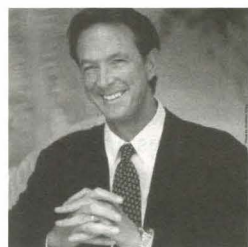


Caltech336

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

The campus community biweekly

December 5, 2002, vol. 2, no. 18



Crichton to give Michelin Lecture

Michael Crichton, the man who brought modern-day dinosaurs to life and the thriller into the technology age, will present a James Michelin Distinguished Visitor Lecture at Caltech in January.

A film director, a television show producer, and the author of 13 novels and five nonfiction books, Crichton's first book was *The Andromeda Strain*, the highly praised 1969 novel about an alien pathogen. Two decades later, Crichton received much acclaim for his novel *Jurassic Park* and the 1993 movie adaptation that made *velociraptor* a household word.

He is also the creator of the NBC emergency room drama *ER*, which has been a ratings darling since its debut in 1994.

see Crichton, page 6

No go on "Vectors"

Capping off several months of impassioned campus debate, President David Baltimore informed the Caltech community November 15 that he had decided against the "Vectors" sculpture.

"After much deliberation and discussion with students, faculty, staff, and alumni, Caltech will not accept the proposal for the 'Vectors' project by Richard Serra," Baltimore wrote in an e-mail memo. "This is not a judgment about the quality of the proposal but rather a judgment about the needs of the campus . . .

"I sincerely appreciate the thoughtful exchange of ideas that this project engendered. It is clear that the community cares deeply about the quality of its environment," he said.

Baltimore will ask the Institute Art Committee for recommendations on how to best fulfill the Pasadena city ordinance that requires a percentage of construction costs for the Broad Center for the Biological Sciences (approximately \$66,000) to be dedicated to public art. The proposal must be approved by the city's arts commission, and could meet the requirement in a number of ways, including by installing temporary or permanent artwork, by establishing an exhibit or visiting-artist program, or by donating to an organization such as the Pasadena Symphony.

New system to ease hiring

After more than a year of research and implementation, Human Resources is launching a new applicant-tracking system this week that should help to greatly improve Caltech's hiring procedures, according to Dlorah Gonzales, director of employment services.

The new program, Recruiting Solutions, will save considerable time by automating a number of functions that previously had to be done manually. Also, because the system is Web-based, it allows everyone in the recruiting cycle—hiring managers as well as employment staff—to check the status of a job at any time, and in the process keeps candidates notified of their status.

"We're really excited—I think this is what the campus needs," says Gonzales, who worked with Beverly Allen of the Administrative Technology Center to select the system.

see Applicant, page 6

Alaska quake was Denali's fault

Geologists who surveyed the 7.9-magnitude Alaska earthquake of November 3 have confirmed its principal cause was rupture of the Denali fault.

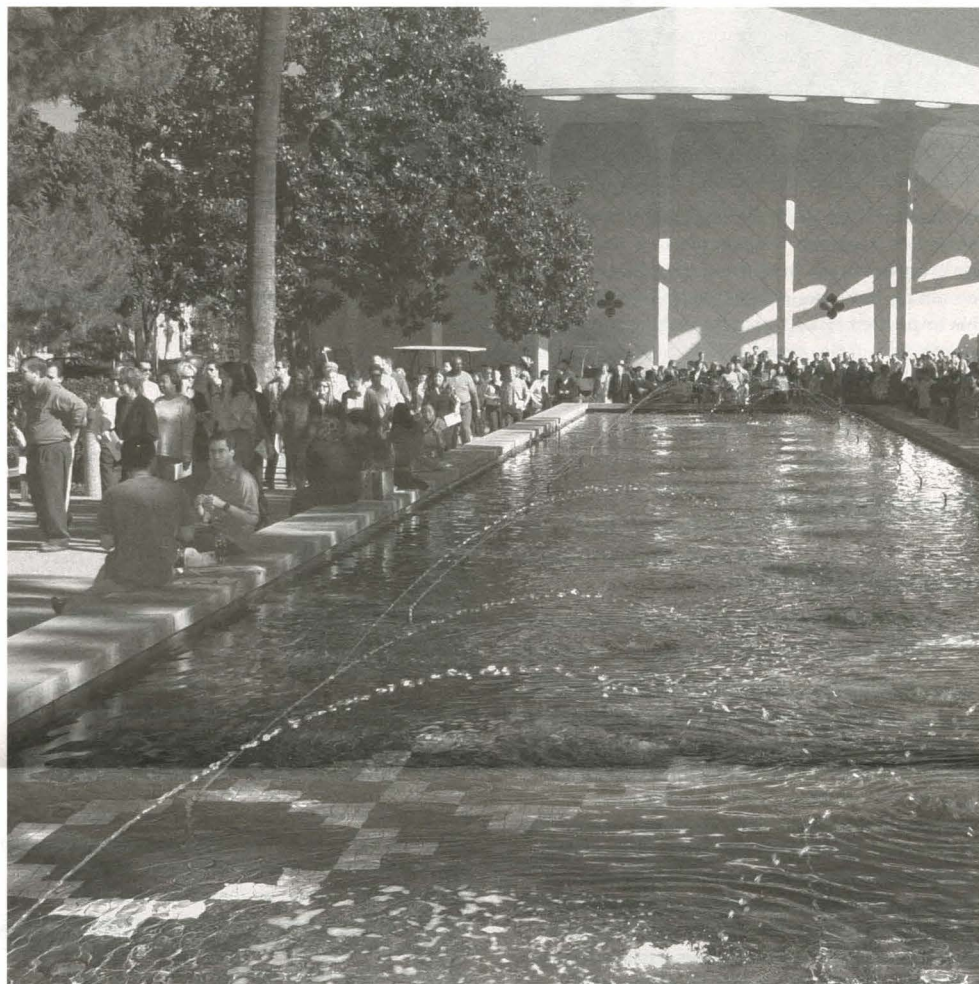
According to Caltech professor of geology Kerry Sieh, Central Washington University geological sciences professor Charles Rubin, and Peter Haeussler of the U.S. Geological Survey, investigations over a week-long period revealed three large ruptures with a total length of about 320 kilometers (almost 200 miles). The principal rupture was a 210-kilometer section of the Denali fault, with horizontal shifts of up to nearly 9 meters (26 feet). This places the rupture in the same class as those that produced the San Andreas fault's great earthquakes in 1857 and

