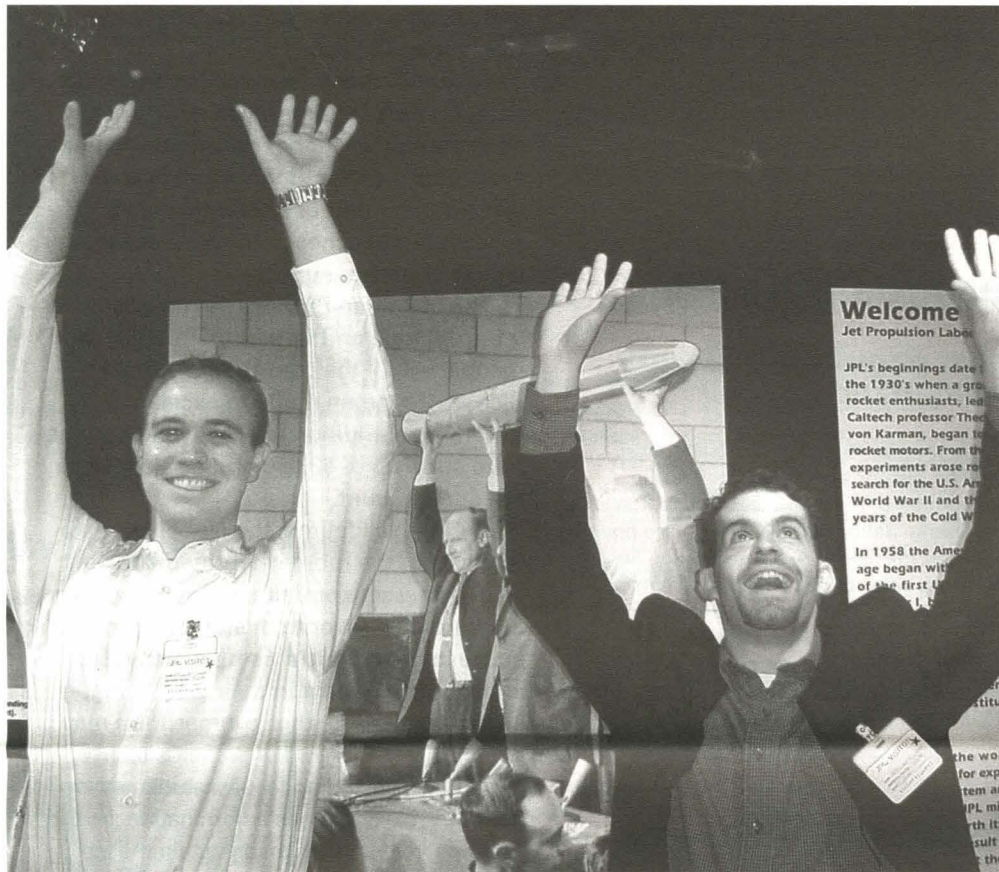


# Caltech 336

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

The campus community biweekly  
November 1, 2001, vol. 1, no. 16

## Recapturing the moment



On a recent tour of Caltech and JPL, Paul Kidwell and Josh Goldstein, staffers in Congressman Adam Schiff's district office, salute William Pickering, James Van Allen, and Werner von Braun's (background) celebration of the 1958 launch of Explorer I, America's first satellite.

## They're back, and brainier than ever

It's hard to imagine how Caltech frosh can keep getting smarter. Seeing their rising test scores and grades over the past few years is already enough to spark an inferiority complex in the average person.

Judging from this year's incoming class, however, these whiz kids seem to have done it once again, achieving the highest average combined SAT score—1511—among classes in recent years. And they arrive amid the highest praise from their high school teachers: "extraordinary . . .," "leaves teachers and classmates awestruck . . .," "one of the finest . . ."

Yet they aren't your stereotypical strictly studious, antisocial, nonathletic nerds. (Indeed, don't try kicking sand in any of their faces—among them are a competitive weight lifter, football and lacrosse players, a varsity cross-country team captain, and several martial-arts experts.) These well-rounded young people have also managed to find, or more likely make, extra hours to pursue extracurricular interests, work part-time, and give back to their communities.

Many of these frosh, of course, have demonstrated their fervor for math and science by participating in activities such as science bowls, academic decathlons, chemistry olympiads (one of the students placed first in international competition), and computer and astronomy clubs. But they also branch out into a dizzying array

see Frosh, page 6

## Biodefense forum set

At a time of public concern and fear about biological terrorism, Caltech will host a free public forum, "Biodefense: Scenarios, Science, and Security," at 8 p.m. on Wednesday, November 7, in Beckman Auditorium.

The speakers will be Steve Koonin, Caltech provost and professor of theoretical physics, and adviser to the federal

see Biodefense, page 6

## Campus security update

Gregg Henderson

The continuing aftermath of the events of September 11 has raised questions and concerns regarding the security, safety, and vulnerability of the Caltech campus. Even though the Security and Safety Offices believe the possibility of harm to be remote and know of no specific threats, there are some commonsense steps we should collectively take to help safeguard our campus community.

The receipt of mail and packages demands increased vigilance. The United States Postal Service and private couriers (such as FedEx, UPS, and DHL) have implemented screening procedures for suspicious

see Campus security, page 6

## Moores give Caltech \$600M; largest academic gift ever

Caltech has received two gifts totaling \$600 million, half from Intel cofounder Gordon Moore and his wife, Betty, and half from the Gordon and Betty Moore Foundation. Together they are the largest donation ever to an institution of higher learning.

"These gifts are one of the great events in Caltech's history," said Caltech president David Baltimore. "They will allow us to realize research dreams, to maintain our greatness in the many areas in which we are preeminent, and to provide a special Caltech education for generations of students to come. It is a testament to the great love that Betty and Gordon Moore have for this community of scholars and of the confidence the foundation has in this institute. The community will forever be grateful for their unprecedented generosity."

Moore, who received his PhD in chemistry from Caltech in 1954, made the announcement at the Caltech Board of Trustees meeting on October 26. He said the gift is intended to allow Caltech to continue to do what it does best—collaborative work between disciplines—and to keep Caltech on the forefront of science and technology.

"Caltech has a unique ability to do multidisciplinary work—partly because of its size and partly because of its history. It is described as being a national treasure and it certainly is," Moore said. "The education I received there has served me well. We are hoping this gift will position the Institute well as it moves forward."

Betty Moore, a graduate of San Jose State College in journalism, is very active in the couple's philanthropic activities. She said that Caltech has been an important part of her life during her 51-year marriage and she is pleased to be able to support it with the gift. "We've been very fortunate in our lives and we feel it's time to give back. We enjoy seeing the students and knowing that we're helping them."

The couple formed the Moore Foundation in November 2000. The foundation's grants of \$300 million over a 10-year period and the Moores' \$300 million gift over five years are for educational and scientific programs to be mutually agreed upon.

"The Moore name has long been associated with world leadership in industry and technology," said Ben Rosen, chairman of Caltech's Board of Trustees. "Today, Gordon and Betty Moore extend this leadership to university education and research. From the seminal Moore's Law for semiconductors to this precedent-breaking Moores' Gift for Caltech, this couple's impact on the world at large and on Caltech is remarkable."

