Caltech336

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

The campus community biweekly

April 15, 2004, vol. 4, no. 8

Diggin' in

The south athletic field's familiar green carpet of grass has in the past few months been reduced to a barren dirt plain as workers prepare the site for a new parking garage. Construction is expected to last through July.

Caltech honors eminent alumni

Six Caltech graduates who are leaders in science, industry, or academe, have been selected to receive the Institute's Distinguished Alumni Award. The awards will be presented at a ceremony on Saturday, May 15, during Alumni Reunion Weekend and Seminar Day.

M. Blouke Carus is the chairman of Carus Corporation, a holding company that owns Carus Chemical Company, one of the world's largest manufacturers of potassium permanganate. Carus graduated from Caltech in 1949 with a bachelor's degree in electrical engineering. Upon leaving Caltech, Carus continued to study chemistry while pursuing a passion for foreign languages, traveling to Mexico, France, and Germany. He joined Carus Chemical Company in 1951, where he helped modernize the company's manufacturing processes. He is also the chairman of Carus Publishing Company, a firm with which he has been associated for 30 years. In that time, the company has produced educational materials, most notably a research-based reading and writing program for children in grades K through sixth. The publisher produces a basic reading curriculum that is used extensively in California. In 2002, Carus received the Vanguard Award from the Chemical Educational Foundation and was named Man of the Year for 2001 by the Manufacturing Technology and Management program at the Illinois Institute of Technology.

After graduating from Caltech in 1970 with a master's degree in aeronautics, Narendra (Naren) Gupta earned his PhD from Stanford University and went on to cofound Integrated Systems Inc. The company later merged with a competitor to form Wind River, which provides embedded software, the technology that underlies many modern electronics. Gupta serves as vice chairman of that company. A graduate of the Indian Institute of Technology, he received the President's Gold Medal for best graduating senior, and a distinguished alumnus award. The American Automatic Control Council has presented him with the Eckman Award for outstanding contributions to control engineering and he was elected to the Institute of Electrical and Electronics Engineers in 1991. Gupta serves on the boards of a number of corporations and organizations, including TIBCO Software, Quick Eagle Networks, and the American India Foundation.

see Distinguished, page 6

New registrar is appointed

Mary Neary Morley has been named Caltech's new registrar, Vice President for Student Affairs Margo Marshak and Assistant Vice President for Student Affairs Erica O'Neal announced in an April 7 e-mail memo to the Caltech community.

"We are pleased that Mary Neary Morley will become Caltech's Registrar on May 10," Marshak and O'Neal wrote. "Ms. Morley brings strong vision and breadth of experience to this position; her background includes more than 25 years of university registrar and technology experience. . . . Please join us in extending a warm welcome to Mary Neary Morley!"

Morley comes to the Institute from PeopleSoft Inc., where she was a product strategist for the company's student records project. Previously, she had served as associate registrar at Cal Poly Pomona. The recipient of honors including the American Association of Collegiate Registrars and Admissions Officers' Distinguished Service Award and recognition as a PeopleSoft Outstanding Contributor, Morley has also has been involved in many national committees, including the Student and Exchange Visitors Information System Steering Committee of the Immigration and Naturalization Service, and the Postsecondary Electronic Standards Council Steering Committee.

Marshak and O'Neal also extended thanks to David Levy, director of financial aid, who served as interim registrar for several months, and to the registrar search committee, cochaired by Professors Brad Filippone and Jean-Paul Revel.

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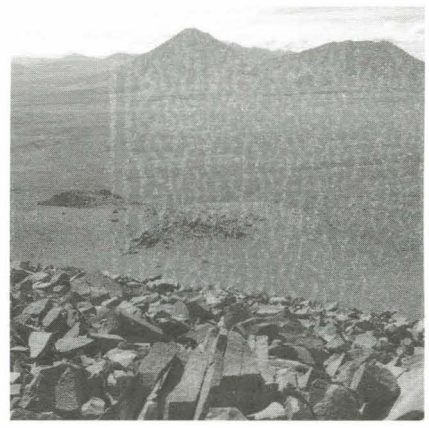
Committee to study gender harassment

In response to the results of a 2003 survey on the quality of Caltech graduate student life, President David Baltimore has appointed a task force to investigate issues of gender harassment on campus.

Members of the Graduate Student Council and Women in Engineering, Science and Technology have in recent months begun releasing results from the survey, which was conducted last spring. "The latest report raises a number of important issues related to gender harassment and the academic climate at Caltech that I believe require an institutional response," Baltimore wrote in a March 26 e-mail memo to the Caltech community.

The task force, which will study the issues raised in the report and make appropriate recommendations, comprises Vice President for Student Affairs

see Harassment, page 6



Ricardo Giovanelli/Cornell University

The summit of Cerro Negro in Chile's Atacama Desert is one possible site for the proposed Caltech-Cornell 25-meter infrared telescope.

Telescope plans for Caltech and Cornell

Caltech and Cornell University have entered the planning phase for a new 25-meter telescope to be built in Chile. The submillimeter telescope will cost an estimated $60 million and will be nearly two times larger in diameter than the largest submillimeter telescope in existence.

The first step of the plan commits the two institutions to a $2 million study, says Jonas Zmuidzinas, a physics professor at Caltech who is leading the Institute's part of the collaboration. The telescope, to be set high in the Atacama Desert of northern Chile, should be completed in 2012. It will significantly ramp up Caltech's research in submillimeter astronomy.

Scientists from Cornell, Caltech, and the Jet Propulsion Laboratory will be participating in the telescope study, including Caltech faculty members Andrew Blain, Sunil Golwala, Andrew Lange, Tom Phillips, Anthony Readhead, Anneila Sargent, and others.

"We are very much looking forward to working with our Cornell colleagues on this project," Zmuidzinas says. At Cornell, the participants will include professors Riccardo Giovanelli, Terry Herter, Gordon Stacey, and Bob Brown.

see Telescope, page 6

CMA to hold Mars Rover panel

On Tuesday, May 4, the Caltech Management Association will present a special event for the Caltech and JPL community. "Seeing Mars from Both Sides: A Panel Discussion," with Mars Exploration Rover team members including Pete Theisinger and Richard Cook, will take place from noon to 1:30 p.m. in Beckman Auditorium. Lunch will be served following the event. More information will be forthcoming.

