 4 p.m.—“In Search of Memory Traces,” Richard Thompson, Keck Professor of Psychology and Biological Sciences, USC. Refreshments, 3:45 p.m.
- Geology and Planetary Sciences Seminar**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Why Are Earthquakes So Gentle?,” Thomas Heaton, professor of engineering seismology, Caltech. Information: [www.gps.caltech.edu](http://www.gps.caltech.edu).
- Applied and Computational Mathematics Colloquium**  
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4:15 p.m.—“Stochastic Navier-Stokes Equations: Propagation of Chaos and Closure Problem,” Boris Rozovskii, department of mathematics, USC. Refreshments, 3:45 p.m. Information: [www.acm.caltech.edu/colloq.shtml](http://www.acm.caltech.edu/colloq.shtml).
- Thesis Seminar**  
132 Noyes, 2 p.m.—“Theory of Electronically Nonadiabatic Quantum Reaction Dynamics,” Ravinder Abrol, graduate student in chemistry, Caltech.
- Institute for Quantum Information Seminar**  
74 Jorgensen, 3 p.m.—Topic to be announced. Daniel Gottesman, Mathematical Sciences Research Institute, UC Berkeley.
- Ulric B. and Evelyn L. Bray Seminar**  
25 Baxter, 4 p.m.—Topic to be announced. Chris Shannon, professor of economics, UC Berkeley. Refreshments.

- Carnegie Observatories Colloquium Series**  
William T. Golden Auditorium, 813 Santa Barbara Street, 4 p.m.—“Nearby Clusters of Galaxies: New Answers to Old Questions,” Dr. Omar Lopez-Cruz, Instituto Nacional de Astrofísica, Óptica, y Electrónica, Mexico, and Carnegie Observatories. Refreshments, 3:30 p.m.
- General Biology Seminar**  
119 Kerckhoff, 4 p.m.—“Histone Orphans Find Homes in Centromeres and Active Genes,” Steve Henikoff, Fred Hutchinson Cancer Research Center.
- Mathematical Physics Seminar**  
351 Sloan, noon—“Symmetry Breaking Regime in the Nonlinear Hartree Equation,” Kai Schnee, visiting associate in mathematics, Caltech. Information: [www.math.caltech.edu/events/mathphys.html](http://www.math.caltech.edu/events/mathphys.html).
- Thanksgiving holiday**
- Institute holiday**
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106 Robinson, 4 p.m.—Topic to be announced. Avishay Gal-Yam, Tel-Aviv University. Information: [www.astro.caltech.edu/~cc/tea\\_talks](http://www.astro.caltech.edu/~cc/tea_talks).
- Geology and Planetary Sciences Seminar**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Planetary Biology: Combining the Natural and Physical Sciences,” Dr. Eric Gaucher, University of Florida. Information: [www.gps.caltech.edu](http://www.gps.caltech.edu).
- Inorganic-Electrochemistry Seminar**  
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- Science, Ethics, and Public Policy Seminar**  
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Tuesday, December 3