see Earthquake, page 6



Professor Kerry Sieh views the Denali fault, visible in the snow at right. The fault caused the 7.9-magnitude Alaska quake.

Crowds join campus kickoff



Faculty, postdocs, students, and staff lined up for free hot dogs and giveaways at the November 18 all-campus campaign kickoff. The event featured a screening of the official campaign video and remarks by President David Baltimore and campaign chair Wally Weisman.

Budget issues discussed at forum

At the November 20 Administrative Leadership Forum for staff managers, Vice President for Business and Finance Al Horvath presented a frank assessment of financial challenges facing the Institute. In an effort to address these issues with all members of the campus community, he and Provost Steve Koonin have also met with the six academic divisions and with student leaders to explain how several factors have combined to create the current situation.

Caltech has a unique budget structure among universities, Horvath said, with just two primary revenue sources: sponsored research, accounting for 58 percent, and a combination of gifts and endowment payout, 29 percent. Much of this revenue is restricted, meaning it must be applied to specific expenses. Unrestricted sources are few—tuition less financial aid, for example, provides only 4 percent of income, compared with 20 percent at Harvard and 15 percent at Yale. "While our mix of revenues reflects Caltech's focus on what it does best," Horvath explained, "it also provides greater challenges for us in managing our overall finances."

The downturn in the financial markets over the past year has also affected the Institute. During that time, the market

value of the endowment has fallen from \$1.2 billion to the \$1.1 billion level at which it currently stands. This loss will reduce the amount that the endowment is expected to generate for operating purposes, so that unless budgets are reduced over the next few years, the Institute can expect to incur operating deficits. The administration is determined to deal with these issues and is in the process of identifying actions to balance the budget into the future.

Other universities are facing similar financial challenges, Horvath noted. Private universities have much the same situation with their endowments, creating budget pressures. Public universities are dealing with severely reduced allocations from state governments, forcing them to trim budgets and raise tuition by double-digit percentages.

A few weeks ago, the Institute began an ambitious fund-raising campaign to bring in \$1.4 billion over the next five years. "The campaign is primary in positioning us for the future," Horvath said, "but it doesn't solve the budget problem alone. We need a plan to address possible future deficits."

Koonin and Horvath emphasized that few specific steps have yet been decided

see Budget, page 6

NewsBriefs



Keri Aulita of the AIDS Service Center passes out red ribbons during the Institute's December 2 observation of World AIDS Day, commemorating the progress made in fighting the disease and highlighting the work remaining to be done. "We wanted to heighten campus awareness of this important issue," said Caltech health educator Jane Curtis, coordinator of the event, which was sponsored by Health Education, the Caltech Y, International Student Programs, and the Women's Center.

Personals

Welcome to Caltech

November

Paulette-Gigi Arrogena, night auditor, Athenaeum; **Meyer Barembaum**, assistant biologist, and **Kevin Berney**, senior research assistant, both in biology; **Margaret Blue**, administrative assistant, Office of Laboratory Animal Resources; **Mary Jane Buhain**, accountant, Athenaeum; **Markfaith Camaya**, dishwasher, Athenaeum; postdoctoral scholars **Victor Diakov**, chemical engineering, and **Ioana Drutu**, chemistry; **Arnavaz Garda**, lab assistant, and **Bronagh Glaser**, administrative assistant, both in biology; **David He**, senior administrative applications developer, Administrative Technology Center; **David Horvath**, assistant animal lab technician, biology; **Seungbum Kim**, Caltech postdoctoral scholar in JPL's ocean science research element; **James Lloyd**, Robert A. Millikan Postdoctoral Scholar in Experimental Physics; **Patrick Lowrance**, staff scientist, Space Infrared Telescope Facility (SIRTF) Science Center; **Salimar Madera**, wait staff I, Athenaeum; postdoctoral scholars **Edoardo Marcora**, biology, **Jaime Marian**, aeronautics, and **Christopher Mauger**, physics; **Jose Parada**, bus person I, Athenaeum; postdoctoral scholars **Xyoli Perez-Campos**, geophysics, and **Ekaterina Pletneva**, chemistry; **Marcediana Sari**, wait staff I, Athenaeum; **Edwin Schauble**, postdoctoral scholar in geochemistry; **Ann Shen**, lab technician I, electrical engineering; **Karn Sorasaenee**, postdoctoral scholar in chemistry; **Alejandro Strachan**, scientist, chemistry and chemical engineering; **Chin-Yin Tai**, postdoctoral scholar in biology; **Tatiana Vinogradova**, assistant scientist, biology.

New positions

Noel Corngold became professor of applied physics, emeritus, on October 1. He received his bachelor's degree from Columbia College in 1949 and his PhD from Harvard in 1954, and he has been a professor at Caltech since 1966.