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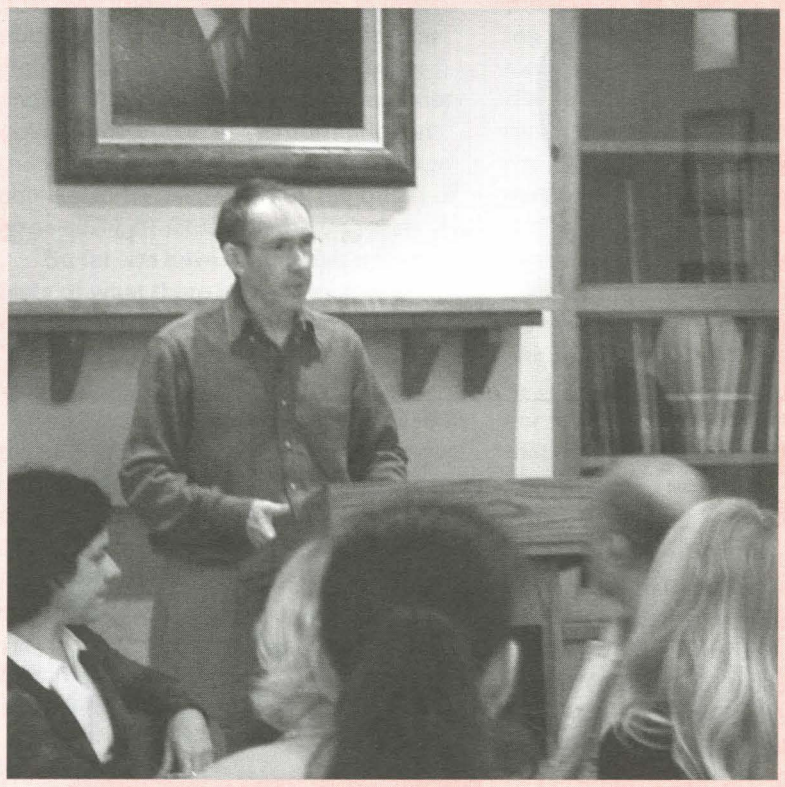
NewsBriefs



Novelist and Caltech writer in residence Ian McEwan speaks to a lunchtime audience on "Literature, Science, and Human Nature" on April 7 in Avery Library. During his stay, McEwan also held a reading from his forthcoming novel and other works, and led discussions with literature and creative-writing students.

Personals

Welcome to Caltech

March

Marian Bryan, postdoctoral scholar in chemistry; **Carla Carpenter**, cashier, Caltech Bookstore; **Roberto Carpio**, card and dining system coordinator, Dining Services; **Younkyu Chung**, postdoctoral scholar in the Center for the Physics of Information; **Hongyu Ding**, image processing computer scientist, biology; **Stephanie Duran**, hotel supervisor, Athenaeum; **Alexie Leauthaud**, visitor in astronomy; **Elizabeth MacWilliams-Brooks**, education and outreach coordinator, Center for Neuromorphic Systems Engineering; **Yvette Marquez**, visitor in chemical engineering; **Janie Morales-Castro**, grant manager, biology; **Myra Perez**, research assistant, biology; **Marlon Tiglao**, utility-plant operator, Physical Plant.

David Shannon has joined Caltech's Office of Development as associate director of the Alumni Fund, effective March 29. Previously he served as the American Ireland Fund's assistant regional director for the West Coast, and his work history prior to that includes four years of marketing and public-relations experience at FitzGerald Communications and Twentieth Century Fox Film Distributors. He received his BS in communications from Boston University and an associate of arts degree from the American Academy of Dramatic Arts.

April

Matteo Maria Triossi Verondini, visitor in economics; **Eric Wintenberger**, postdoctoral scholar in aeronautics.

Joseph Boeke has been appointed Caltech's director of development operations, effective April 1. He began his fund-raising career nearly 14 years ago at his alma mater, UC Irvine—where he earned a BA in political science—and his past positions include director of development for public broadcasting and radio station WITF, in Pennsylvania; associate vice president, advancement operations, at Marquette University; and director of advancement and information services at Bucknell University. He is a member of the Council for Advancement and Support of Education (CASE) and of the Association of Professional Researchers for Advancement (APRA), from whom he received a Distinguished Service Award in 2000.

Mary Said has joined Caltech's Alumni Association as assistant director for events and programs, effective April 5. The recipient of a BS in communications from Cal Poly Pomona, she will this winter be completing an MA in communications management from USC. She comes to Caltech from her position as membership manager at the Jonathan Club in Los Angeles, and she has also worked in fund-raising, marketing, and public relations.

Deaths

Edward Preisler, longtime varsity baseball coach at Caltech, died on March 4; he was 85. Named San Diego State's Athlete of the Year in 1939 and 1940, Preisler earned 11 varsity letters in multiple sports, including three years each in baseball, basketball, and football, and he was named most valuable player of San Diego State's baseball team in his sophomore, junior, and senior years (freshmen were not eligible at that time). As head baseball coach at Caltech, he led the men's team for an unprecedented 858 games over a 34-season span from 1947 to 1981, and it was in 1956 that Caltech won its first and only SCIAC Conference Championship. He also coached junior varsity basketball from 1947 to 1960 and served as head coach for men's basketball from 1960 to 1968. He retired in 1981, but until recently regularly served as head coach for alumni at the annual Caltech Baseball Alumni games. Many students knew him as PE instructor in badminton and weight training as well. He is survived by his wife, Marie Helen.

Student makes Caltech fencing history

Undergraduate **Katherine Harvard** '07 became the first woman in Caltech's history to reach the NCAA fencing championships, held the last week of March at Brandeis University in Waltham, Massachusetts. At the competition, Harvard won six matches against some of the best collegiate fencers in the nation, including representatives from MIT and Brown University. Several weeks previously, she had come in third at the regional championships, and finished second in the Western region overall. Only a frosh, Harvard was Caltech's MVP in women's épée this season, and can look forward to reaching even greater heights in the coming years. Harvard attended Great Neck South High in New York, where she was a three-year member of the varsity fencing team. An electrical engineering major, she plans on pursuing her PhD after graduation.