- LIGO Science Seminar**  
351 West Bridge, LIGO Science Conference Room, 11 a.m.—“Distortions in LIGO Optics: A Perturbation Approach,” William Kells, LIGO Laboratory, Caltech. Information: [www.ligo.caltech.edu](http://www.ligo.caltech.edu).
- Caltech Library System Presents: Copyright for Researchers in Academia**  
Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—Rights and responsibilities under copyright law will be discussed by Kimberly Douglas, director of the Sherman Fairchild Library, and attorney Peggy Luh, Caltech’s Office of the General Counsel. Information and registration: <http://library.caltech.edu/learning/form.htm>. Open to Caltech community members only.
- Mechanical Engineering Seminar**  
206 Thomas, 3 p.m.—“Mechanical, Thermal, and Quantum Noise in LIGO’s Gravitational-Wave Detectors,” Kip Thorne, Richard P. Feynman Professor of Theoretical Physics, Caltech.
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- Astronomy Colloquium**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—Topic to be announced. Laura Ferrarese, assistant professor, department of physics and astronomy, Rutgers University. 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.—“Field Applications of an Aerosol Mass Spectrometer,” Dr. John Jayne, Principal Scientist, Center for Aerosol and Cloud Chemistry, Aerodyne Research, Inc.
- Constantin G. Economou Memorial Lecture in Chemical Engineering**  
106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—“A New Strategy for Synthesizing Zeolites,” Hyunjoo Lee, graduate student in chemical engineering, Caltech. Refreshments, 113 Spalding Labs, 3:30 p.m. Information: [www.che.caltech.edu/calendar/seminars.html](http://www.che.caltech.edu/calendar/seminars.html).
- Geoclub Seminar**  
151 Arms, Buwalda Room, 4 p.m.—“The Use and Abuse of B Isotopes to Reconstruct Seawater pH 65,000,981 Years Ago,” Damien Lemarchand, postdoctoral scholar in geochemistry, Caltech.
- Fluid Mechanics Seminar**  
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 3 p.m.—“Some Perspectives on Wall Turbulence: Vortex Spatial Organization and High Reynolds Number Scaling Laws,” Ivan Marusic, associate professor, department of aerospace engineering and mechanics, University of Minnesota, Twin Cities. Information: [www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html](http://www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html).
- Inorganic-Electrochemistry Seminar**  
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Homoleptic Aryloxides of Late Transition Metals,” Linda H. Doerr, assistant professor, chemistry department, Barnard College.

Wednesday, December 4



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- Beckman Institute Seminar**  
Beckman Institute auditorium, 10:30 a.m. to noon—“Membrane Proteins, Polymerization Catalysts, and Nanoelectronics: Recent Progress at the MSC,” William Goddard, Ferkel Professor of Chemistry, Materials Science, and Applied Physics, and director, Materials and Process Simulation Center, Beckman Institute, Caltech. Refreshments, 10 a.m. Information: [www.its.caltech.edu/~bi/seminars.html](http://www.its.caltech.edu/~bi/seminars.html).
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- Thursday, November 28**  
**Thanksgiving holiday**
- Friday, November 29**  
**Institute holiday**
- Monday, December 2**

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- Caltech Library System Presents: Copyright for Researchers in Academia**  
Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—Rights and responsibilities under copyright law will be discussed by Kimberly Douglas, director of the Sherman Fairchild Library, and attorney Peggy Luh, Caltech’s Office of the General Counsel. Information and registration: <http://library.caltech.edu/learning/form.htm>. Open to Caltech community members only.
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- Wednesday, December 4**

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351 Sloan, noon—“A Strong Operator Topology Adiabatic Theorem,” Jeffrey Schenker, postgraduate researcher in mathematics, UC Irvine. Information: [www.math.caltech.edu/events/mathphys.html](http://www.math.caltech.edu/events/mathphys.html).

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- Thursday, December 5**

**Constantin G. Economou Memorial Lecture in Chemical Engineering**  
106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—“A New Strategy for Synthesizing Zeolites,” Hyunjoo Lee, graduate student in chemical engineering, Caltech. Refreshments, 113 Spalding Labs, 3:30 p.m. Information: [www.che.caltech.edu/calendar/seminars.html](http://www.che.caltech.edu/calendar/seminars.html).

**Geoclub Seminar**  
151 Arms, Buwalda Room, 4 p.m.—“The Use and Abuse of B Isotopes to Reconstruct Seawater pH 65,000,981 Years Ago,” Damien Lemarchand, postdoctoral scholar in geochemistry, Caltech.
- Friday, December 6**

**Fluid Mechanics Seminar**  
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 3 p.m.—“Some Perspectives on Wall Turbulence: Vortex Spatial Organization and High Reynolds Number Scaling Laws,” Ivan Marusic, associate professor, department of aerospace engineering and mechanics, University of Minnesota, Twin Cities. Information: [www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html](http://www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html).