Janet Hering, professor of environmental science and engineering, has been appointed executive officer for the Keck Laboratories, effective October 1. A member of the Institute's faculty since 1996, she received her bachelor's degree from Cornell in 1979, her master's from Harvard in 1981, and her PhD from MIT in 1988.

Melany Hunt, professor of mechanical engineering, has been appointed executive officer for mechanical engineering, effective October 1. She joined Caltech's faculty in 1988 as an assistant professor and was promoted to professor in 2001. She received her BS from the University of Minnesota in 1983 and her PhD from UC Berkeley in 1987.



Rick Moyer has been appointed director of Audit Services and Institute Compliance (ASIC), effective immediately. His appointment represents the culmination of a comprehensive nationwide search and is based on his experience, leadership skills, and success in leading ASIC during a period of transition—he has been with ASIC since February 2001, when he joined as associate director, and has been serving as acting director since May. With over 30 years of experience in audit and leadership positions, mostly in aerospace/defense companies, he has also served in leadership roles within the Institute of Internal Auditors, the guiding organization for internal auditing worldwide.

Douglas Rees, professor of chemistry, as well as a full investigator with the Howard Hughes Medical Institute, has been appointed executive officer for chemistry, effective October 1. A professor at Caltech since 1989, he received his BS from Yale in 1974 and his PhD from Harvard in 1980.

P. P. Vaidyanathan, professor of electrical engineering, has been appointed executive officer for electrical engineering, effective October 1. He joined the Institute's faculty in 1983 as an assistant professor and was promoted to professor in 1993. He received his BSc from the University of Calcutta in 1974 and his PhD from UC Santa Barbara in 1982.

Retirements

Jan Glaviano, senior executive assistant in Human Resources, retired on December 1 after 32 years at Caltech.

Vinh Nguyen retired on December 1. An accountant with the Athenaeum, he had worked at Caltech for 15 years.

Honors and awards

Lee Lindblom, senior research associate in theoretical astrophysics, has been elected a fellow of the American Physical Society "for his fundamental, groundbreaking analyses of many microscopic aspects of the equilibria, oscillations, stability, evolution and gravitational radiation of relativistic rotating stars." After earning his BS from Caltech in 1972, he went on to receive his PhD from the University of Maryland in 1978.

Caltech awarded new JPL contract

Caltech has been awarded a new five-year contract, estimated at more than \$8 billion, to operate the Jet Propulsion Laboratory.

The contract extends the agreement between Caltech and NASA for management of JPL five years beyond its current expiration date of September 30, 2003. It includes a new award-term provision that, based on performance reviews, may extend the contract period of performance for up to an additional five years. Consistent with the agency's "One NASA" initiative, the new contract will more closely align JPL's policies and procedures with those of other NASA centers.

"Speaking for the Caltech Board of Trustees, the faculty, and students, we are all extremely pleased that we will be continuing our relationship with NASA," said President David Baltimore. "This contract establishes an excellent framework for Caltech to continue its strong support of NASA. The Institute provides stewardship of the world-class talent and capability at JPL that will continue to explore the universe, search for life in it, understand and protect our planet, and inspire the next generation of explorers."

JPL, NASA's only federally funded research and development center, conducts research to expand understanding of the earth, the sun, the solar system, stars, planetary systems, galaxies, and the universe. The laboratory also manages NASA's Mars Exploration Program, and provides support to other programs.

"We are delighted to have completed this contract negotiation ahead of schedule," said Ed Weiler, associate administrator for space science at NASA's headquarters in Washington, D.C. "The Jet Propulsion Laboratory is a national treasure with an amazing record of successes unmatched in the world. This new contract gives NASA much improved capabilities and management tools and provides powerful incentives for JPL. I think this is good news for NASA, JPL, Caltech, and the American people who benefit from the unbelievable work done at JPL."

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Davis named chair of Urban League branch

Susan Davis, administrator of the Division of the Humanities and Social Sciences, has been elected chair of the Pasadena-Foothill branch of the Los Angeles Urban League, whose mission is to provide advocacy and services to help African Americans and other minorities become economically and politically empowered.

A member of the branch's executive committee since 1995, Davis hopes to continue building relationships between Caltech and the Pasadena community, especially its African American and Latino residents. She was recently featured on the cover of *Business Life* as one of the magazine's Women Achievers, an annual recognition of successful local career women who give back to their communities.

In her 25 years at the Institute, Davis has served on numerous committees, and in 1989 received a Women at Work Medal of Excellence. She earned a bachelor's degree in English literature from Regis College and, in 1995, an executive MBA from the Drucker Graduate School of Management at Claremont Graduate University.

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Campus recycling program honored

If you've ever wondered "Does it really make a difference if I recycle this soda can or not?", wonder no more.

Caltech's recycling program recently received a Waste Reduction Award from the California Integrated Waste Management Board, the state's primary recycling agency and a part of the California Environmental Protection Agency. The Institute was cited for "aggressively pursu[ing] every avenue available to make waste reduction, recycling and closed-looped procurement a reality for every person who utilizes their campus," for recycling more than 43 percent of all its solid waste—and for keeping more than 500 tons of waste from going to landfills.

"That's a lot for an institution our size," says Delmy Emerson, Caltech's associate director of Buildings and Grounds. "This will send a message to our campus community that their efforts do count."