Caltech rises in grad-school rankings

In the latest *U.S. News & World Report* "Best Graduate Schools" rankings, the Institute placed sixth among top engineering schools in the nation, as well as in the top 10 in six engineering specialties—rising from last year's ranking in four of the areas—and 12th place in an additional area. The engineering specialties are computer, #6 (up from #10); electrical, #4 (up from #7); environmental, #5 (up from #8); mechanical, #4 (up from #8); aeronautical, #3 (unchanged); chemical, #4 (unchanged); and materials, #12 (unchanged). For more details, visit www.usnews.com.

Media minute

Hanisch Memorial Professor and Professor of Chemistry **Jacqueline Barton** was profiled in a March 2 *New York Times* story, "Constantly In Motion, Like DNA Itself." Opening with a description of the sculpture of a DNA molecule that Barton has in her office, the article goes on to examine her lab's research on the molecule's active yet remarkably stable nature, using metal-based probes the scientists designed that can generate electrons and test DNA samples. "What many people don't realize is how dynamic the structure of DNA is," Barton is quoted as saying. "The base pairs are always moving and vibrating, electrons are migrating, holes are opening up and closing through the center of the DNA. . . . Nothing stays still for more than a femtosecond here or a millisecond there." The article also discusses Barton's role-model status as an internationally known female scientist who has been able to balance her work and personal life. She is married to **Peter Dervan**, Caltech's Bren Professor of Chemistry, and they have two children.

A March 7 *Los Angeles Times* article profiled Everhart Professor of Applied Physics and Physics **Stephen Quake** and his work in microfluidics, a recent technology that can "process a sample of liquid thousands of times smaller than a drop of water through minuscule laboratory plumbing composed of hundreds of channels—each about the width of a strand of hair—and mixing chambers the size of a few cells," all on a microchip. Specializing in DNA research, Quake and his research lab had become frustrated by the expensive and lengthy processes required to separate cells. He thought microfluidics might be the answer, but found that the available technology wasn't advanced enough, and the group created their own relatively inexpensive microchips out of silicon. Quake also cofounded a company, Fluidigm, to commercialize the technology.

A *New York Times* News Service article on March 8, "Lunch Without Small Talk at Cal Tech [sic]," described the traditional noontime roundtable discussion that takes place weekdays at the Athenaeum. Often including two or three Nobelists, the article notes, "the discussions range widely, from the latest advances in particle physics to the freshest campus gossip," and "are notable for their spirit of inquiry, lack of intellectual pretension and absence of verbal one-upsmanship." On the day in question, the group included President **David Baltimore**; Professor of Mechanical Engineering **Christopher Brennen**; Institute Professor of Theoretical Physics, Emeritus, **Robert Christy**; Millikan Professor of Engineering, Emeritus, **Francis Clauser**; and Professor of Organic Chemistry and Biochemistry **Jack Richards**. The conversation covered everything from the Mars Rover expedition, to "fossil formation and lipid envelopes of various thicknesses," to conflict in Northern Ireland and the Middle East, to the upcoming U.S. presidential election.

Elachi to discuss space exploration

In the past year, great strides have been made in planetary exploration and in the understanding of our universe. Charles Elachi, director of JPL and a Caltech vice president and professor of electrical engineering and planetary science, will discuss the accomplishments and the possibilities in the next Watson lecture, "Challenges and Excitement of Space Exploration," on Wednesday, April 28.

The period from mid-2003 to mid-2004 has seen the Spitzer Space Telescope, the most advanced telescope of its kind, begin exploring the universe in the infrared, while the Galaxy Evolution Explorer (GALEX) is mapping the sky in the ultraviolet. Two rovers, *Spirit* and *Opportunity*, have been exploring the surface of Mars in coordination with two orbiters, Odyssey and Mars Global Surveyor.

Meanwhile, Stardust and Genesis are collecting samples from a comet's tail and the solar wind, respectively, for return back to Earth, while the Cassini-Huygens mission—the most ambitious planetary exploration effort ever mounted—is scheduled to enter Saturn's orbit on July 1. A joint endeavor of NASA, the European Space Agency, and the Italian Space Agency, the mission launched Cassini, a robotic orbiter that will circle the ringed planet for four years, on October 15, 1997. After Cassini enters orbit, the Huygens probe will descend to the surface of Titan, one of Saturn's moons, six months later.

Elachi will share the excitement of these bold steps to explore the universe and to search for signs of life, and will explain the tasks that lie ahead in space exploration in the coming decade. The free public lecture will begin at 8 p.m. in Beckman Auditorium. No tickets or reservations are required; first-come, first-served seating will be available at 7:30 p.m.

For more information, contact Public Events at 1 (888) 2CALTECH, (626) 395-4652, or events@caltech.edu, or visit www.events.caltech.edu. Individuals with a disability can call 395-4688 (voice) or 395-3700 (TDD). All Watson Lectures are made available online at Caltech's Streaming Theater, http://today.caltech.edu/theater.

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Farrell will discuss death penalty

Actor and humanitarian Mike Farrell will visit Caltech as the next Social Activism Speakers Series lecturer on Thursday, May 6. The free public event will begin at 8 p.m. in Ramo Auditorium.

Best known for his roll as B. J. Hunnicut on the television series *M*A*S*H*, Farrell currently is the president of the nonprofit organization Death Penalty Focus, dedicated to abolishing capital punishment through grassroots organizing, research, and educating the public on the death penalty and its alternatives.

Farrell is also cochair of Human Rights Watch in California and a member of the advisory board of the National Coalition to Abolish the Death Penalty. He was a founding board member of Peace Studies, ATV, an inmate-developed program on alternatives to violence at Augusta Correctional Center in Virginia. Following a trip to Bosnia and Somalia, Farrell was named Goodwill Ambassador for the United Nations High Commissioner for Refugees.

see Farrell, page 6

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April 19–25, 2004

M T W T F S S

Monday, April 19

Special High Energy Theory Seminar
469 Lauritsen, 2 p.m.—Topic to be announced. Laurent Baulieu, Laboratoire de Physique Théorique et Hautes Energies (LPTHE), Université Pierre et Marie Curie, Paris. Information: www.theory.caltech.edu/people/seminar/schedule.html.