In 1968, Moore and a colleague from the Fairchild Semiconductor Division of Fairchild Camera and Instrument created a startup called Intel, short for "integrated electronics." Among their early successes was a chip that could execute a string of instructions, making programmable intelli-

gence so cheap it could be embedded into everything from household appliances to large-scale computers. The microprocessor has been hailed as one of the top inventions in American history, along with the light bulb, telephone, and airplane.

Moore was chief executive officer at Intel from 1975 to 1987, and was chairman until 1997 when he became chairman emeritus. He is widely known for Moore's

see Moore, page 6

## A world of his own

Javier Marquez

*Solitude is not something you must hope for in the future. Rather, it is a deepening of the present, and unless you look for it in the present you will never find it.*

—Thomas Merton

As a service mechanic at Caltech, Mark Larson has responded to fire alarms and issued the all clear. He has helped restore power to campus buildings during the odd blackout and rescued pricey lab electronics from a small flood. His bearded and bespectacled face was the first that trapped elevator riders saw after he pried open the sliding doors. In short, for five years he has been the man to call in cases of after-hours calamities, large and small.

"A service mechanic is a person who has to know something about all the trades, including electrical, steam, plumbing, et cetera," he said recently. "In some, I'm very competent, and in others I know just enough to get people out of a bad situation."

The nature of his vocation demands that he be quick with his tools and perpetually on call. By the time he arrives in the late afternoon to begin the swing shift, most staffers are gone or winding down their day, so he must also be able work alone. That's not something he especially minds.

"I like people," he said. "But I'm just as happy not being around them and working by myself."

The coming year should suit Larson very well indeed. Next week, he embarks on a sailing trip that will take him around the

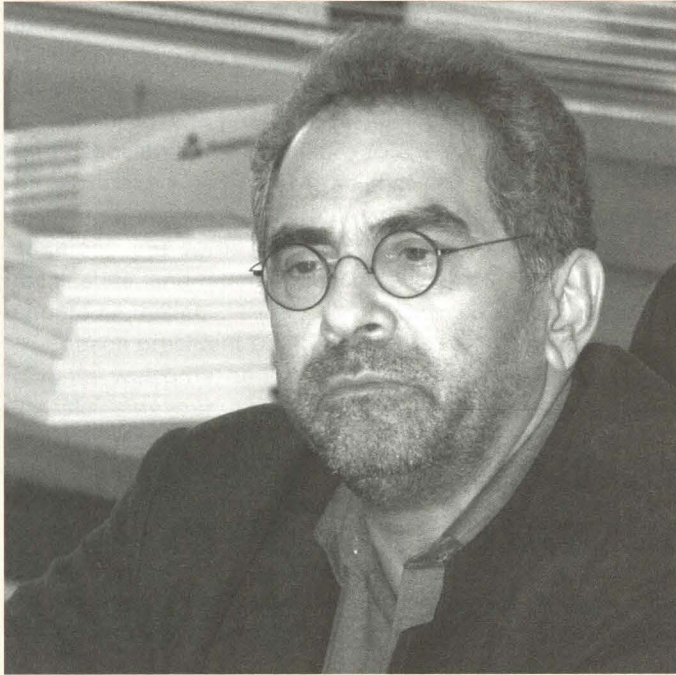
see Larson, page 6



Mark Larson will sail alone around the globe.



# NewsBriefs



Jose Ramos-Horta, the 1996 Nobel Peace Prize winner for his work to end conflict in East Timor, visited campus on October 12. His talk was the first in the 2001-02 Social Activism Speaker Series, coordinated by the Caltech Y.

## Personals

### New positions

Joining Caltech on September 4 were **Christopher Sinz** and **Helen Louise Wycherley**, both postdoctoral scholars in chemistry.

On September 5 **Chad Hall**, postdoctoral scholar in geophysics, and **Laurent Dupuy**, postdoctoral scholar in mechanical engineering, joined the Institute.

Starting at Caltech on September 10 were **Christopher Brower**, postdoctoral scholar in biology, and **David Charbonneau**, Robert A. Millikan Postdoctoral Scholar in Astronomy.

Postdoctoral scholar in chemistry **Claudia Roberson** joined Caltech on September 14.

On September 17 **Suvasis Dixit**, postdoctoral scholar in environmental science and engineering, started at Caltech.

Starting at the Institute on September 18 were **Masao Sako**, postdoctoral scholar in astronomy, and **Yaoyun Shi**, postdoctoral scholar in computer science.

Joining Caltech on September 19 was **Patrick Hayden**, Sherman Fairchild Postdoctoral Scholar in Astrophysics.

Postdoctoral scholar in physics **Marc Freitag** joined the Institute on September 20.

On September 21 **Ranjith Kunnath**, postdoctoral scholar in mechanical engineering, started at Caltech.

Starting at Caltech on September 24 were **Richard Boyd**, a tradesperson in engineering; **Salvador Cortez** and **Alberto Huizar**, both gardeners with Physical Plant; **Carolyn Keisch**, a research assistant I in biology; **Vivian Lee**, a postdoctoral scholar in biology; **Merav Opher**, a postdoctoral scholar in space physics elements, JPL; **Takao Suzuki**, a postdoctoral scholar in mechanical engineering; and **Cheryl Vorvick**, an assistant engineer with the Laser Interferometer Gravitational-Wave Observatory (LIGO) project.

Joining Caltech on September 28 were **Jose Flamate** and **Juan Gonzalez**, both dishwashers with Dining Services.

Starting at the Institute on October 1 were **Susan Mantikas**, an administrative assistant for Audit Services; **John Meacham**, a software engineer in Physics, Mathematics and Astronomy; **Milton Mitchell**, an admissions counselor; **Abigail Parsons**, an associate director of financial aid; **Frederic Raison**, a space astrophysics research engineer in Physics, Mathematics and Astronomy; **Gordon Squires**, a staff scientist with the Space Infrared Telescope Facility (SIRTF); **Rudy Zepeda**, a buyer I with Purchasing Services; and **Liyuan Zhang**, a research designer in Physics, Mathematics and Astronomy.

On October 3 **Yolanda Alvarez**, a front-office clerk at the Athenaeum, and **Hazel Esporas**, an assistant accountant in Accounts Payable, started work at Caltech.

Joining Caltech on October 8 were **Jamie Liu**, a research assistant I in biology; **Carlos Robles**, a lab helper B in biology; **Jose Serrano**, a cook for Dining Services; **Timothy Townsend**, an assistant computing analyst in Information Technology Services; and **Nicholas Wisniewski**, a network fabrication distributee in Physics, Mathematics and Astronomy.

Senior administrative secretary **Margaret Lindstrom** joined Humanities and Social Sciences on October 22.



Former associate director of principal and major gifts **Elaine Fleming**, who left Caltech in the spring of 2000 to join the development office of Columbia University's law school, where she has been very successful raising major gifts, has returned to Caltech, effective November 1. She will be director of Development and Alumni Relations' East Coast Regional Office, which will be headquartered in New York City and will cover states from New England to Virginia.

Effective November 12, **Marjory Gooding** is joining Caltech as director of International Scholar Services. Well known in NAFSA: Association of International Educators, and as a writer on behalf of and presenter to that organization's members, she has served since 1987 as associate director for Foreign Student and Scholar Services at the University of Colorado and, while on leave of absence from Colorado in the fall of 1998, as acting director of the International Scholar Office at MIT.

### Retirements

**Claude Adams** retired on August 1. A senior instrument specialist in Central Engineering Services, he had worked at Caltech for 31 years.