"We have a very effective program that saves Caltech more than \$60,000 a year. That doesn't sound like much, but we've been successful enough to be able to buy a forklift, a recycling truck, and other equipment out of the profits. Additionally, the recycling program has reduced our disposal costs by 30 percent," Emerson says, adding, "We tell the administration, 'Don't think of it as being a money generator, but a cost-saver.'"

Campus recycling had its beginnings in a waste characterization study conducted in 1993 to bring Caltech into compliance with the Waste Management Act of 1989, which required the Institute to reduce disposal waste 25 percent by 1995 and 50 percent by 2000. The following year saw construction of the original recycling center on Holliston Street for both Institute and public use, and implementation of weekly recyclables collection from campus buildings.

Since that time, the program has continued to expand, according to Emerson. This year, the recycling center moved to the former fire station site on Del Mar Boulevard between Michigan and Wilson Avenues, and an electronics recycling component has been added to the program. (Because Caltech must pay for recycling of electronics as hazardous material, this component is limited to the campus community.) Two full-time staff members, Ernie Garcia and Camilo Toribio, now make the weekly rounds with truck and forklift to collect recycled items from bins, which are provided for all campus facilities, and bring them to the center.

"We're very proud that our program has been used as a model by other community organizations to start or improve their recycling programs," Emerson says, citing Pasadena City College and JPL as examples. "We also have a very good relationship with the city of Pasadena," she says, noting that the Institute works with the city to promote community education on waste reduction and the environment.

For more information on Caltech's recycling program, visit <http://physicalplant.caltech.edu/Recycling.htm>, or call Buildings and Grounds at ext. 4738 or 4481.

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December 9, 2002–January 12, 2003

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Monday, December 9

Thesis Seminar

151 Crellin, 2 p.m.—“Laboratory Studies of Atmospherically Important Gas-Phase Peroxy Radical Reactions,” Lance Christensen, graduate student in chemistry, Caltech.

Astronomy Tea Talk

106 Robinson, 4 p.m.—“Results from the Chandra Deep Field North,” Franz Bauer, postdoctoral researcher, department of astronomy and astrophysics, Pennsylvania State University. Information: www.astro.caltech.edu/~cc/tea_talks.

Solid State Sciences Seminar Series (S⁵)

102 Steele, 4 p.m.—“Spintronics,” Professor Nitin Samarth, department of physics, Pennsylvania State University. Refreshments, Watson foyer, 3:30 p.m. Information: www.its.caltech.edu/~yehgroup/s5.

Tuesday, December 10

Institute for Quantum Information Seminar

74 Jorgensen, 3 p.m.—“Computational Model Underlying the One-Way Quantum Computer,” Robert Raussendorf, Ludwig Maximilians University, Munich.

Ulric B. and Evelyn L. Bray Seminar

25 Baxter, 4 p.m.—“Reasoning Chains in a One-shot Game,” C. Monica Capra, visiting assistant professor of economics, Caltech. Refreshments.

Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 4 p.m.—“The EXPLORE Project: A Deep Search for Transiting Extra-Solar Planets,” Dr. Howard Yee, University of Toronto. Refreshments, 3:30 p.m.

Chemical Physics Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Coulomb Instability of Multicharge Clusters and Nuclear Fusion,” Joshua Jortner, professor emeritus, School of Chemistry, Tel Aviv University.

General Biology Seminar

119 Kerckhoff, 4 p.m.—“TRPV4: A Candidate Vertebrate Osmo- and Mechano-receptor,” Wolfgang Liedtke, Laboratory of Molecular Genetics, Rockefeller University.

Thursday, December 12

Biophysics Lecture Series

153 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Patterned Lipid Bilayers and Tethered Vesicles,” Professor Steven Boxer, Camille and Henry Dreyfus Professor in Chemistry, Stanford University. Refreshments, 3:45 p.m.

Von Karman Lecture Series

JPL, von Karman Auditorium, 7 p.m.—“The Robotic Exploration of Mars,” Dr. Firouz Naderi, director, Solar System Exploration Program Directorate, and program manager, Mars Exploration, JPL. Admission is free. Information: www.jpl.nasa.gov/lecture.

Friday, December 13

Theoretical Astrophysics and Relativity Seminar

114 E. Bridge, 2 p.m.—“The Evolution of Dark Matter Satellites,” Andrew Benson, postdoctoral scholar in astronomy, Caltech.

Von Karman Lecture Series

Pasadena City College, 1570 E. Colorado, the Vosloh Forum (south of Colorado on Bonnie), 7 p.m.—“The Robotic Exploration of Mars,” Dr. Firouz Naderi, director, Solar System Exploration Program Directorate, and program manager, Mars Exploration, JPL. Admission is free. Information: www.jpl.nasa.gov/lecture.

Monday, December 16

Astronomy Tea Talk

106 Robinson, 4 p.m.—Topic to be announced. Andrea Ghez, professor of astronomy, UCLA. Information: www.astro.caltech.edu/~cc/tea_talks.

Tuesday, December 17

Thesis Seminar

115 Beckman Institute, 1:30 p.m.—“Structure-based Design of Mutant Aminoacyl-tRNA Synthetases for Non-natural Amino Acid Incorporation,” Deqiang Zhang, graduate student in chemistry, Caltech.

General Biology Seminar

119 Kerckhoff, 4 p.m.—Topic to be announced. Daniel Tracey, postdoctoral scholar in biology, Caltech.

William Bennett Munro Memorial Seminar

25 Baxter, 4 p.m.—“Processing of Emotional and Social Stimuli by the Human Brain,” Ralph Adolphs, assistant professor of neurology, University of Iowa. Refreshments.