Bioengineering Seminar
142 Keck, 4 p.m.—"Deep-Sea Organisms with High-Tech Optical Structures," Professor Joanna Aizenberg, Bell Laboratories.

Geological and Planetary Sciences Seminar
155 Arms, Robert Sharp Lecture Hall
4 p.m.—"The Role of Tropical Clouds in Climate Sensitivity," Professor Dennis L. Hartmann, department of atmospheric sciences, University of Washington.

High Energy Physics Seminar
469 Lauritsen, 4 p.m.—Topic to be announced. Brent Nelson, department of physics and astronomy, University of Pennsylvania. Information: www.theory.caltech.edu/people/helen/seminar1.html.

Tuesday, April 20

Quick Review for Electronic Theses
Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—Caltech requires that theses be submitted in both paper and electronic versions. This presentation will offer a brief overview of techniques useful in the production and publication of electronic theses. The session will include tips on formatting, intellectual-property considerations, turning paper to pixels, creating PDFs, how to submit a thesis, and availability (who can see it and when) issues. Information: http://library.caltech.edu/learning/default.htm.

Institute for Quantum Information Seminar
74 Jorgensen, 3 p.m.—"Observation of Resonance Condensation of Fermionic Atom Pairs," Markus Greiner, University of Colorado at Boulder. Information: www.iqi.caltech.edu/seminar_abstracts.html#greiner04.

Chemical Physics Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Efficient Quantum Algorithms for End-to-End MRFM Analysis," Moungi Bawendi, professor of chemistry, MIT.

General Biology Seminar
119 Kerckhoff, 4 p.m.—"Functions of Electrical Synapses in the Mammalian Brain," Barry Connors, department of neuroscience, Brown University.

Planetary Science Seminar
365 S. Mudd, Salvatori Room, 4 p.m.—"Geologic Evolution of the Martian Dichotomy in the Ismenius Area and Implications for Plains Magnetization," Sue Smrekar, JPL. Refreshments, 3:45 p.m. Information: www.gps.caltech.edu/seminars/pss.html.

Mathematics Colloquium
151 Sloan, 4:15 p.m.—"Theta Functions: Conformal Mapping through Combinatorial Number Theory," Hershel Farkas, professor of mathematics, Hebrew University. Information: www.math.caltech.edu/events/colloq.html.

Caltech/MIT Enterprise Forum
Baxter Lecture Hall, 5:30 to 9 p.m.—"Venturing in Voice over Internet Protocol (VoIP)." This program will explore the technology behind Voice over Internet Protocol (VoIP), explore the public-policy arena, both nationally and internationally, and discuss the Pulver decision and the FCC's signaling that it is not interested in over-regulating VoIP, thus making it a prime opportunity for entrepreneurial activity. The program begins with dinner in Chandler Dining Hall at 5:30 p.m. Registration: 395-3916 or entfor@caltech.edu.

Wednesday, April 21

Mathematical Physics Seminar
351 Sloan, noon—"Meromorphic Functions on Hyperelliptic Surfaces and Orthogonal Polynomials with Periodic Verblunsky Coefficients," Barry Simon, IBM Professor of Mathematics and Theoretical Physics, Caltech. Information: www.math.caltech.edu/events/mathphys.html.

Thesis Seminar
151 Crellin, 3:30 p.m.—"The Chemical Effects of Acoustic Cavitation," Timothy Lesko, graduate student in chemistry, Caltech.

Astronomy Colloquium
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—Topic to be announced. Mike Brown, associate professor of planetary astronomy, Caltech. Information: www.astro.caltech.edu/~gma/colloquia.html.

Environmental Science and Engineering Seminar
142 Keck, 4 p.m.—"Molecular Ecology of Nitrogen Fixation in the Sea: New Organisms and Novel Mechanisms," Professor Jon Zehr, department of ocean sciences, UC Santa Cruz. Refreshments, Keck lobby, 3:40 p.m.

General Biology Seminar
119 Kerckhoff, 4 p.m.—"mRNA Splicing, Recycling Endosomes, and Plasticity Mechanisms at Glutamatergic Synapses," Professor Michael Ehlers, department of neurobiology, Duke University Medical Center.

William and Myrtle Harris Distinguished Lecture in Science and Civilization
Beckman Institute auditorium, 4 p.m.—"Science, Arms, and the State: J. R. Oppenheimer and the Twentieth Century," Daniel Kevles, Woodward Professor of History, Yale University, and Koepfli Professor of the Humanities, Emeritus, Caltech. Refreshments.

Information Sciences and Technology Seminar
74 Jorgensen, 4 p.m.—"From 2 to Infinity: Information Theory of Large Alphabets," Professor Alon Orlitsky, electrical and computer engineering, UC San Diego. Information: http://netlab.caltech.edu/seminar.

Inorganic-Electrochemistry Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Preparative and Mechanistic Zinc Chemistry: Modeling Biological Thiolate Alkylations," Professor H. Vahrenkamp, Institute for Inorganic and Analytic Chemistry, University of Freiburg.

"The Disappearance of Play"
Ramo Auditorium, 7 p.m.—The Caltech/JPL Child Educational Center presents Professor David Elkind, Tufts University, in a special lecture in honor of the National Association for the Education of Young Children's Week of the Young Child. Elkind is a psychologist and educator, and is author of the forthcoming book *No Time for Play: Growing Up Stressed Out*. Admission is free. Seating available on a first-come, first-served basis.

Thursday, April 22

Thesis Seminar
151 Crellin, 2 p.m.—"Using Molecular Simulations and Experimental Biochemistry to Investigate Mechanosensitive Ion Channels," Donald Elmore, graduate student in chemistry, Caltech.

Biochemistry Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Biochemical and Biophysical Characterization of Particulate Methane Monooxygenase from Methylococcus Capsulatus (Bath)," Amy C. Rosenzweig, associate professor, departments of biochemistry, molecular biology, and cell biology and of chemistry, Northwestern University.

Friday, April 23

High Energy Theory Seminar
469 Lauritsen, 11 a.m.—Topic to be announced. Arkady Tseytlin, professor of physics, Ohio State University. Information: www.theory.caltech.edu/people/seminar/schedule.html.