**Barbara Calli**, an administrative assistant in Humanities and Social Sciences, retired on September 1. She had worked at Caltech for 24 years.

**Victor Nenow**, a principal electronics engineer in Geological and Planetary Sciences, retired August 1 after 49 years at Caltech.

**Miguel Ruiz** retired on August 1. A custodian for South House, he had worked at Caltech for 14 years.

**Virginia Russell**, an administrative assistant with the Beckman Institute, retired on August 1, after working at Caltech for nearly 21 years.

## Honors and awards

**Tom Apostol**, professor of mathematics, emeritus, is being honored for his distinguished career by the Friends of Hellenic Studies and the Basil P. Caloyeras Center for Modern Greek Studies. Of Greek descent, Apostol is the author of a two-volume calculus text—often known as “Tommy 1” and “Tommy 2”—that has been used by generations of students around the world, and is the creator, director, and producer of *Project MATH-EMATICS!*, a series of award-winning, computer-animated videotapes for teaching mathematics. He will be feted on November 3 on the campus of Loyola Marymount University.

**John Schwarz**, Brown Professor of Theoretical Physics, has been selected to receive the 2002 Dannie Heineman Prize for Mathematical Physics, which he will share with Dr. Michael Green of Cambridge University. The citation will read, “For your pioneering work in the development of superstring theory,” and the prize will be awarded at the American Physical Society's April 2002 meeting, to be held in Albuquerque, New Mexico.

## Campus authors

### Asian population history summarized

Oxford University Press has published *Asian Population History*, edited by Ts'ui-jung Liu, Caltech professor of history **James Lee**, David Reher, Osamu Saito, and Wang Feng. The book summarizes the field of Asian population history in the 1990s, with specific emphasis on China, India, Indonesia, Japan, and Sri Lanka. Its papers are organized by topics such as family, fertility, marriage, morbidity, and mortality, and offer comparisons between Asian societies as well as with Europe and North America.

## Media minute

**Denise Nelson Nash**, Caltech's director of public events, is featured on the cover of *Business Life* magazine's 2001 Women Achievers edition, along with other leading women in local communities. The issue highlights women who “play a significant role in the economic health and social welfare of our communities and country.” Nelson Nash is the current president of the Tournament of Roses Foundation and a member of Pasadena-Altadena Links, Inc., and the Pasadena Symphony Advisory Board, in addition to her work at Caltech, where she has developed the Junior Watson and Cultural Expedition programs for high school students.

Professor of Electrical Engineering **Yu-Chong Tai** was featured in the *Pasadena Star-News* on September 27, discussing the possibility that his invention, the MicroBat, might be recruited in the war against terrorism. Developed with an initial \$1.5 million grant from the Defense Advanced Research Project Agency, a division of the U.S. Department of Defense, the MicroBat is a tiny, bird-sized flying machine with flapping wings and an onboard video camera. “We hope this can be used to find Osama bin Laden,” Tai said. “But it won't be available for a couple of more years in a place like Afghanistan.”

Caltech's **Rich Wolf**, associate director of the Office of Technology Transfer, was quoted in the *Wall Street Journal* on October 15 in a special report on technology. Discussing the collaborative and often time-consuming nature of technological research, Wolf debunks popular images of the lone, eccentric scientist who in a “Eureka!” moment makes an astounding discovery. “It's actually very difficult to make quantum leaps in technology development,” he says, “because a quantum leap takes too long to generate revenue.”

Several pairs of bare feet belonging to Caltech undergraduates featured prominently in a *Pasadena Star-News* photo on October 2. The caption read, “Dress is casual and shoes are optional on the first day of school at Caltech.”

## Flu shots 2.0

Beat the bug! After some minor confusion, flu shots will be available to Caltech students and staff on Wednesday, November 14. The vaccinations will be administered in Winnett lounge from 10 a.m. to 5 p.m. on a first come-first served basis. A valid Caltech ID is required. Dependents are not eligible.

## Names sought for Feynman prize

Caltech provost Steve Koonin recently put out the call for nominations for the Richard P. Feynman Prize for Excellence in Teaching. The annual prize will go to that one professor who demonstrates a way with students and a singular knack for teaching at Caltech.

Although much research is conducted here, Caltech is primarily and historically an institution of higher education. A measure of its success in this aspect can be taken in the number of alumni who find success in their chosen fields, in academia, and as entrepreneurs.

The Feynman Prize was endowed by a gift from lone and Robert E. Paradise in recognition of the contributions that Richard Feynman made to excellence in teaching. In addition to the distinction, the prize consists of \$3,000 and a salary raise of equal amount.

During his lifetime, the Nobel laureate was one of the more celebrated and colorful professors at Caltech. Feynman was the perennial favorite of students for his active involvement in campus activities and sincere interest in their well-being.

Nominations for the Feynman Prize may be made by any member of the Caltech community, including faculty, students, alumni, and staff. Since a nomination is valid for three years, those made within the last two years are still valid. Those candidates will be considered for this year's prize.

A letter of nomination and detailed supporting material should be directed to the Office of the Provost, Mail Code 206-31, at the California Institute of Technology, Pasadena, California, 91125. Nomination packages are due by Friday, December 28.

A committee of three faculty members, an undergrad, and a graduate student will select the recipient. The Feynman Prize will be presented at a regular meeting of the Caltech faculty during the spring term.

## Keep it to the kiosks

The beginning of the school year has brought the usual flurry of activity to Caltech, along with a proliferation of advertisements and notices being posted around campus. Unfortunately, these flyers are appearing on light poles, building exteriors, sidewalks, and just about everywhere except on the bulletin boards and kiosks designated for them. Physical Plant Director Bill Irwin says, “This practice presents an unappealing appearance to visitors, and detracts from the hard work performed by Physical Plant personnel in maintaining an attractive campus. In addition, the residue from the tape, glue, and chalk creates maintenance problems.”

Irwin requests that, effective immediately, all notices and advertisements be placed only on designated kiosks and bulletin boards. Any postings found on poles, buildings, sidewalks, or other inappropriate surfaces will be removed. He says, “On behalf of the administration and Physical Plant, thank you for your cooperation in helping to keep our campus beautiful.”



November 5–11, 2001

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Events in roman type are open to the public  
Events in *italic type* are open to the Caltech community only

Monday, November 5

**Aeronautics Seminar**  
101 Guggenheim Laboratory, Lees-Kubota Lecture Hall, 1 p.m.—“Kites, Obelisks, and Pyramidiots,” Morteza Gharib, professor of aeronautics and bioengineering, Caltech. Information: [www.galcit.caltech.edu/seminars.shtml](http://www.galcit.caltech.edu/seminars.shtml).

**Sloan-Swartz Seminar**  
24 Beckman Labs, 4 p.m.—“Making the Deaf Hear, the Blind See, and the Lame Walk,” Gerald Loeb, professor of biochemical engineering, USC. Refreshments, lobby, 3:45 p.m.

**Ernest H. Swift Lecture**  
22 Gates Annex, 4 p.m.—“On the Construction of Complex Metal Sites in Proteins,” Professor Richard H. Holm, department of chemistry and chemical biology, Harvard University. Refreshments, 3:30 p.m.

**Applied and Computational Mathematics Colloquium**  
101 Guggenheim Laboratory, Lees-Kubota Lecture Hall, 4:15 p.m.—“Ordered Upwind Methods: Computing Viscosity Solutions to Optimal Control and Nonviscosity Solutions to Wave Propagation,” James A. Sethian, professor of mathematics, University of California, Berkeley. Refreshments, 3:45 p.m.