Friday, December 20

Theoretical Astrophysics and Relativity Seminar

114 E. Bridge, 2 p.m.—“Gamma-ray Bursts: Fireballs or Jetted Cannonballs?”, Arnon Dar, department of physics, Technion, Israel.

Tuesday, December 24

Institute holiday

Wednesday, December 25

Christmas holiday

Tuesday, December 31

Institute holiday

Wednesday, January 1

New Year holiday

Monday, January 6

Geology and Planetary Sciences Seminar

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—Topic to be announced. Tapio Schneider, assistant professor of environmental science and engineering, Caltech. Information: www.gps.caltech.edu.

Tuesday, January 7

Institute for Quantum Information Seminar

74 Jorgensen, 3 p.m.—“The Story of the Preparation of Entangled Gaussian States,” Jens Eisert, Feodor-Lynen Fellow, department of physics, Imperial College, England.

Thursday, January 9

Geoclub Seminar

151 Arms, Buwalda Room, 4 p.m.—“Evolutionary Model for Convergent Margins Facing Large Ocean Basins: Mesozoic Baja California, Mexico,” Cathy Busby, professor of geology, UC Santa Barbara.

Physics Research Conference

201 E. Bridge, 4 p.m.—Topic to be announced. Michael Roukes, professor of physics, Caltech. Refreshments, 114 E. Bridge, 3:45 p.m. Information: www.pma.caltech.edu/~physcoll/PhysColl.html.

Friday, January 10

Theoretical Astrophysics and Relativity Seminar

114 E. Bridge, 2 p.m.—“Origin of Orbital Resonances among Extrasolar Planets and the Satellites of Jupiter,” Man Hoi Lee, department of physics, UC Santa Barbara.

Fluid Mechanics Seminar

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 3 p.m.—Topic to be announced. Carsten Mehring, postdoctoral scholar, department of mechanical and aerospace engineering, UC Irvine. Information: www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html.

Inorganic-Organometallics Seminar

151 Crellin, 4 p.m.—“Metal Complexes for Mismatch Recognition,” Jonathan Hart, graduate student in chemistry, Caltech.

CampusEvents

Monday, December 9

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, December 10

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.

Amnesty International Letter Writing

Athenaeum Rathskeller, 7:30 p.m.—An informal meeting at which we write letters on human-rights abuses around the world. All are welcome. Refreshments. Information: (818) 354-4461 or lkamp@lively.jpl.nasa.gov.

Wednesday, December 11

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.

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.

Friday, December 13

Swimming and Diving

Running Rebel Invitational, at University of Nevada, Las Vegas, 9 a.m.

Caltech Tai Chi Club

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

Men's Basketball

at San Jose Christian College, 7:30 p.m.

Saturday, December 14

Swimming and Diving

Running Rebel Invitational, at University of Nevada, Las Vegas, 9 a.m.

Children's Holiday Party

Winnett lounge, 11 a.m. to 2 p.m.—There will be holiday crafts for the children, storytelling, and a possible appearance by Santa at this potluck sponsored by the Caltech Women's Club. Bring your family and your favorite dish to share; paper products and beverages will be provided.

Men's Basketball

at Golden State Baptist College, 7:30 p.m.

Sunday, December 15

Swimming and Diving

Running Rebel Invitational, at University of Nevada, Las Vegas, 9 a.m.

Amnesty International Book Discussion Group

187 S. Catalina Avenue, unit 2, Pasadena, 6:30 p.m.—This month's book will be *Balzac and the Little Chinese Seamstress*, by Dai Sijie. This is a comic and touching story about two city boys exiled to a remote village for reeducation during China's Cultural Revolution. All are welcome.

Monday, December 16

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.

Women's Basketball

at Rose-Hulman Institute of Technology, 7 p.m.

Tuesday, December 17

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.

Women's Basketball

at Robert Morris College, 7 p.m.

Wednesday, December 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.

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.

Laboratory Safety 101

118 Keith Spalding Building, 3 p.m.—This course is designed to prepare incoming researchers to work in a laboratory at the Institute. Issues include laboratory organization, emergencies, injuries, general laboratory safety, and more. Space is limited. Please call 395-6727 or e-mail Andrea.Acosta@caltech.edu to reserve a place.

Thursday, December 19

Women's Wellness Series: Taking Control of Your Health

Steele House (carriage house), noon—This workshop, led by personal coach Hester Van De Rhoer, will help you with your health goals for 2003. Brown-bag lunches will be provided. Information and registration: 395-3221 or wcenter@cco.caltech.edu.

Friday, December 20

Caltech Tai Chi Club

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

Saturday, December 21

Folk Music Society Presents Broceliande

Dabney Lounge, 8 p.m.—A special holiday show by this Celtic group from the Bay Area. Admission is \$12 for adults and \$5 for children and Caltech students. Tickets and information: 395-4652, 1 (888) 2CALTECH, or events@caltech.edu. Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit the Folk Music Society at www.its.caltech.edu/~folkmusi.

Monday, December 23

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, December 24

Institute holiday

Credit Union Closure

All branches of the Caltech Employees Federal Credit Union will be closed December 24 and 25 for the Christmas holiday.

Wednesday, December 25

Christmas holiday

Friday, December 27

Caltech Tai Chi Club

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

Monday, December 30

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, December 31

Institute holiday

Credit Union Closure

All branches of the Caltech Employees Federal Credit Union will be closed December 31 and January 1 for the New Year holiday.

Women's Basketball

vs. Simmons College, 5 p.m.