Fluid Mechanics Seminar
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 3 p.m.—"Experimental Studies of Shock-Driven Instabilities," Peter Vorobieff, assistant professor, department of mechanical engineering, University of New Mexico. Information: www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html.

Inorganic-Organometallics Seminar
151 Crellin, 4 p.m.—"A Computational Quantum Chemical Study of the Complete Wacker Process Part I: Olefin Oxidation by Palladium(II) Chloride," John Keith, graduate student in chemistry, Caltech.

Kellogg Seminar
Lauritsen Library, 4 p.m.—Topic to be announced. Seth Hoedl, department of physics, University of Washington.

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April 26–May 2, 2004

M T W T F S S

Monday, April 26

General Biology Seminar
119 Kerckhoff, 4 p.m.—"Cortical Networks of Motion Perception," Bart Krekelberg, Systems Neurobiology Laboratories, Salk Institute.

Geological and Planetary Sciences Seminar
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—"Were Proterozoic Oceans Anoxic, Sulfidic, and Purple?", Jochen Brocks, department of earth and planetary sciences, Harvard University.

High Energy Physics Seminar
469 Lauritsen, 4 p.m.—"Invisible B Decays?", Justin Albert, postdoctoral scholar in physics, Caltech. Information: www.theory.caltech.edu/people/helen/seminar1.html.

Inorganic-Electrochemistry Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Exploring Novel Ligand Architectures for Catalysis," Professor T. Keith Hollis, department of chemistry, UC Riverside.

Thomas Wolff Memorial Lectures in Mathematics 2004
151 Sloan, 4:15 p.m.— "New Encounters in Combinatorial Number Theory (from the Kakeya Problem to Cryptography)," Jean Bourgain, professor of mathematics, Institute for Advanced Study, and Dobb Professor of Mathematics, University of Illinois, Urbana-Champaign.

Tuesday, April 27

Beckman Institute Seminar Series
Beckman Institute auditorium, 10:30 a.m. to noon—"Toward Regulation of Gene Expression by Chemical Methods," Peter Dervan, Bren Professor of Chemistry and principal investigator of the Beckman Institute's Biomolecular Design Center. Refreshments, 10 a.m. Information: 395-2791 or www.beckmaninstitute.caltech.edu/seminars200304.html.

Quick Review of HUMSS Information Resources
Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—Review the content and use of the library's subscription databases most useful for humanities and social sciences, with an emphasis on Web of Science, MLA, and FirstSearch for locating and verifying journal article citations and books. We will also talk about how to identify and access full-text e-journals, including JSTOR. Information: http://library.caltech.edu/learning/default.htm.

Institute for Quantum Information Seminar
74 Jorgensen, 3 p.m.—Topic to be announced. David Poulin, Perimeter Institute.

Ulric B. and Evelyn L. Bray Seminar
25 Baxter, 4 p.m.—Topic to be announced. Roger Guesnerie, Département et Laboratoire d'Economie Théorique et Appliquée (DELTA), Ecole Normale Supérieure, Paris. Refreshments.

Chemical Physics Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Nanocrystals as a Class of Macromolecule," Paul Alivisatos, professor of chemistry, UC Berkeley.

General Biology Seminar
119 Kerckhoff, 4 p.m.—Topic to be announced. Professor Raffi Aroian, Division of Biological Sciences, UC San Diego.

Planetary Science Seminar
365 S. Mudd, Salvatori Room, 4 p.m.—"With the Rain Comes the Blues: Understanding the Cloudy Atmospheres of Brown Dwarfs," Mark Marley, New Mexico State University. Refreshments, 3:45 p.m. Information: www.gps.caltech.edu/seminars/pss.html.

Thomas Wolff Memorial Lectures in Mathematics 2004
151 Sloan, 4:15 p.m.—"On Random Schrödinger Operators," Jean Bourgain, professor of mathematics, Institute for Advanced Study, and Dobb Professor of Mathematics, University of Illinois, Urbana-Champaign.

Wednesday, April 28

Mathematical Physics Seminar
351 Sloan, noon—"Universality in Random Matrix Theory for Orthogonal and Symplectic Ensembles," Dimitri Gioev, department of mathematics, University of Pennsylvania. Information: www.math.caltech.edu/events/mathphys.html.

Astronomy Colloquium
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—"Properties of MHD Turbulence," Professor Alex Lazarian, department of astronomy, University of Wisconsin–Madison. Information: www.astro.caltech.edu/~gma/colloquia.html.

General Biology Seminar
119 Kerckhoff, 4 p.m.—Topic to be announced. Julie Williams, M.D., department of neuroscience, University of Pennsylvania School of Medicine.

Information Sciences and Technology Seminar
74 Jorgensen, 4 p.m.—"The Value and Use of Distributed Information," Emin Martinian, electrical engineering and computer science, MIT. Information: http://netlab.caltech.edu/seminar.

Organic Chemistry Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Chemical Complementation: A Genetic Assay for Protein Evolution and Proteomics," Professor Virginia Cornish, department of chemistry, Columbia University.

Earnest C. Watson Lecture Series
Beckman Auditorium, 8 p.m.—"Challenges and Excitement of Space Exploration," Charles Elachi, Caltech vice president, director of JPL, and professor of electrical engineering and planetary science. Admission is free. Information: 395-4652, 1 (888) 2CALTECH, or events@caltech.edu. Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD).

Thursday, April 29

Web of Science for Science and Engineering
Sherman Fairchild Library, multimedia conference room, 2 to 3:30 p.m.—Learn tips and tricks for searching a premier bibliographic database for relevant journal articles. Information: library.caltech.edu/learning/default.htm.

Applied Physics Optics Seminar
070 Moore, 4 p.m.—"Optical Sensing of People, Places, and Things," Professor David Brady, electrical and computer engineering department, Duke University.

Biochemistry Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Structural Mechanisms of Helicase Loading," James Berger, associate professor of biochemistry and molecular biology, UC Berkeley.

Chemical Engineering Seminar Series
106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—"Clustering of Particles in Turbulence: Implications for Early Cloud Development," Professor Lance Collins, Sibley School of Mechanical and Aerospace Engineering, Cornell University. Refreshments, 113 Spalding Lab, 3:30 p.m.