Tuesday, November 6

**Caltech Library System Presents: Life Sciences Information Resources**  
Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—Learn how to make the most of biology and chemistry information tools and services provided by the Caltech Library System. Information: <http://library.caltech.edu/learning/form.htm>.

**IR/sub-mm/mm Sack Lunch**  
469 Lauritsen, 12:15 to 1:15 p.m.—“A 12CO J=6-5 Map of M82: The Significance of Warm Molecular Gas,” John S. Ward, graduate student in physics, Caltech. Information: [www.submm.caltech.edu/~motte/sacklunch.html](http://www.submm.caltech.edu/~motte/sacklunch.html).

**Carnegie Observatories Colloquium Series**  
William T. Golden Auditorium, 813 Santa Barbara Street, 4 p.m.—“Characterizing Extra-Solar Planets,” Dr. Sara Seager, department of terrestrial magnetism, Carnegie Observatories. Refreshments, 3:30 p.m. Information: Bronagh Glaser, 304-0241 or [bronagh@ociw.edu](mailto:bronagh@ociw.edu).

**Chemical Physics Seminar**  
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“The Next Generation of Atomic Force Microscopes,” Paul Hansma, professor of physics, UC Santa Barbara.

**William Bennett Munro Memorial Seminar**  
25 Baxter, 4 p.m.—“Thinking About the History of Everyday Life,” John Brewer, Moore Distinguished Scholar, Caltech. Refreshments.

Wednesday, November 7

**Mathematical Physics Seminar**  
351 Sloan, noon—“Nonequilibrium Steady States for Finite Quantum Systems Coupled to Thermal Reservoirs,” Vojkan Jaksic, McGill University. Information: [www.math.caltech.edu/events/mathphys.html](http://www.math.caltech.edu/events/mathphys.html).

**Astronomy Colloquium**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m. —“Edge-On Disks: A Skinny Window into Galaxy Formation,” Professor Julianne Dalcanton, astronomy department, University of Washington. Information: [www.astro.caltech.edu/~jlc/colloquia.html](http://www.astro.caltech.edu/~jlc/colloquia.html).

**Environmental Science and Engineering Seminar**  
142 Keck, 4 p.m.—“Fungal Communities and Soil Processes,” Kathleen Treseder, assistant professor of biology, University of Pennsylvania. Refreshments, Keck lobby, 3:40 p.m. Information: [www.eso.caltech.edu/seminars.html](http://www.eso.caltech.edu/seminars.html).

**Neurobiology Seminar**  
24 Beckman Labs, 4 p.m.—“Signaling Centers Which Pattern the Vertebrate Brain: Key Roles for FGFs,” Ivor Mason, professor of developmental biology, MRC Centre for Developmental Neurobiology, King’s College London.

**Biodefense: Scenarios, Science, and Security**  
Beckman Auditorium, 8 p.m.—This forum will present a realistic picture of society’s vulnerabilities to bioterrorism, a sense of the science underlying the associated problems and solutions, and some of the steps that local, state, and federal agencies are, or should be, taking. Admission is free. No tickets or reservations are required. Information: 395-4652 or (888) 222-5832. Persons with disabilities: 395-4688 (voice) or 395-3700 (TDD) weekdays, 9 a.m. to 4 p.m. Information: <http://pr.caltech.edu/events/biocon/>.

Thursday, November 8

**Geology Club Seminar**  
151 Arms, Buwalda Room, 4 p.m.—“Upwelling Enhanced Air-Sea Fluxes of Oxygen and Nitrous Oxide Observed in Records of Atmospheric Chemistry at a Site in Northern California,” Tim Leuker, Scripps Institution of Oceanography, UC San Diego. Refreshments, 3:45 p.m. Information: [www.gps.caltech.edu/seminars/geoclub/](http://www.gps.caltech.edu/seminars/geoclub/).

**William Bennett Munro Memorial Seminar**  
25 Baxter, 4 p.m.—“History and Modernity in the 1960s,” John Brewer, Moore Distinguished Scholar, Caltech. Refreshments.

**Physics Research Conference**  
201 E. Bridge, 4 p.m.—“Extremely High-Energy Cosmic Rays,” Masahiro Teshima, associate professor, Institute for Cosmic Ray Research, University of Tokyo. Refreshments, 108 East Bridge, 3:45 p.m. Information: [www.pma.caltech.edu/~physcoll/PhysColl.html](http://www.pma.caltech.edu/~physcoll/PhysColl.html).

Friday, November 9

**Program for Law and Technology**  
Ramo Auditorium, 2 to 5 p.m.—“Law, Technology, and the Human Genome,” the third annual At the Crossroads conference, a joint presentation of Caltech and the Loyola Law School. A two-day event. Today’s event, “Mock Trial: Patenting the Genome.” Admission is free, but reservations are required. Reservations and information: 395-3586, [path@hss.caltech.edu](mailto:path@hss.caltech.edu), or <http://techlaw.lls.edu>.

**Fluid Mechanics Seminar**  
101 Guggenheim Laboratory, Lees-Kubota Lecture Hall, 3 p.m.—“Modeling Low Density Gas Flows on Jupiter’s Moon Io,” David Goldstein, associate professor, aerospace engineering and engineering mechanics, University of Texas at Austin. Information: [www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html](http://www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html).

**Computer Science 0.1 Seminar**  
Location to be announced, 4 p.m.—“Structured Programming for Reliable Systems,” Jason Hickey, assistant professor of computer science, Caltech. Information: [www.cco.caltech.edu/~koonin/cs.html](http://www.cco.caltech.edu/~koonin/cs.html). For location, call Stacey Scoville, 395-6320.

**Inorganic-Organometallics Seminar**  
151 Crellin, 4 p.m.—“Bis(phosphino)borate and Their Chemistry on Platinum,” Chris Thomas, graduate student in chemistry, Caltech.

**Kellogg Seminar**  
Lauritsen Library, 4 p.m.—“Astronomy with Milagro,” Professor Gaurang Yodh, physics and astronomy department, UC Irvine.

**LIGO Seminar**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—Topic to be announced. Teviet Creighton, postdoctoral scholar in physics, Caltech/LIGO.

**William Bennett Munro Memorial Seminar**  
25 Baxter, 4 p.m.—Topic to be announced. Chris Eliasmith, department of philosophy, Waterloo University. Refreshments.

Saturday, November 10

**Program for Law and Technology**  
Beckman Institute auditorium, 9 a.m. to 5 p.m.—“Law, Technology, and the Human Genome,” the third annual At the Crossroads conference, a joint presentation of Caltech and the Loyola Law School. Today’s event, “Academic Conference: Genetic Property, Privacy and Progress.” Admission is free, but reservations are required. Registration: 395-3586 or [path@hss.caltech.edu](mailto:path@hss.caltech.edu). Information: <http://techlaw.lls.edu>.

@Caltech built for Caltech’s superhighway

It’s sturdier, bigger, faster, and holds a lot more. It’s not exactly a Dodge Ram—it’s bigger in pixels, not feet; faster in kilobytes downloaded per second, not RPMs. But take a look at the cargo the newly designed @Caltech site carries:

**A whole truckload of events in a multitude of display options.** Find the largest single repository of Caltech events, both current and archived from the past. Check out the all-new ***athletic calendar***, which lists every Caltech Beaver event for the entire academic year. View upcoming ***seminars, lectures, and colloquia***, or click on the ***social calendar*** to find clubs and organization meetings you’re interested in. Check the ***academic calendar*** to find out when classes begin and end, deadlines for dropping or adding classes, and, most important of all, Institute holidays.