**Inorganic-Electrochemistry Seminar**  
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Homoleptic Aryloxides of Late Transition Metals,” Linda H. Doerrer, assistant professor, chemistry department, Barnard College.



# CampusEvents

## Monday, November 18

### Baby Furniture and Household Equipment Pool

234 S. Catalina, 10 a.m. to 1 p.m.—Loans of kitchen and household necessities and baby furniture are made to members of the Caltech community. Information: 584-9773.

### Beginners' Hip-Hop Dance Class

Braun Gym, multipurpose room, 10 p.m.—Beginners' hip-hop, professionally taught. The trial class costs \$5; cost for the full term is \$20 for Caltech students and \$30 for others. No special clothing or shoes are required. Open to all who have a valid gym membership. Sponsored by the Caltech Dance Troupe.

## Tuesday, November 19

### 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: 792-7808 or julia@astro.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.

### Intermediate Jazz Dance Class

Braun Gym, multipurpose room, 9:30 p.m.—Intermediate jazz dance, taught by a professional instructor. No special clothing or shoes are required. Open to all who have a valid gym membership. Sponsored by the Caltech Dance Troupe.

## Wednesday, November 20

### Baby Furniture and Household Equipment Pool

234 S. Catalina, 10 a.m. to 1 p.m.—See Monday, November 18, for details.

### Creating Online Lectures

New Media Classroom, 363 S. Hill Avenue, 10 a.m.—Convert your existing PowerPoint presentations into narrated online lectures. Several software programs will be demonstrated that create high-quality graphics from your slides, produce separate audio and/or video streams, and allow viewers to jump to particular slides easily. Registration: 395-3420 or carolynp@caltech.edu. Information: <http://morel.caltech.edu/classes/demos.html>. **This class will be repeated at noon.**

### Wednesdays in the Park

Tournament Park, 10 a.m. to noon—Conversation and coffee for parents and caregivers, and playtime for children. Information: 355-3874 or lcklavins@hotmail.com.

### 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. Space is limited. Please call 395-6727 or e-mail Andrea.Acosta@caltech.edu to reserve a place.

### Women's Basketball

vs. LIFE Bible College, 6 p.m.

### Men's Basketball

vs. LIFE Bible College, 8 p.m.

## Thursday, November 21

### Video Compression for Presentations, Web, and CD/DVD

New Media Classroom, 363 S. Hill Avenue, 10 a.m. to noon—Learn why and how video is compressed for playback on a computer. There will be hands-on exercises with Cleaner 5 software, and demonstrations of other compression software such as Premiere and Sorenson Squeeze. Reservations: carolynp@caltech.edu. Information: <http://morel.caltech.edu/classes/workshops.html>.

### 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.

### Women's Wellness Series: Patient Advocacy

Steele House (carriage house), noon—Do you know your rights and responsibilities as a patient or consumer of medical services? Do you have the tools necessary to be an empowered patient? Join Louise Villalpando, manager of the UCLA Patient Relations Department, as she discusses how to be a successful and strong self-advocate. Brown bag lunches will be provided. Registration: 395-3221 or wcenter@cco.caltech.edu.

### Swimming and Diving

vs. Whittier College, 5 p.m.

### Amnesty International Monthly Meeting

Caltech Y lounge, 7:30 p.m.—Amnesty International 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.

### Mountainfilm in Telluride

Ramo Auditorium, 7:30 p.m.—The Caltech Alpine Club and REI present a collection of films about climbing, skiing, kayaking, environmentalism, and wildlife. Fee: \$10 in advance, \$12 at the door, \$5 for Caltech students. Tickets: 395-4652, 1 (888) 2CALTECH, or events@caltech.edu. Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Information: [www.its.caltech.edu/~alpine/mountainfilm.html](http://www.its.caltech.edu/~alpine/mountainfilm.html).

## Friday, November 22

### Caltech Tai Chi Club

Winnett lounge, 7 p.m.—See Tuesday, November 19, for details.