Wednesday, January 1

New Year holiday

Thursday, January 2

Women's Basketball

at Simpson College, 7 p.m.

Men's Basketball

at Whitworth College, 8 p.m.

Friday, January 3

Women's Basketball

at Pacific Union College, 2:30 p.m.

Saturday, January 4

Women's Basketball

at San Jose Christian College, 2 p.m.

Wednesday, January 8

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 safety.training@caltech.edu to reserve a place.

Women's Basketball

vs. Southwestern College, 6 p.m.

Men's Basketball

vs. Southwestern College, 8 p.m.

Caltech Y Social Activism Speaker Series: Eyewitnesses To Occupied Palestine

Location to be announced, 8 p.m.—Jewish-American Adam Shapiro and Palestinian-American Huwaida Arraf are cofounders of the International Solidarity Movement, a network that brings together Palestinian and international activists and grass roots community groups in the struggle for freedom and an end to occupation in Palestine. Their nonviolent protests have stirred controversy both in the Middle East and at home. Admission is free. Information: www.sass.caltech.edu.

Friday, January 10

Men's Basketball

vs. Chapman University, 7:30 p.m.

Ensemble Galilei with Jean Redpath

Beckman Auditorium, 8 p.m.—Renowned Scottish folksinger Jean Redpath joins Ensemble Galilei for an evening of Celtic, early, and original 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 the Folk Music Society at www.cco.caltech.edu/~folkmusi.

Saturday, January 11

Swimming and Diving

vs. University of Redlands, 11 a.m.

Sunday, January 12

Coleman Chamber Concert

Beckman Auditorium, 3:30 p.m.—The Emerson String Quartet will perform works by Beethoven, Shostakovich, and Haydn. 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.

Students to clash—robotically

Gears will grind, shafts will spin, and who knows what a slat from a venetian blind will do as Caltech undergrads attempt to “bag the flag” in Caltech’s 18th annual Engineering Design Contest.

The competition between machines, hand-built by undergraduates, will take place at 2 p.m. on December 5 in Beckman Auditorium. Due to limited seating and the expected large campus turnout, the general public is not invited for this event.

The contest is the culmination of a term’s worth of hard work for the 24 juniors and seniors enrolled in the Mechanical Engineering 72 class. On October 1, each student was presented with a so-called “bag of junk”—motors, gears, springs, screws, bearings, and a slat from a venetian blind—to use in assembling their machines. At the same time, they were presented with the details of this year’s contest: In teams of two, they must design and build separate devices that will work with their partner’s device to remove a 10-inch-tall flag from its base. One of the gadgets must then transport the flag across an arena and plant the flag in their opponent’s base, thus “bagging” the flag. The teams have 44 seconds to do it; the first team to plant the flag wins.

The course was originated by Caltech’s Erik Antonsson, a professor of mechanical engineering and the chief technologist at JPL, and is being taught by instructors Maria Yang and Curtis Collins. Altogether, the students are expected during the 10-week term to put in 150 hours of work on the design, fabrication, testing, and fine-tuning of their devices.

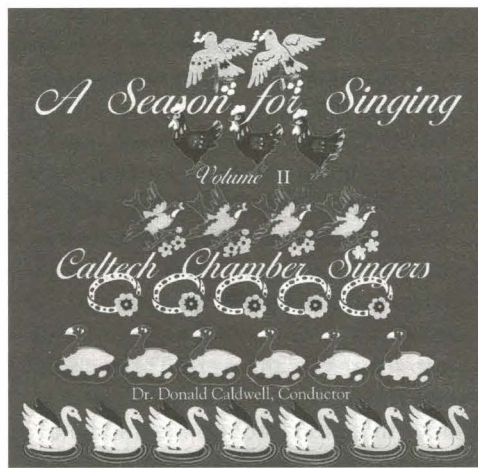
While the annual contest is a highlight of the Caltech academic year, the object is to learn something about designing, under deadline, for the real world.

“Caltech students have a well-earned reputation for being able to solve just about any problem presented to them, and this course pushes those abilities to the limit,” says Yang. “Students not only generate concepts and design solutions, but they get some serious hands-on experience building and testing, building and testing, and then building and testing some more.”

For more information, visit <http://me72.caltech.edu/>. Streaming video of the 2001 ME72 contest can be seen at http://atcaltech.caltech.edu/theater/ram/me72_01_onc.ram.

Send an “angel” a gift

The Angels Gift Giving program provides holiday gifts for children of low-income families who may not receive a holiday present this year. Participants may pick up angels, which include a needy child’s name, age, size, and interests, in the Human Resources office. The new, unused gift can be left unwrapped (in a bag) with the child’s name attached. All gifts should be returned to Human Resources by Friday, December 13, for distribution. For information, contact Diana Alvarez at ext. 6001 or diana.alvarez@caltech.edu. Angels Gift Giving is a program of the Foothill Unity Center in Monrovia.



A Season for Singing, a recording of holiday music sung by the all-student Caltech Chamber Singers and conducted by Donald Caldwell, is available at the Caltech Bookstore.

Campus ready for the holidays

The holiday season comes but once a year. Even so, the prep time can begin months in advance. As always, the Caltech Bookstore is providing students and staff with opportunities to bring a little Caltech cheer into the lives of their friends and loved ones.

In anticipation of the inevitable shopping blitz, the Bookstore already resembles a winter wonderland. Judi Capron, the store’s coordinator of special projects, says the lights on the Christmas trees have been lit since mid-November. “We are convenient and easy to shop on lunch hour without leaving campus,” she said.