**Classified ads.** Get rid of your in-line skates. Replace them with a motorized scooter. All you need to post an ad is a valid Caltech e-mail address.

**News and periodicals with no stacks to recycle.** Locate articles from many of Caltech’s official and unofficial publications. Read articles online from ***Engineering and Science*** magazine, ***Caltech News***, ***Caltech 336***, JPL’s online community magazine, ***Daily Planet***, and more.

**Streaming Theater.** Use Real Player to watch Caltech events at the click of a mouse. Visit the redesigned @Caltech site at <http://atcaltech.caltech.edu>.

Lawn Mower

Leaf Blower

Lindy Hop

What relation do Lawn Mower and Leaf Blower have with Lindy Hop? In addition to beginning with the same letter, the three (and other alliterative triads) have appeared across various categories on @Caltech, the site for campus events and information.



# November 12–18, 2001

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Events in roman type are open to the public  
Events in *italic type* are open to the Caltech community only

## Monday, November 12

**Aeronautics Seminar**  
101 Guggenheim Laboratory, Lees-Kubota Lecture Hall, 1 p.m.—“Graduate Aeronautical Laboratories (GALCIT) Research Review,” presented by GALCIT professors. Information: [www.galcit.caltech.edu/seminars.shtml](http://www.galcit.caltech.edu/seminars.shtml).

**Chemical Research Conference**  
153 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Kinetics and Catalysis in Electron-Transfer at Interfaces,” Fred C. Anson, Elizabeth W. Gilloon Professor of Chemistry, Caltech. Refreshments.

**Geology and Planetary Sciences Seminar**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“New Insights on Environment Change in Polar Ice,” Kurt Cuffey, assistant professor, department of geography, UC Berkeley.

**Applied and Computational Mathematics Colloquium**  
101 Guggenheim Laboratory, Lees-Kubota Lecture Hall, 4:15 p.m.—“An Adaptive High-Resolution Recovery of Piecewise Smooth Data from Its Spectral Information,” Eitan Tadmor, professor of mathematics, UCLA. Refreshments, 3:45 p.m. Information: [www.acm.caltech.edu/colloq.shtml](http://www.acm.caltech.edu/colloq.shtml).

## Tuesday, November 13

**Caltech Library System Presents: Introduction to Endnote 4.0 Citation Management Software**  
Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—Training includes building a database, searching a database, and building a bibliography using Endnote version 4.0. Advanced techniques can also be covered if requested in advance. Registration: <http://library.caltech.edu/learning/form.htm>.

**IR/sub-mm/mm Sack Lunch**  
469 Lauritsen, 12:15 p.m.—“Overview of the Extragalactic Sub-mm Sources: Detection/Identification Success and Reliability,” Scott Chapman, senior postdoctoral scholar in astronomy, Caltech. Information: [www.submm.caltech.edu/~motte/sacklunch.html](http://www.submm.caltech.edu/~motte/sacklunch.html).

**Carnegie Observatories Colloquium Series**  
William T. Golden Auditorium, 813 Santa Barbara Street, 4 p.m.—“Formation of Disk Galaxies,” Dr. Michael Fall, Space Telescope Science Institute, Baltimore, Maryland. Refreshments, 3:30 p.m. Information, Bronagh Glaser, 304-0241 or [bronagh@ociw.edu](mailto:bronagh@ociw.edu).

**USGS Public Lecture Series**  
Baxter Lecture Hall, 8 p.m.—“Seismo-Sleuthing: What Scientists Can Learn from Historic and Prehistoric Earthquakes,” Susan Hough, geophysicist, Earthquake Hazards Program, U.S. Geological Survey, Pasadena. Information: <http://pasadena.wr.usgs.gov/lectures/>.

## Wednesday, November 14

**Organic Chemistry Seminar**  
147 Noyes, Sturdivant Lecture Hall, 2 p.m.—“The Chemistry and Biology of Diazonamide,” Patrick Harran, professor of biological chemistry and molecular biophysics, University of Texas Southwestern Medical Center.

**Astronomy Colloquium**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Transition-Edge Sensors for IR-UV Astronomy: Future Promise and Early Results,” Roger Romani, professor of physics, Stanford University. Information: <http://astro.caltech.edu/~jlc/colloquia.html>.

**Environmental Science and Engineering Seminar**  
142 Keck, 4 p.m.—“Understanding the Distribution and Radiative Forcing of Mineral Dust Aerosol,” Professor Charles Zender, department of earth system science, UC Irvine. Refreshments, Keck lobby, 3:40 p.m. Information: [www.eso.caltech.edu/seminars.html](http://www.eso.caltech.edu/seminars.html).

**Earnest C. Watson Lecture Series**  
Beckman Auditorium, 8 p.m.—“The Quantum-Classical Transition on Trial: Is the Whole More Than the Sum of the Parts?,” Hideo Mabuchi, associate professor of physics, Caltech. Tickets and information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

## Thursday, November 15

**Biochemistry Seminar**  
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Biochemical Mechanisms of Gene Control: How Enhanceosomes Assemble Transcription Complexes,” Michael F. Carey, professor of biological chemistry, UCLA.

**Chemical Engineering Seminar**  
106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—“Containerless Processing of Materials in an Electrostatic Levitator,” Professor R. Erik Spjut, engineering department, Harvey Mudd College. Refreshments, 113 Spalding, 3:30 p.m. Information: [www.cheme.caltech.edu/seminars/seminars.html](http://www.cheme.caltech.edu/seminars/seminars.html).

**Geology Club Seminar**  
151 Arms, Buwalda Room, 4 p.m.—“Cenozoic Plate Tectonics in Western North America: Progress, Problems, and Animations,” Professor Tanya Atwater, geological sciences, UC Santa Barbara. Refreshments, 3:45 p.m. Information: [www.gps.caltech.edu/seminars/geoclub/](http://www.gps.caltech.edu/seminars/geoclub/).

**Science, Ethics, and Public Policy Seminar**  
25 Baxter, 4 p.m.—“Weird Science: Brahe, Kepler, and the Obscured Purpose of the Astronomia Nova (1609),” James Voelkel, Sloan/Dibner Fellow, Dibner Institute for the History of Science and Technology, MIT. Refreshments. Information: [www.hss.caltech.edu/ses/SEPP.html](http://www.hss.caltech.edu/ses/SEPP.html).

## Friday, November 16

**Computer Science 0.1 Seminar**  
Baxter Lecture Hall, 4 p.m.—“Markov Chain Monte Carlo Algorithms,” Alistair Sinclair, professor of computer science, UC Berkeley. Information: [www.cco.caltech.edu/~koonin/cs.html](http://www.cco.caltech.edu/~koonin/cs.html).

**Inorganic-Organometallics Seminar**  
151 Crellin, 4 p.m.—“Bis(phosphino)borate Palladium(II) Compounds for CO/ethylene Copolymerization and CH Activation,” Connie Lu, graduate student in chemistry, Caltech.

## Lecture explores the quantum-classical puzzle

“The Quantum-Classical Transition on Trial: Is the Whole More Than the Sum of the Parts?” will be the question posed by Hideo Mabuchi, Caltech associate professor of physics, at the upcoming Watson Lecture on Wednesday, November 14. The lecture, which is free and open to the public, will begin at 8 p.m. in Beckman Auditorium.