### Double Infidelity

Dabney Lounge, 8 p.m.—Theater Arts at Caltech presents *Double Infidelity (La double inconstance)* by Marivaux, translation by Oscar Mandel, professor of literature, Caltech. Tickets and information: 395-4652, 1 (888) 2CALTECH, or 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).

## Saturday, November 23

### Southern California Conference on Undergraduate Research (SCCUR)

Various locations, 8 a.m. to 5 p.m.—Through performance, oral presentations, posters, or displays, students in all disciplines will present original projects to an audience of peers, faculty, and administrators. Fee: \$45 for presenters and nonpresenters; \$25 for high school and community college students. Registration: 395-2885 or online at [www.sccur.org](http://www.sccur.org). For the schedule and locations, see [www.sccur.org/sched.html](http://www.sccur.org/sched.html).

### Beginning Ballet Class

Braun Gym, multipurpose room, 1 p.m.—Free class taught by experienced members of the Caltech Dance Troupe. All experience levels are invited. No special clothing or shoes are required.

### Women's Basketball

vs. Southwestern College, 2 p.m.

### Double Infidelity

Dabney Lounge, 8 p.m.—Theater Arts at Caltech presents *Double Infidelity (La double inconstance)* by Marivaux, translation by Oscar Mandel, professor of literature, Caltech. Tickets and information: 395-4652, 1 (888) 2CALTECH, or 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).

## Sunday, November 24

### Women's Intermediate Self-Defense

Steele House (carriage house), 1 to 5 p.m.—This class is for women who have participated in the introductory workshop and would like to practice with a padded assailant in a variety of simulated scenarios. Registration: 395-3221 or wcenter@cco.caltech.edu.

### Final Performance of Double Infidelity

Dabney Lounge, 2 p.m.—Theater Arts at Caltech presents *Double Infidelity (La double inconstance)* by Marivaux, translation by Oscar Mandel, professor of literature, Caltech. Tickets and information: 395-4652, 1 (888) 2CALTECH, or 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, November 25

### Baby Furniture and Household Equipment Pool

234 S. Catalina, 10 a.m. to 1 p.m.—See Monday, November 18, for details.

### Beginners' Hip-Hop Dance Class

Braun Gym, multipurpose room, 10 p.m.—Beginners' hip-hop, professionally taught. See Monday, November 18, for details.

## Tuesday, November 26

### Preschool Playgroup

Tournament Park, 10 a.m. to noon—See Tuesday, November 19, for details.

### Swimming and Diving

vs. Chapman University, 5 p.m.

### Caltech Tai Chi Club

Winnett lounge, 7 p.m.—See Tuesday, November 19, for details.

### Intermediate Jazz Dance Class

Braun Gym, multipurpose room, 9:30 p.m.—Intermediate jazz dance, taught by a professional instructor. See Tuesday, November 19, for details.

## Wednesday, November 27

### Baby Furniture and Household Equipment Pool

234 S. Catalina, 10 a.m. to 1 p.m.—See Monday, November 18, for details.

### Wednesdays in the Park

Tournament Park, 10 a.m. to noon—See Wednesday, November 20, for details.

### Women's Basketball

vs. Lewis & Clark College, 7:30 p.m.

## Thursday, November 28

### Thanksgiving holiday

### Credit Union Closed

All branches of the Caltech Employees Federal Credit Union will be closed November 28 and 29 to celebrate the Thanksgiving holiday.

## Friday, November 29

### Institute holiday

### Women's Basketball

Caltech Tournament, 6 p.m.

### Caltech Tai Chi Club

Winnett lounge, 7 p.m.—See Tuesday, November 19, for details.

## Saturday, November 30

### Women's Basketball

Caltech Tournament, noon.

### Men's Basketball

vs. La Sierra University, 7:30 p.m.

## Sunday, December 1

### Okawa Piano Recital

Dabney Lounge, 3:30 p.m.—Saiko Okawa, piano student of Caltech's pianist in residence James Boyk, will perform works by Bach, Ravel, Beethoven, and Debussy. Admission is free.