William Bennett Munro Memorial Seminar
237 Baxter, 4 p.m.—"Chance, Time, and Causation," Carl Hoefer, research professor, Universidad Autonoma de Barcelona, Spain. Refreshments.

Social and Information Sciences Laboratory Seminar Series
25 Baxter, 4 p.m.—Topic to be announced. Jeffrey MacKie-Mason, Burks Professor of Information and Computer Science, and professor of economics and public policy, School of Information, University of Michigan, Ann Arbor. Refreshments.

Friday, April 30

Fluid Mechanics Seminar
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 3 p.m.—"Structure and Stability of the Compressible Stuart Vortex and Shock Vortex Interactions," Gerard O'Reilly, graduate student in aeronautics, Caltech. Information: www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html.

Inorganic-Organometallics Seminar
151 Crellin, 4 p.m.—"Palladium-Mediated Oxidation of Amines: Selectivity, Mechanism, and Functionalization," Connie Lu, graduate student in chemistry, Caltech.

CampusEvents

Monday, April 19

Standard First-Aid/CPR
Brown Gym classroom, 7:30 a.m. to 5 p.m.—Standard first-aid and CPR training will be offered by Caltech's Safety Office in conjunction with the American Red Cross. Fee: $25 for materials. Registration: 395-6727 or safety.training@caltech.edu.

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

TheatreworksUSA: *Ramona Quimby*
Beckman Auditorium, 10 a.m. and noon—Ramona, an exasperating but lovable third-grader, has delighted young readers for the last 40 years through the books of Newbery Award–winning writer Beverly Cleary. Now, she comes to life in this presentation by TheatreworksUSA, America's largest and most prolific professional not-for-profit theater for young and family audiences. Tickets: TheatreworksUSA, (800) 497-5007.

Track and Field
SCIAC Finals, at Occidental College, 5 p.m.

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

Tuesday, April 20

Adult, Child, and Infant First-Aid and CPR Training
Brown Gym classroom, 7:30 a.m. to noon—Offered by Caltech's Safety Office in conjunction with the American Red Cross. Fee: $30 for materials. This is a two-day class; to receive certification, you must attend today and on April 22. Registration: 395-6727 or safety.training@caltech.edu.

Preschool Playgroup
Tournament Park, 10 a.m. to noon—Song and storytime, crafts and free play for toddlers and preschoolers (from walking to age 4). Information: 793-4099 or camila_bruns@hotmail.com.

Financial Wellness Series: Big-Money Purchases
Caltech Women's Center, 6 p.m.—Learn about the intricacies of big-money purchases—from your credit report to loan applications—from officers of the Caltech Credit Union. Dinner will be provided. Reservations: wcenter@studaff.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.

Wednesday, April 21

CPR/AED Recertification
Brown Gym classroom, 7:30 a.m. to noon—CPR recertification training will be offered by Caltech's Safety Office in conjunction with the American Red Cross. There is a small fee for materials. Information and registration: 395-6727 or safety.training@caltech.edu. This class will be repeated from 1 to 5 p.m.

Baby Furniture and Household Equipment
234 S. Catalina, 10 a.m. to 12:30 p.m.—Loans of kitchen and household necessities and baby furniture are made to members of the Caltech community. Information: 584-9773.

Wednesdays in the Park
Tournament Park, 10 a.m. to noon—Every Wednesday there's conversation and coffee for parents and caregivers, and playtime and snacks for children. Information: 403-7163 or ktclark@caltech.edu.

Salsa Dance Class
Winnett lounge, 7 to 10:30 p.m.—The beginners' session begins at 7 p.m. The intermediate lesson starts at 8:30. Lessons began on March 31. Fee: $28 for 5 classes; $7 per class.

Thursday, April 22

Caltech Architectural Tours
Athenaeum, 11 a.m. to 12:30 p.m.—Meet in the entry hall of the Athenaeum. Led by members of the Caltech Architectural Tour Service. Reservations: Susan Lee, 395-6327 or suze@caltech.edu.

Amnesty International Monthly Meeting
Caltech Y lounge, 7:30 to 9 p.m.—Caltech/Pasadena Al Group 22 holds its monthly meeting to discuss current activities and plans. All are welcome. Refreshments. Information: (818) 354-4461 or lkamp@lively.jpl.nasa.gov.

Hip-Hop Class for Advanced Beginners
Braun Gym, multipurpose room, 9 p.m.—Taught by a professional instructor. No special clothing or shoes are required. Open to all who have a valid gym membership. Sponsored by the Caltech Dance Troupe.

Friday, April 23

Standard First-Aid/CPR
See Monday, April 19, for details.

Men's Tennis
Ojai Regional Invitational, Ojai, 8 a.m., through April 25.

PERT Training: Fire Suppression
Chandler Dining Hall, 8 to 10 a.m.—Fire Suppression is the second of three required sessions of PERT (Pasadena Emergency Response Training). Offered in conjunction with the Pasadena Fire Department, Caltech Safety Office, and American Red Cross. Information: 395-6727 or safety.training@caltech.edu.

Women's Tennis
Ojai Regional Invitational, Oxnard, 8 a.m., through April 25.

13th Annual Earth Day Fair
Winnett quad, 11:30 a.m. to 1:30 p.m.—There will be exhibits by environmentally aware groups and businesses; music; and free Earth Day cake donated by Chandler Dining Hall. Information: cetf@caltech.edu. Sponsored by the Environmental Task Force and the Caltech Y.

Caltech Postdoc Association Brown Bag Lunch Series
Winnett clubroom #1, noon—"Careers in Consulting," presented by guest consultants Melissa Midzor of Avatar Computing, Girish Aakalu of L.E.K., and Wen Hsieh of McKinsey & Company. Bring your questions and your lunch. Cookies and drinks will be provided.

Baseball
at University of La Verne, 3 p.m.

Caltech Tai Chi Club
See Tuesday, April 20 for details.

Gareth Armstrong's Shylock
Beckman Auditorium, 8 p.m.—Stereotypes are confronted through the eyes of Shylock's only friend, and the only other Jewish man in all of Shakespeare, Tubal. Presented in collaboration with the Skirball Cultural Center. 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.