Physics requires two models for explaining nature: classical mechanics for explaining the very big, and quantum mechanics for explaining the very small. These two descriptions of nature couldn’t be more different in their essential mathematical and conceptual structures, yet most scientists think that there is nothing especially remarkable about the boundary between the two. In particular, few seem to wonder at the fact that large objects, such as baseballs, behave perfectly classically even though the atoms and molecules from which they’re made behave “quantumly.” Mabuchi will rebut this complacency by introducing into evidence unsolved mysteries about the quantum-classical transition.

The 2001–02 Watson Lecture series opened on October 10 with a presentation on the Mars Global Surveyor by Arden Albee, Caltech professor of geology and planetary science and a project scientist for the surveyor. Upcoming lectures will include “Cosmic Background Imager: Reading the Universe’s Early History” with Anthony Readhead, Rawn Professor of Astronomy, on January 9, and “Robotics: Moving Beyond the Factory Floor” with Joel Burdick, professor of mechanical engineering, on January 23.

The Watson Lectures are named for the late Earnest C. Watson, who founded the series in 1922. He presented one of his most popular lectures, “Liquid Air,” as one of the first programs in the then-new Beckman Auditorium, a gift of Arnold O. and Mabel Beckman, in October 1964.

Beckman Auditorium is located near Michigan Avenue, south of Del Mar Boulevard. A minimum of 700 seats will be available on a free, no-ticket-required, first-come, first-served basis beginning at 7:30 p.m. each lecture evening. Free parking is available in the parking structures on Wilson and Holliston Avenues. For more information, call toll-free 1 (888) 222-5832.



# CampusEvents

## Monday, November 5

### **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.

## Tuesday, November 6

### **Preschool Playgroup**

Tournament Park, 10 a.m.—Song and storytime, crafts and free play for toddlers and preschoolers (from walking to age 4). Information: (323) 550-8075 or jmp-h-p@pacbell.net.

### **Caltech Tai Chi Club**

Winnett lounge, 7 to 9 p.m.—Meets Tuesdays and Fridays weekly. Sessions are free. Information: [www.its.caltech.edu/~taichi/](http://www.its.caltech.edu/~taichi/).

### **Caltech Folk-Dancing Club**

179 N. Vinedo Ave., Pasadena, 7:30 p.m.—Meets every Tuesday until midnight. Drop-ins are welcome. Donations are accepted.

### **Beginners' Hip-Hop Dance Class**

Braun Gym, multipurpose room, 9 to 10:30 p.m.—Hip-hop classes, professionally taught, sponsored by the Caltech Dance Troupe. Fees for students, \$10 per term; for nonstudents, \$20 per term. Attendees must have a valid gym or student ID. To register, e-mail [troupe@caltech.edu](mailto:troupe@caltech.edu).

## Wednesday, November 7

### **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.

### **SEO Summer Internships**

Center for Student Services, third-floor conference room, 5 to 8 p.m.—The Sponsors for Educational Opportunity (SEO) Career Program provides talented undergraduate students of color the opportunity to explore exciting, challenging, and rewarding careers in some of the most competitive areas of the economy. This session offers information about summer internships and is open to all majors.

## Thursday, November 8

### **Fall Two-Day Blood Drive**

Winnett lounge, 10 a.m. to 4 p.m.—Give the gift of life. Appointments, 395-6001 or [diana.alvarez@caltech.edu](mailto:diana.alvarez@caltech.edu). Walk-ins are welcome.

## Friday, November 9

### **Fall Two-Day Blood Drive**

Winnett lounge, 10 a.m. to 4 p.m.—Give the gift of life. Appointments, 395-6001 or [diana.alvarez@caltech.edu](mailto:diana.alvarez@caltech.edu). Walk-ins are welcome.

### **Caltech Tai Chi Club**

Winnett lounge, 7 to 9 p.m.—Meets Tuesdays and Fridays weekly. Sessions are free. Information: [www.its.caltech.edu/~taichi/](http://www.its.caltech.edu/~taichi/).

### **Folk Music Society Presents Chulrua**

Winnett lounge, 8 p.m.—Three fine instrumentalists play traditional Irish music. Admission is \$12 for adults, \$4 for children and Caltech students. Visit the society's Web page at [www.cco.caltech.edu/~folkmusi/](http://www.cco.caltech.edu/~folkmusi/). Tickets and information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD).

## Saturday, November 10

### **Water Polo**

SCIAC Championship, at Pomona-Pitzer, 8 a.m.

### **Fencing**

vs. Cal State Fullerton, UC San Diego, and Stanford, 10 a.m.

### **Self-Defense for Women**

Steele House (carriage house), 10 a.m. to 6 p.m.—This eight-hour training session offers participants the opportunity to learn and rehearse self-defense techniques. Registration required; e-mail [jcichock@studaff.caltech.edu](mailto:jcichock@studaff.caltech.edu). Space is limited.

### **Cross-Country**

NCAA III Regional Championships, at Salem, Oregon, 11 a.m.

### **Men's Soccer**

vs. alumni, 11 a.m.

### **Ballet Classes**

Braun Gym, multipurpose room, 1 to 4:30 p.m.—Free ballet classes sponsored by the Caltech Dance Troupe. No special clothing or shoes are required for the beginners' class. Beginners meet from 1 to 2 p.m., the intermediate group from 2 to 3:30 p.m., and the advanced group from 3:30 to 4:30 p.m. All attendees must have a valid gym or student ID.

### **Theater Arts at Caltech Presents**

Dabney Lounge, 3 p.m.—Tennessee Williams's *The Notebook of Trigorin*, an adaptation of Anton Chekhov's *The Sea Gull*. Tickets and information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

## Sunday, November 11

### **Theater Arts at Caltech Presents**

Dabney Lounge, 3 p.m.—Tennessee Williams's *The Notebook of Trigorin*, an adaptation of Anton Chekhov's *The Sea Gull*. Tickets and information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

## Monday, November 12

### **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.

## Tuesday, November 13

### **Preschool Playgroup**

Tournament Park, 10 a.m.—Song and storytime, crafts and free play for toddlers and preschoolers (from walking to age 4). Information: (323) 550-8075 or jmp-h-p@pacbell.net.

### **Caltech Tai Chi Club**

Winnett lounge, 7 to 9 p.m.—Meets Tuesdays and Fridays weekly. Sessions are free. Information: [www.its.caltech.edu/~taichi/](http://www.its.caltech.edu/~taichi/).

### **Amnesty International Letter Writing**

Athenaeum Rathskeller, 7:30 to 9 p.m.—An informal meeting for writing letters in support of human-rights actions sponsored by Amnesty International.

### **Caltech Folk-Dancing Club**

179 N. Vinedo Ave., Pasadena, 7:30 p.m.—Meets every Tuesday until midnight. Drop-ins are welcome. Donations are accepted.

### **Beginners' Hip-Hop Dance Class**

Braun Gym, multipurpose room, 9 to 10:30 p.m.—Hip-hop classes, professionally taught, sponsored by the Caltech Dance Troupe. Fees for students, \$10 per term; for nonstudents, \$20 per term. Attendees must have a valid gym or student ID. To register, e-mail [troupe@caltech.edu](mailto:troupe@caltech.edu).