## Monday, December 2

### Baby Furniture and Household Equipment Pool

234 S. Catalina, 10 a.m. to 1 p.m.—See Monday, November 18, for details.

## Tuesday, December 3

### Preschool Playgroup

Tournament Park, 10 a.m. to noon—See Tuesday, November 19, for details.

### Swimming and Diving

vs. Principia College, 4 p.m.

### Caltech Tai Chi Club

Winnett lounge, 7 p.m.—See Tuesday, November 19, for details.

## Wednesday, December 4

### Baby Furniture and Household Equipment Pool

234 S. Catalina, 10 a.m. to 1 p.m.—See Monday, November 18, for details.

### Using a Digital Camera

New Media Classroom, 363 S. Hill Avenue, 10 a.m.—Learn about the important functions of your digital camera: various compression settings, downloading images to your computer, and basic image-creation tips. Photoshop 7 will be used to organize your images and enhance them, and to create a contact sheet and multiple print sheets. Registration: 395-3420 or carolynp@caltech.edu. Information: <http://morel.caltech.edu/classes/demos.html>. **This class will be repeated at noon.**

### Wednesdays in the Park

Tournament Park, 10 a.m. to noon—See Wednesday, November 20, for details.

### Reel Women Film Series: Iranian Journey

Second-floor common space of the Center for Student Services, north wing, noon—This video follows the first female bus driver in the Muslim world as she drives her bus on a 20-hour journey from the Iranian capital, Tehran, to the port city of Bandar Abbas on the Gulf coast. Bring your lunch. Drinks and dessert provided.

### Watch Your Back! Safety Training

118 Keith Spalding Building, 3 p.m.—This course includes a brief discussion on back anatomy and proper methods and realistic approaches to handling and moving materials. There will be a video presentation and hands-on lifting. Space is limited. Please call 395-6727 or e-mail Andrea.Acosta@caltech.edu to reserve a place.

### Men's Basketball

vs. West Coast Baptist, 7:30 p.m.

## Friday, December 6

### Chris Henderson's China Adventure

Avery Library, noon—Chris Henderson, from Caltech's Graphic Arts Facilities, will present a talk on his adventures in China. His trip was funded by the Avery China Adventure Program, which is open to all Caltech employees, faculty, and alumni and is sponsored by the Student-Faculty Programs Office. Chinese food will be available for the first 25 persons.

### Caltech Tai Chi Club

Winnett lounge, 7 p.m.—See Tuesday, November 19, for details.

### Caltech Glee Clubs Holiday Concert

Dabney Lounge, 8 p.m.—Caltech Men's and Women's Glee Clubs, under the direction of Desiree LaVertu and Donald Caldwell, will present their annual holiday concert, featuring Charpentier's *Messe de Minuit pour Noel* (Midnight Mass for Christmas), with professional soloists. Other selections include Arcadelt's "Ave Maria," French carols by John Phillips, and traditional Christmas and Chanukah pieces. Refreshments will be served after the performance.

### Lionheart

Beckman Auditorium, 8 p.m.—This all-male a cappella ensemble will present a holiday program of medieval, Renaissance, and contemporary vocal music. Tickets and information: 395-4652, 1 (888) 2CALTECH, or 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).

## Saturday, December 7

### Caltech Glee Clubs Holiday Concert

Dabney Lounge, 8 p.m.—Caltech Men's and Women's Glee Clubs, under the direction of Desiree LaVertu and Donald Caldwell. See Friday, December 6, for details.

## Sunday, December 8

### Men's Basketball

vs. Whitworth College, 2 p.m.



**Frosh, from page 1**

students are Native American or Alaskan Native; 68 are Asian or Pacific Islander; three are African American; 19 are Hispanic; and 146 are Caucasian, up from 110 last year. Seven new students did not provide their ethnicity. Six international students have origins in Bulgaria, Romania, Singapore, and Thailand.