Saturday, April 24

Coleman Chamber Ensemble Competition
Ramo Auditorium, 9 a.m. to 5 p.m.—Musical ensembles compete for prizes, including the $6,000 Coleman Centennial Prize. Admission is free; no tickets required.

Baseball
at University of La Verne, doubleheader, 11 a.m.

Beginning Belly-Dancing
Braun Gym, multipurpose room, 12:45 p.m.—Learn basic belly-dance technique. No special clothing or shoes are required. Open to all with valid gym membership. Reservations: 395-6763 or Kathy.Kelly@caltech.edu.

Folk Music Society Presents: Bryan Bowers
Beckman Institute auditorium, 8 p.m.—Autoharp player and traditional singer Bryan Bowers will make his second appearance at Caltech. Bowers mixes original songs with gospel, traditional, and songs of current songwriters. 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 http://www.folkmusic.caltech.edu.

Sunday, April 25

Hula Lesson
Winnett Center, 2 p.m.—This is the third of eight sessions offered by the Hawaiian Club. Both men and women are welcome. Fee: $5 per class for Caltech community members; $12 for others. Information: www.ugcs.caltech.edu/~lilinoe/hula.html. Reservations: maruchan@its.caltech.edu.

Coleman Competition Winners Concert
Ramo Auditorium, 3:30 to 5:30 p.m.—The prize-winners of the 58th annual competition will perform. Presentation of the awards and a reception will follow the concert. 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.

Monday, April 26

Baby Furniture and Household Equipment
See Monday, April 19, for details.

ESL Conversation Club for Postdoc Spouses
See Monday, April 19, for details.

Tuesday, April 27

Preschool Playgroup
See Tuesday, April 20, for details.

Financial Wellness Series: Manifesting Wealth
Caltech Women's Center, 6 p.m.—Vanessa Summers, registered investment advisor and author, will share her principles for unlocking your wealth potential. Dinner will be provided. Reservations: wcenter@studaff.caltech.edu.

Caltech Tai Chi Club
See Tuesday, April 20, for details.

Wednesday, April 28

Baby Furniture and Household Equipment
See Wednesday, April 21, for details.

Wednesdays in the Park
See Wednesday, April 21, for details.

Salsa Dance Class
See Wednesday, April 21, for details.

Thursday, April 29

Hip-Hop Class for Advanced Beginners
See Thursday, April 22, for details.

Friday, April 30

PERT Training: Disaster Search and Rescue
Pasadena Civil Defense Center, 9 a.m. to 3 p.m.—Disaster Search and Rescue is the final of three required sessions of PERT (Pasadena Emergency Response Training). Offered in conjunction with the Pasadena Fire Department, Caltech Safety Office, and American Red Cross. Information: 395-6727 or safety.training@caltech.edu.

Baseball
at Cal Lutheran University, 3 p.m.

Caltech Tai Chi Club
See Tuesday, April 20, for details.

Capitol Steps
Beckman Auditorium, 8 p.m.—The Capitol Steps are congressional staffers-turned-comedians who travel the country satirizing the very people who once employed them. 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.

Saturday, May 1

Baseball
at Cal Lutheran University, doubleheader, 11 a.m.

Beginning Belly-Dancing
See Saturday, April 24, for details.

Capitol Steps
See Friday, April 30, for details.

Sunday, May 2

Hula Lesson
See Sunday, April 25, for details.

Lagerstrom Chamber Music Concert
Ramo Auditorium, 2:30 to 4:30 p.m.—The California String Quartet will perform. Admission is free. 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.

Telescope, *from page 1*

Submillimeter-wavelength astronomy allows the study of a number of astrophysical phenomena that do not emit much visible or infrared light. The new telescope will observe stars and planets forming from swirling disks of gas and dust, will make measurements to determine the composition of the molecular clouds from which the stars are born, and might even discover galaxies undergoing huge bursts of star formation in the very distant universe. The telescope could also be used to study the origin of large-scale structures in the universe.

"So far, we have gotten just a small taste of what there is to learn at submillimeter wavelengths," says Zmuidzinas. "This telescope will be a huge step forward for the field."

The new telescope would be poised to take advantage of the rapid development of sensitive superconducting detectors, an area in which Zmuidzinas and his Caltech/JPL colleagues have been making important contributions. The superconducting detectors enable large and very sensitive submillimeter cameras to be built, which produce panoramic images of the submillimeter sky.

The 25-meter telescope is a natural progression in Caltech and JPL's longstanding interest in submillimeter astronomy. Caltech already operates the Caltech Submillimeter Observatory (CSO), a 10.4-meter telescope constructed and operated with funding from the National Science Foundation, with Tom Phillips serving as director.

The telescope is fitted with sensitive submillimeter detectors and cameras, many of which were developed in collaboration with JPL, making it ideal for seeking out and observing the diffuse gases and their constituent molecules.

The advantages of the new telescope will be fourfold. First, due to the larger size of its mirror and its more accurate surface, the 25-meter telescope should provide six to 12 times the light-gathering ability of the CSO, depending on the exact wavelength. Second, the larger diameter and better surface will result in much sharper images of the sky. Third, the large new cameras will provide advantages over those now available.

Finally, the 16,500-foot elevation of the Atacama Desert will provide an especially dry sky for maximum effectiveness. Submillimeter wavelengths (as short as two-tenths of a millimeter) are absorbed by the water vapor in the atmosphere. For maximum effectiveness, a submillimeter telescope must be located at a very high and dry altitude or in space.

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Farrell, *from page 2*

No tickets or reservations are required for the event. For more information, contact Public Events at 1 (888) 2CALTECH, (626) 395-4652, or events@caltech.edu, or visit www.events.caltech.edu. Individuals with a disability can call 395-4688 (voice) or 395-3700 (TDD).

The 2003–04 Social Activism Speaker Series is made possible with support from the Moore-Hufstedler Fund, Student Affairs, Campus Life, the Diversity Program Fund, the Alumni Association, Jack and Edith Roberts, the Graduate Student Council, the Associated Students of the California Institute of Technology, and the Caltech Y.