## Wednesday, November 14

### **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.

## Thursday, November 15

### **Caltech Architectural Tour**

Athenaeum, 11 a.m. to 12:45 p.m.—Meet in the entry hall of the Athenaeum. Led by members of the Caltech Architectural Tour Service. Reservations: Susan Lee, 395-6327 or [suze@caltech.edu](mailto:suze@caltech.edu). Open to the public.

### **Women in Science Lunch with Faculty**

Steele House (carriage house), noon—Frances Arnold, Dick and Barbara Dickinson Professor of Chemical Engineering and Biochemistry, Caltech, and Dianne Newman, Clare Boothe Luce Assistant Professor of Geobiology and Environmental Engineering Science, Caltech, will share their thoughts and experiences with female undergraduate and graduate students. Lunch will be provided, but space is limited. Sign up with Cynthia Collins, [cynthiac@its.caltech.edu](mailto:cynthiac@its.caltech.edu).

## Friday, November 16

### **Caltech Tai Chi Club**

Winnett lounge, 7 to 9 p.m.—Meets Tuesdays and Fridays weekly. Sessions are free. Information: [www.its.caltech.edu/~taichi/](http://www.its.caltech.edu/~taichi/).

### **Men's Basketball**

Chapman Tournament, at Chapman University, 7 p.m.

### **Women's Basketball**

vs. San Jose Christian, 7 p.m.

## Saturday, November 17

### **Fencing**

UC San Diego Tournament, at UC San Diego, 11 a.m.

### **Swimming and Diving**

vs. Claremont-Mudd-Scripps, 11 a.m.

### **Ballet Classes**

Braun Gym, multipurpose room, 1 to 4:30 p.m.—Free ballet classes sponsored by the Caltech Dance Troupe. No special clothing or shoes are required for the beginners' class. Beginners meet from 1 to 2 p.m., the intermediate group from 2 to 3:30 p.m., and the advanced group from 3:30 to 4:30 p.m. All attendees must have a valid gym or student ID.

### **Women's Basketball**

vs. Southwestern College, 2 p.m.

### **Theater Arts at Caltech Presents**

Dabney Lounge, 3 p.m.—Tennessee Williams's *The Notebook of Trigorin*, an adaptation of Anton Chekhov's *The Sea Gull*. Tickets and information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

### **Caltech Y Community Service—Union Station**

6 to 9 p.m.—Caltech Y volunteers will help prepare and serve meals for homeless men, women, and children at the Union Station shelter in Pasadena. Information: 395-6163, [gregf@caltech.edu](mailto:gregf@caltech.edu), or [www.y.caltech.edu/volunteer](http://www.y.caltech.edu/volunteer).

### **Men's Basketball**

Chapman Tournament, at Chapman University, 7 p.m.

## Sunday, November 18

### **Theater Arts at Caltech Presents**

Dabney Lounge, 3 p.m.—Tennessee Williams's *The Notebook of Trigorin*, an adaptation of Anton Chekhov's *The Sea Gull*. Tickets and information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

## TACIT takes note

Theater Arts at Caltech is launching its 2001–02 season with a presentation of Tennessee Williams's *The Notebook of Trigorin*, an adaptation of Anton Chekhov's *The Sea Gull*. Performances will take place on Saturdays and Sundays, November 3 through 18, at 3 p.m. in Dabney Garden and Lounge.

"Doing this play is exciting," says Shirley Marneus, director of TACIT, noting that the theater group has performed both Chekhov and Williams in the past. "I thought it was time again . . . it's a chance to touch two major playwrights." Williams, who was strongly influenced by Chekhov, wrote his play as a loose adaptation of *The Sea Gull*. "As a young man, Williams saw himself as Kostya, the young writer in *The Sea Gull*," Marneus says. "Later, though, he identified more with the character Trigorin, an older and more successful writer. So Williams shifted the story's focus to him."

She "absolutely loves" the play, Marneus says, especially how Williams's more flamboyant writing overlays Chekhov's subtlety. "It creates many layers of sensibilities. There are tragic elements: death, failure, people who trap themselves. But there's also comedy, a kind of human food chain of people who want, want, want. Medvedenko wants Masha, who wants Kostya, who wants Nina . . . But no one truly gets out of him- or herself enough to put someone else first."

Always interested in the didactic as well as dramatic qualities of theater, Marneus pushes her student-actors to learn more about themselves and about human nature through their roles. *Trigorin*, she says, is "tremendously exciting because of the depth and complexity of the characters. I don't think Chekhov ever wrote one-dimensional characters."

Although most TACIT productions take place in Ramo Auditorium, Marneus notes, the play's garden and house setting "lends itself beautifully to Dabney because of the exigencies of our budget. I get told, 'You're so creative in your venues'—well, that's because we have to be," she explains. "We have no technical director or wardrobe person on staff, and it becomes impossible to do complex sets in Ramo." (In addition, showtimes have been changed from the typical TACIT starting times, in order to utilize daylight and the early twilight for later scenes.)

The cast includes Caltech staff members Fred Farina, of the Office of Technology Transfer, and Karen Kähler, Seismo Lab; Richard Mason, a grad student in mechanical engineering; and Hans Michael Müller, a postdoc in biology. In addition, Mike Vanier, PhD '01 and a staff member in biology, is making his debut as assistant director. The production will again feature original music composed by Robert Parker, Kähler's husband.

Farina, who plays the young writer Kostya, describes what he likes about his character: "At the beginning, he's idealistic. I really like that energy of hope and excitement. He's someone who's naïve and doesn't realize the mountains he faces. But it bothers me that he gives up." The challenge in portraying Kostya, Farina says, is that "I'm not quite sure yet when he gives up."

Tickets for *The Notebook of Trigorin* are \$15 general, \$10 for students with current ID, and \$5 for Caltech students. Contact the Caltech Ticket Office at 1 (888) 2CALTECH or (626) 395-4652, by email at [events@caltech.edu](mailto:events@caltech.edu), or on the Web at [www.events.caltech.edu](http://www.events.caltech.edu).

## Celebrate fall with the Concert Band

The Caltech-Occidental Concert Band will hold its annual fall concert on Saturday, November 17, at 8 p.m. in Beckman Auditorium. Conducted by William Bing, the band, which is composed of Caltech and Occidental College students, will perform music by Beethoven, Gershwin, Percy Grainger, and Sousa. The program will also feature guest vocalist Desiree LaVertu, director of the Caltech Women's Glee Club. "Find out why more than 500 people attend every concert by this wonderful band!" says Bing, striking a clearly unbiased note. For more information, call the Caltech Ticket Office at (626) 395-4652.



Biodefense, from page 1

government on civilian biodefense; Alan Zelicoff, chief scientist, National Security and Policy Planning Division of Sandia National Laboratory; and Jonathan Fielding, director of public health and health officer for Los Angeles County, professor of public health and pediatrics at UCLA, and codirector of the UCLA Center for Healthier Children, Families and Communities.

The forum will present a realistic picture of society's vulnerabilities to bioterrorism, a sense of the science underlying the associated problems and solutions, and some of the steps that local, state, and federal agencies are, or should be, taking.

Caltech president David Baltimore will give the welcome, and veteran Los Angeles television journalist Jess Marlow of KCET's *Life and Times* will moderate the panel. Following the presentations, there will be a question and answer period.

Beyond his scientific work in nuclear physics and climate observations, Koonin has many years of experience advising the government on technical aspects of national security. Several years ago he led a Department of Defense-chartered study on civilian biodefense, examining aspects of the detection of biological weapons and related public health measures.