Many students indicated that they intend to concentrate their studies in physics, engineering and applied sciences, and biology. Their academic interests coincide with their extracurricular activities: nearly half of the new students belonged to a math team, and a fifth belonged to a math club. In addition, many participated in science olympiads, academic decathlons, science bowls, robotics challenges, and Odyssey of the Mind programs. In preparation for their college careers, 93 individuals earned 1,454 college credits. A full 40 percent served as valedictorians, and 8 percent were salutatorians.

A facility for language translated for many into hours of work at their school newspaper (16 staffers, four editors) and annuals (three edited the yearbook); literature (five edited a literary magazine); politics and administration (19 were student council members); and rhetoric (six debate team captains, 15 team members). Six students have won writing awards, 26 received book awards, and one is a published poet.

These young adults also exhibit interests in areas beyond academics. Two of the students hold pilot's licenses, while the same number are taking lessons. One individual is learning to fly a helicopter.

Besides these activities, 161 showed a concern for their community and the environment through active involvement. Tutoring was popular, and many worked as volunteers at hospitals, libraries, nursing homes, and the house-construction project Habitat for Humanity. Some worked for zoos, nature centers, or science or technology museums. Others spent time interpreting for the deaf, working with autistic children, or volunteering for the Special Olympics. About 20 percent belonged to the National Honor Society, which requires community service from its membership. One student volunteered as a recruiter of other volunteers, ensuring continuation of service.

In terms of athletics, Caltech admitted 16 track-and-field team members and 25 cross-country runners, including four team captains. The incoming class includes 27 tennis players, of which three were team captains; 18 soccer players; 17 swim team members; six basketball players; and half a dozen water-polo players.

Caltech students have long exhibited musical virtuosity and this new class has

its share of musicians. Caltech now has 33 new pianists, 16 violinists, and 32 former school-band members who play every conceivable instrument.

The other performing arts are well represented, with 15 students bringing experience as chorus singers. Eight were involved in theatrical productions, and six have worked as stage technicians.

All in all, the signs are auspicious. Caltech alumni and professors have been known to engage in pursuits far afield from their academic interests. Perhaps this class, already full of great minds, personality, and potential, includes somebody who will develop and mature into the next Feynman—bongos, Tuva, and all.

**Conservation, from page 1**

cogeneration system is called that because it produces both electrical power and steam, which is used for heating and air-conditioning. The Institute is also seeking to lock in a long-term price on gas, ensuring stability even if market prices again spike as they did last year.

Currently, the Institute produces about 47 percent of its own electricity, saving costs by reducing the amount of power bought from the city of Pasadena. During the next eight months, however, the cogeneration system will be offline as it's being dismantled to make way for the new equipment. Thus, all campus electricity will need to be purchased until the new system becomes operational in July.

"Although we have planned for this in the current budget cycle, it is essential that we conserve as much energy as possible to mitigate electricity costs," says Bill Irwin, Physical Plant director. "Your efforts to save energy are an important complement to those of Physical Plant."

He requests that all campus community members make an effort to turn off lights that aren't in use or are not essential to operations, such as corridor lights, desk and table lamps, and incandescent lights, where possible. In addition, computers and other equipment should be turned off when not in use, particularly when personnel leave at night.

"Together, we can minimize the cost impact of purchasing electricity in the coming months and be responsible members of the Caltech community," Irwin says.

Questions on this or any energy-related issue can be directed to Irwin at ext. 3727 or bill.irwin@caltech.edu, or to Reza Ohadi, associate director of campus operations, at ext. 6571 or reza.ohadi@caltech.edu.

**Reclassification, from page 1**

with a clearer career path, something the current system doesn't allow. "Once employees realize the process is something that will benefit them, they support it," says Tim Chang, associate director of Caltech Auxiliary and Business Services. "We anticipate it will really have a positive impact in helping us keep good workers. It also gives them a little more control of their career by identifying a prescribed set of skills they need in order to advance."