Always busy, the bookstore will be buzzing with even more activity the next week. That’s when the store will piggyback a textbook buyback and a December 12 open house onto a weeklong sidewalk sale.

If the 20 percent discounts on toys and children’s books don’t lure enough holiday shoppers into the store, perhaps the Caltech insignia fall clothing, 2003 calendars, and free gift-wrapping will do the trick.

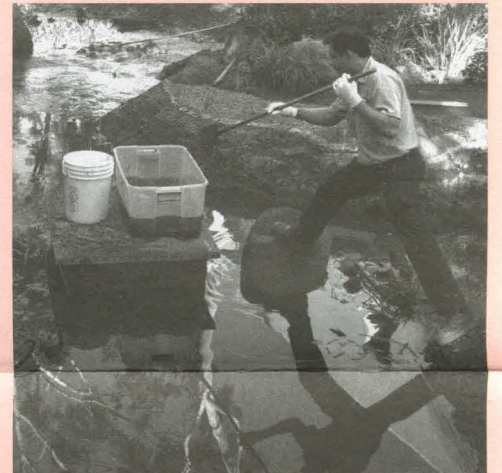
“The December 12 open house will have raffles every 15 minutes, and Santa Claus will be there,” Capron said. Almost as popular with children as he is with staff members, Santa Claus posed for more than 100 pictures last year. Pictures with Santa will be available for \$1.

Also on the 11th and 12th, students looking to make some holiday cash can sell their used books during the textbook buyback.

Although we can’t yet hear bells a-ringing or watch snow a-glistening, music lovers can purchase *A Season for Singing*, the second volume of holiday songs by the all-student Caltech Chamber Singers, conducted by Donald Caldwell. Where the first volume concentrated on sacred and secular Christmas and Hanukkah songs, the new compact disk features sixteen voices singing folk carols and songs dating from the Renaissance. Volumes one and two are available now at the Bookstore.

The Caltech Chamber Singers can be heard live as part of the Caltech Glee Clubs Holiday Concert on December 6 and 7 in Dabney Lounge. They will also be featured at the Athenaeum’s Christmas parties taking place on December 12, 13, and 14.

Scenes of the fall



Clockwise from top: 1) Theater Arts at Caltech had a successful run of Marivaux’s *Double Infidelity*, a romantic comedy featuring (from left) Caltech alum (1994) Gary Olsen as Trivelin, the prince’s factotum; freshman Francesca Colonnese as a lady of the court; alum (MS 1992) and staff member Fred Farina as Arlequin, whose beloved Sylvia the prince desires for his wife; and senior Lisa MacWilliams-Brooks as a lady of the court. 2) Buildings and Grounds staff member Eugenio Mendoza helps a leaky Throop Pond get repaired, cleaned, and redesigned. 3) Celerina Ruiz Nuñez of Chiapas, Mexico, was one of several female artisans who discussed with students the women’s participation in cooperatives, which are helping them support their families under bleak economic conditions and are shaping up as a just, sustainable model of trade. The Caltech Y, International Student Programs, the Mellon Foundation, and the Minority Student Education Office sponsored the November 6 visit. 4) Artist Helaine Blum, left, and Linda Pauling Kamb, daughter of Linus Pauling, pose with a bronze bust of the Nobel Prize winner that Blum donated to Caltech along with one of Albert Einstein. “I’m very happy. They are in a place that is an inspiration for young people,” Blum said. The sculptures are on the landing of the Athenaeum staircase. 5) The markings on the Braun Gym floor, including the center circle with a big orange T, were repainted, and the entire surface was refinished and polished to a high gloss.

Applicant, from page 1

In recent months, a team of "excellent" recruiters and other employment personnel has more than halved the average amount of time for filling open positions—from 89 days to 40, Gonzales says. She looks forward to reducing that turnaround time even further after managers who are hiring begin to receive Recruiting Solutions training, which starts this week.

It becomes much easier to understand past hiring delays when Gonzales explains the former program's constraints. Managers downloaded requisition forms from a PDF file on the Caltech website and submitted them in hard copy. The employment staff had to then type the various fields, such as job description, hiring manager, and department code, into the system by hand. Information from résumés also needed to be captured electronically, and paper versions required the extra step of being scanned with OCR (optical character recognition) software, which often resulted in errors.

On top of that, says Gonzales, for unknown reasons the majority of résumés processed by the old program also ended up with errors, so that each résumé had to be manually verified and matched to the available jobs. With Employment receiving an average of 2,000 to 2,500 résumés each month—and as many as 800 for one recent job posting—"we had a full-time person just to scan and verify résumés, and we were always behind."

With Recruiting Solutions, the entire hiring process is more efficient. Managers enter job requests directly into the program from their desktops, using preset fields such as job family, salary range, and career level that reflect the Institute's new job classifications (see *Caltech 336*, November 14), and listing desired qualifications. The requisition then passes through several approval levels, which may vary depending on practices in the hiring division or department and which include employment staff and managers in the affected department. When the final approval is made, with one mouse-click the job is posted on the HR website and, if desired, on Monster.com, Career Builder, or other Web-based recruiting sites. The program can also check for qualified candidates who have applied for other Caltech jobs and automatically e-mail them notification of the job opening.

The process is also streamlined from the job-seekers' end, as they enter their applications and information directly into the Recruiting Solutions system. Although hard-copy résumés can still be submitted, Caltech will encourage candidates to apply online. "Most people have

computer access, and if not, they can use computer kiosks in HR," Gonzales says, noting that some universities such as USC and Vanderbilt no longer accept paper résumés at all.