Zelicoff developed the Rapid Syndromic Validation Project, a medical database intended to report and contain outbreaks of disease. It helps physicians and health officials in New Mexico to distinguish between benign and deadly diseases faster than ever before. Such real-time reporting of illnesses could help determine whether a new disease has been introduced naturally or intentionally, where it first appeared, and how it spread, both improving the ability of the public health community to contain an epidemic and providing a significant deterrent to bioterrorists.

As director of public health and health officer, Fielding is responsible for all public health activities for 10 million Los Angeles County residents. He is the former commissioner of public health for Massachusetts, is a member of the National Academy of Sciences Institute of Medicine, and is the editor of the *Annual Review of Public Health*.

No tickets or reservations are required for the event. Backpacks or large bags will not be allowed in the auditorium. Free parking is available. For more information, call the Caltech Ticket Office at (626) 395-4652 or 1 (888) 2CALTECH (222-5832). Persons with disabilities can call (626) 395-4688 (voice) or (626) 395-3700 (TDD) weekdays, 9 a.m. to 4 p.m.

Frosh, from page 1

of other interests: classic pursuits such as theater, art, music, and sports; relatively new ones such as Wall Street/investment clubs and animé (Japanese-style animation) clubs; and all points in between.

One young man has gone on numerous digs with his archaeologist parents, becoming immersed in Native American culture. A young woman is a principal violinist with the Kansas City Philharmonic. Some students excel at languages, having attended schools taught all in German or all in French, or having served as a translator for Japanese exchange students. And locomotion seems to be a popular passion (perhaps something about the physics of it?)—one young man had an auto technology internship with a Mercedes-Benz dealer; a young woman is building her own car, and another flew solo just after her 16th birthday.

Those who needed to earn extra cash selected a variety of avenues, from stocking grocery shelves and fixing lattes at Starbucks to running a custom computer programming business and street performing. Many who still had time and energy to spare volunteered with numerous community causes, including hospitals, libraries, senior centers, and churches.

The class also brings varied backgrounds and perspectives to campus. Of the 214 incoming students, five are African American, 62 Asian, 110 Caucasian, 19 Hispanic/Latino, two Native American, and three of other or unspecified ethnicity; 13 are from other countries. The percentage of women has held steady for the past three years at 36 percent (78 students). "Unfortunately, we lost two women at the last minute" when they opted for other schools, said Charlene Liebau, Caltech's director of admissions. That loss dropped the percentage from what would have been an Institute record of 37 percent.

If their past resilience is any indication, the current crop of students should weather the sometimes grueling Tech academic environment just fine. One young man overcame a learning disability to become a computer expert, even becoming an instructor to his classmates. Another student fled anti-Semitism in Russia and war in Chechnya, arriving in the States just five years ago. A number of others likewise soared over hurdles of language, culture, or circumstance to secure their places in the Institute's class of 2005. And in the future, no doubt, some of these very same bright-eyed but determined students will go on to make a mark in their chosen fields and in the world as well.

Moore, from page 1

Law, formulated in 1965, which stated that the number of transistors the industry would be able to place on a chip would double every year. In 1975 he updated his prediction to once every two years; it has become the industry's guiding principle.

Moore, 72, has been a Caltech trustee for 18 years, and served as chairman of the board from 1993 to 2000. The couple's generosity to the Institute has included the establishment of the Gordon and Betty Moore Presidential Discovery Fund, the G. E. Moore Electronic Materials and Structure Laboratory, the Gordon and Betty Moore Undergraduate Scholarships, and the Gordon and Betty Moore Laboratory of Engineering.

A member of the National Academy of Engineering and a fellow of the Institute of Electrical and Electronics Engineers, Moore received the National Medal of Technology in 1990 from then-president George Bush. He holds several patents and has authored more than 45 research publications.

Campus security, from page 1

packages. Here at the Institute, the Security and Safety Offices are conducting training at major receiving and distribution points for mail, including Mail Services and Central Receiving.

If you receive a letter or package that causes you concern, please contact Security immediately at ext. 5000. The Security and Safety Offices prefer that you err on the side of caution if you receive something that seems unusual. Some common features of suspect letters or packages include

- Liquid leaking from the package
- No return address
- A handwritten or poorly typed address
- Misspelling of common words
- Restrictive markings such as "Confidential" or "Personal"
- Excessive weight and/or the feel of a powdery or foreign substance
- Foreign postmarks or writing
- You don't recognize the source of the letter or package

More detailed information on suspicious packages can be found on the Security Web site at <http://security.caltech.edu/>.

The Security and Safety Offices are working closely with outside law-enforcement and safety services to maintain up-to-date information concerning any potential hazards or threats to our community. You will be kept posted regarding any relevant information as it becomes available.

Anything "out of the ordinary," whether persons, vehicles, phone calls, e-mail, letters, or packages, should be reported to Security immediately. Your assistance in this way will play a significant role in helping us to maintain normal campus activities during these abnormal times.

Gregg Henderson is Caltech's chief of security operations.

Larson, from page 1

globe. He will take no companions and he will make no stops. But for his books, his boat, and the alternately calm and churning water, he will be utterly alone.

"This is the realization of a dream I've had since 1969," he said. "I wanted to do this before I turned 55 in November."

One of his inspirations was the 19th-century voyage of Captain Joshua Slocum, the first person to circumnavigate the globe on his own. In *Sailing Alone Around the World*, Slocum recounts the journey of the *Spray*, which lasted three years and included stops at various ports.

The other was Robin Knox-Johnston's *A World Of My Own*. Larson's voyage will more closely resemble Knox-Johnston's, who was the winning contestant in the 1968 Golden Globe race around the world. But he'll be spurred on by no such dreams of glory.

"The sails will be up most of the time," he said. "I don't look at it as a race, but I'll be sailing as fast as is prudently possible."

His venture is as much an exploration of the interior world as it is the circumnavigation of the wider world. In traveling solo for thousands of miles, Larson expects to reach a deeper understanding of the values he has come to take for granted. It will also test his self-sufficiency, his courage, and his mental hardiness.

"I had an interesting conversation with one of the supervisors at Physical Plant: 'Can my boat make it, am I tough enough?' That's what I'm going to discover," he said. "The only way to find out is to do it. In some way it's a personal thing, to find out if I'm the man I think I am."

The *Sylph* is a 27-foot fiberglass yacht that has served as Larson's home for the last eight years. True to its name, which means a slender and graceful woman, it is quick and sleek.

For the coming year, Larson will be limited to the deck and the cabin, a narrow space 18 feet long and six feet at its widest point. In addition to the motor and water maker, it will be filled with provisions that must last him for at least 10 months.

Larson equipped the *Sylph* with a Global Positioning System, a navigation tool that will allow him to identify his exact position on the globe. A ham radio will keep him in contact with friends to inform them of his progress.

Embarking on such an endeavor with winter quickly approaching may seem counterintuitive. But Larson's itinerary, which is estimated at 20,000 miles from start to finish, will take him through the Southern Hemisphere, where the seasons are the opposite of ours. By the time he rounds Tierra del Fuego, it will be early summer there.

As to the question of seeking corporate support and sponsorships for the expensive undertaking, Larson said no.

"I don't have any and I'm not looking," he said, with resolve. "There's something about it for me, doing it on my own. If I can do it that way, it will be very satisfying."



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