Eloisa Imel, staff manager in the Division of the Humanities and Social Sciences, believes the new system will be useful for both managers and employees. "The old program was more tied to education and experience in determining job growth," she says. "The new structure is more flexible, and because it's so comprehensive and well-documented, it will be easier for managers to recognize employees' contributions and skills and to categorize new jobs that become available."

The conversion process includes evaluating all jobs within a family, assigning the jobs into the new evaluation framework, and meeting with each affected workgroup to review the process and answer questions. A total of 14 job families have been identified, each composed of several disciplines, or specializations, and career levels. For example, the general administration family includes disciplines such as administrative support, grants and contracts administration, legal services, and security. Within each discipline are several different career levels arranged from least to most complex, with descriptions of the skills and responsibilities required at each level. Together, the discipline, career level, and skill descriptions serve as a tool to foster and support career development by laying out the requirements for advancement.

Two job families have been converted, information technology and facilities and trades. General administration, the biggest single job family to date, approximately 600 positions, is in the final stages of conversion; once it is finished, about 1,100 of the 2,600 staff employees will have been converted to the new classification and salary structure. Currently kicking off is the research family, and remaining job families will be addressed throughout 2003. (Visit <http://cit.hr.caltech.edu/Jobs-HTML/EO.htm> to glimpse the new job families, and click on Salary Ranges to see the new unified pay schedule. The old structures will also remain until all jobs are converted.)

Questions about the reclassification process can be directed to Elizabeth Loftus, director of compensation, at [elizabeth.loftus@caltech.edu](mailto:elizabeth.loftus@caltech.edu) or ext. 8386; or Tom Schmitt, associate vice president for human resources and campus services, at [thomas.schmitt@caltech.edu](mailto:thomas.schmitt@caltech.edu) or ext. 3230.

**Einstein, from page 1**

replaced by a class tyranny of the left,' and expressed support and a willingness to work for the new post-World War I democratic Germany."

The book covers the period of Einstein's rise to fame. It includes documents on the general theory of relativity, others relating to his first trip to the United States in 1921, and his first political, social, and humanitarian publications. Under the general editorship of Kormos-Buchwald, the volume was edited by an international, bilingual group of Einstein scholars: Michel Janssen, Robert Schulmann, József Illy, and Christoph Lehner. Daniel Kennefick, a 1999 Caltech PhD, was associate editor; Osik Moses and Rudy Hirschmann were editorial assistants.

"This volume is the first in the series to present a mixture of Einstein's scientific, pedagogical, political, and humanitarian writings," says Kormos-Buchwald. "Here we can see the complexity of his personal and public life, in an almost day-by-day record of work and public activities—the thoughts and actions of the mature, successful, world-famous, and often controversial Einstein around the age of 40."

Einstein rose to fame after completing his general theory of relativity in 1916. Two years later, he announced the need to correct a "regrettable error in calculation," and derived the famous quadrupole formula for the flux of energy radiated by a source of gravitational waves. Today, Caltech and MIT scientists are hoping to detect these waves first predicted by Einstein.

The Einstein Papers Project is a 25-year effort that will result in 29 volumes of *The Collected Papers of Albert Einstein*. Called the most ambitious publishing venture in the history of 20th-century science, the project requires research of more than 60,000 documents, including correspondence, scientific writings, speeches, diagrams, and photos. The collection of photocopies is housed in seven large, fireproof filing cabinets. (Most of the original papers are at the Hebrew University of Jerusalem, the beneficiary of Einstein's literary estate.)

The project began in 1971 when Princeton University Press agreed to take on the monumental task of publishing Einstein's annotated writings. The first volume, edited by a team at Boston University, appeared in 1987. When Kormos-Buchwald was appointed in 2000, she chose to move the work to Caltech.

Caltech's Einstein connection goes back to when he was a visiting scientist in the 1930s. He might have become a full-time faculty member, were it not for miscommunication with the Institute. Instead, he joined the Institute for Advanced Study in Princeton, where he remained until he died in 1955.

# Caltech 336

T E S S E N T I A L S

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