Once the résumé is submitted, Recruiting Solutions generates an e-mail message to the candidate confirming that the application has been received. An employment staff member then follows up. A big plus of the system is that hiring managers can log in and check on résumés at any time; this openness adds a measure of accountability to the process by allowing any delays to be pinpointed. The program also automates the task of notifying applicants when a position has been filled.

"Our main goal is to keep everyone in the hiring process informed, especially the candidates, who often feel left out of the loop," says Gonzales. "Applying for a job is nerve-racking for anyone, and we want to make it as easy and pleasant as we can. We want candidates to know this is a great place to work, and part of that is making sure they have a good first impression of Caltech."

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Crichton, from page 1

His work on the show has won him an Emmy, a Peabody, and a Writers Guild of America award.

A graduate of Harvard Medical School, Crichton has shown an aptitude for telling stories about what could happen were powerful emerging technologies to fall into the wrong hands. Very often in his what-if scenarios—time travel in *Timeline*, replicated dinosaurs in the *Jurassic Park* franchise, alien microbes as a biological weapon in *The Andromeda Strain*—technology is a Pandora's box best opened cautiously. In his latest book, *Prey*, Crichton tells us a cautionary tale about artificial intelligence and nanotechnology, two scientific fields that hold much promise as well as potential problems.

Crichton will speak on Friday, January 17, at 8 p.m., in Beckman Auditorium. The Michelin Distinguished Visitor Lecture series was established in 1992 by the late New York designer Bonnie Cashin "to foster creative interaction between the arts and sciences." This event is free and open to the public.

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Earthquake, from page 1

1906. These three ruptures are the largest such events in the Western Hemisphere in the past 150 years.

Like California's San Andreas, the Denali is a strike-slip fault, meaning that the blocks on either side of the fracture move sideways relative to one another. Over millions of years, many thousands of large shifts have moved southern Alaska tens of kilometers westward relative to the rest of the state. These shifts have produced a set of large aligned valleys that arch through the middle of the snowy Alaska range, from the Canadian border on the east to the foot of Mount McKinley on the west. Along much of its length the great fracture traverses large glaciers. Surprisingly, the fault broke up through the glaciers, offsetting large crevasses and rocky ridges within the ice.

The earthquake shook loose thousands of snow avalanches and rock falls in the rugged terrain adjacent to the fault, closing numerous roads. Fortunately, no deaths resulted, and injuries and structural damage were limited. At the crossing of the Trans-Alaska pipeline, the horizontal shift was about 4 meters, triggering an automatic protection system. Although the temblor damaged a number of its supports, the pipeline itself reportedly suffered no breaks.

The investigators, who included geologists from Caltech's Division of Geological and Planetary Sciences, the U.S. Geological Survey, Central Washington University, and the University of Alaska, used helicopters to reach the fault ruptures in the remote and rugged terrain.

Before departing for the field, the geologists had learned the rupture's basic

character from seismologists. Within a day of the quake, Caltech seismologist Chen Ji had determined that the shift along the fault was principally horizontal, but that the initial 20 seconds of the eastward-propagating crack was along a fault with vertical motion. This fault was discovered midweek, near the western end of the principal horizontal shift. Along this 40-kilometer-long fault, a portion of the Alaska range has risen several meters.

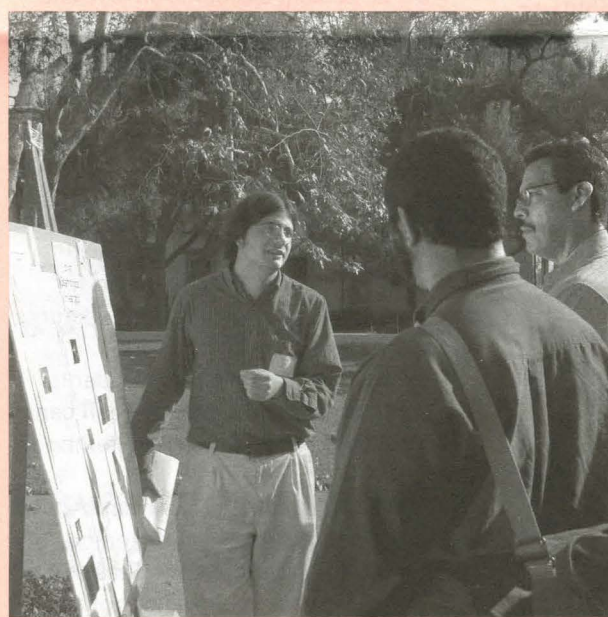
Perhaps the most surprising discovery was that the fault rupture propagated only eastward from the epicenter and left the western half of the great fault unbroken. Several of the researchers wonder if this earthquake might be the first in a series of large events that will eventually include breaks farther west toward Mount McKinley and Denali National Park.

Budget, from page 1

on, and that much thought and analysis is being devoted to the task. Two guiding principles have been established, however. The first is that priority will be given to protecting Caltech's mission-critical activities—education and research. Second, an action plan will be fashioned to ensure that no single constituency on campus bears a disproportionate burden.

"The bottom line is that all areas need to participate in addressing the situation," Horvath said. He requested managers' suggestions for possible belt-tightening measures, particularly in their departments, and noted the need for everyone to work together to get through what will be a challenging period.

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Los Angeles City College student Moshe Molcho explains his JPL research to visitors at the Southern California Conference on Undergraduate Research. Held November 23, the conference brought several hundred area college students, faculty, and administrators to Caltech to see students' research presentations.

Caltech 336

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