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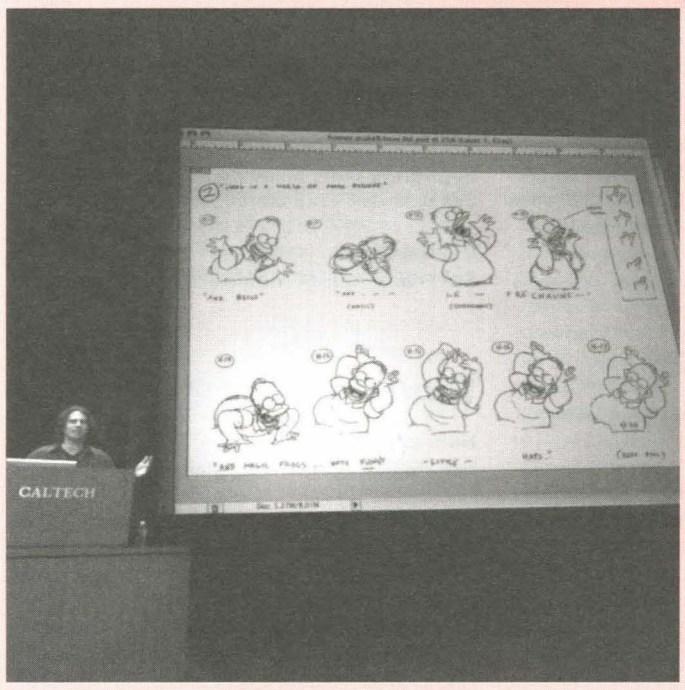
Sketching *The Simpsons*



David Silverman, supervising animation director for the television program *The Simpsons*, spoke in Beckman Auditorium April 6 as part of Public Events' Voices of Vision Series. Silverman oversees five directing teams and nearly 100 animators that produce the deceptively simple-looking animated series—each episode takes a minimum of six months to produce—that has made the Simpsons one of America's most popular families.

Distinguished, *from page 1*

A radio astronomer, Kenneth Kellermann is a senior scientist at the National Radio Astronomy Observatory (NRAO), a research professor at the University of Virginia, and an outside scientific member of the Max Planck Society. He received some of his training at Caltech, where he earned a doctorate in physics in 1963. He spent two years at the CSIRO Radiophysics Laboratory in Australia, and he has been affiliated with NRAO since 1965, serving for a period of time as the observatory's assistant director. Kellermann's research interests include radio galaxies and quasars, the history of radio astronomy, and the development of new instrumentation for radio astronomy. His work has been recognized with such awards as the Warner Prize of the American Astronomical Society and the Gould Prize of the National Academy of Sciences. He is a member of the International Astronomical Union, the American Astronomical Society, the National Academy of Sciences, and the American Academy of Arts and Sciences.

The author of the book *The Extravagant Universe: Exploding Stars, Dark Energy, and the Accelerating Cosmos*, Robert Kirshner has also written more than 200 research papers about supernovae, the large-scale distribution of galaxies, and the size and shape of the universe. Kirshner received his doctorate in astronomy from Caltech in 1975 and today is Clowes Professor of Science at Harvard University. After Caltech, he did postdoctoral work at Kitt Peak National Observatory, joined the faculty at the University of Michigan, where he remained for nine years, and then signed on with Harvard's astronomy department, which he chaired for seven years. He was also associate director for optical and infrared astronomy at the Harvard-Smithsonian Center for Astrophysics from 1997 to 2003. Kirshner is a member of the American Academy of Arts and Sciences and the National Academy of Sciences, and currently serves as president of the American Astronomical Society.

Gerhard Parker received his bachelor's degree in engineering in 1965, his master's in electrical engineering in 1966, and his doctorate, also in electrical engineering, in 1970. Remarkably, he earned all three degrees at Caltech. The end of Parker's years at the Institute marked the beginning of his years at Intel Corporation, which he joined as a member of the technical staff. In 1977, he was named vice president and director of technology development, and in 1988 became senior vice president in charge of manufacturing, technology development, purchasing, construction, quality, and planning. In this latter position, Parker managed Intel's worldwide expansion of production capacity in the early 1990s. He served as executive vice president for the new business group beginning in 1998, guiding numerous internal start-ups, until his retirement in 2001.

H. Gerard Schwartz Jr. received his doctorate in civil engineering from Caltech in 1966 and then began a long career with the Sverdrup Corporation, which is now a part of Jacobs Engineering Group Inc. His work was instrumental in developing and expanding Sverdrup into a national leader in construction management. Schwartz's projects included multibillion-dollar water and wastewater-treatment systems for the cities of San Diego, San Francisco, and Detroit. He also worked as principal-in-charge for large civil-infrastructure projects, such as highways, bridges, dams, and railroads. In 1993, he was named president and chairman of Sverdrup/Jacobs Civil, and he is currently a senior professor of civil and environmental engineering at Washington University in St. Louis. He has served as president of the Water Environment Federation and was president of the American Society of Civil Engineers from 2001 to 2002. Schwartz was elected to the National Academy of Engineering in 1997.

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Harassment, *from page 1*

Margo Marshak and Professor John Bercaw, cochairs; Professors Jed Buchwald, Janet Hering, Dianne Newman, John Preskill, and Barbara Wold; Mike Miranda, division administrator for biology; and Candace Rypisi, director of the Women's Center. The committee will be assisted by Karen Greenwalt, associate general counsel; Michael Hoffmann, dean of graduate studies; and Miriam Feldblum, senior director of student affairs projects, and will consult with other campus organizations, faculty, students, and staff.

Baltimore wrote, "As we await the results of the Task Force's work, I would like to reiterate the Institute's commitment to providing an academic and work environment that is free of harassment and, as provided in the Institute's Policy on Unlawful Harassment, to addressing specific harassment concerns promptly. The hostile and intimidating environment created by harassment is the very antithesis of the spirit of free and open intellectual inquiry that forms the foundation for everything we do at Caltech."

Due to the significance and impact of the issues raised in the report, Baltimore said, he has asked the group to submit its recommendations before the end of the academic year. The report will be released to the Faculty Board and to other campus departments as appropriate.

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

The campus community biweekly
April 15, 2004, vol. 4, no. 8

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Published by the Office of Public Relations

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Pasadena, California 91125

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