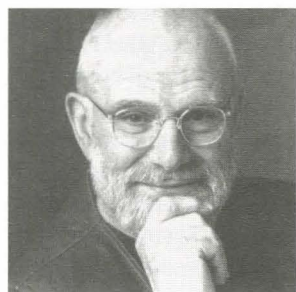


# Caltech336

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

The campus community biweekly  
**March 6, 2003, vol. 3, no. 5**



## Sacks explores the creative mind

Oliver Sacks, renowned physician and the author of a number of best-selling books, will visit Caltech on March 17. He will present a lecture titled "Creativity and the Brain." The free talk will be held in Beckman Auditorium at 8 p.m.

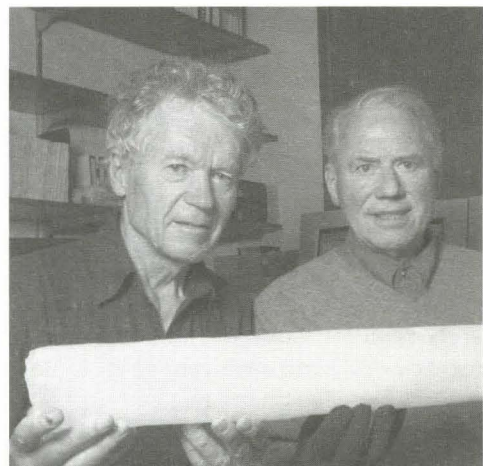
Noted for his insight and compassion, Sacks is a neurologist for whom brain maladies present beguiling paradoxes. Always sympathetic to the plights of his subjects, Sacks uses his case studies to explore whether the essence of personality is contained in a bundle of neurons.

The sometimes humorous cases presented in his best-known books *The Man Who Mistook His Wife for a Hat* and *Awakenings*, as well as in articles in the *see Sacks, page 2*

## Antarctic landmarks named after Caltech experts

There aren't many people alive who can go to the mall and buy a globe with their name printed on it, but Caltech has just added two.

Barclay Kamb and Hermann Engelhardt, longtime researchers of Antarctic ice streams, have been honored by the American Advisory Committee on Antarctic Names (ACAN) with the renaming of two features near the gigantic Ross Ice Shelf, a Texas-sized mass of floating ice. Hereafter, the feature informally called "ice stream C" will bear the formal name Kamb Ice Stream, *see Antarctica, page 6*



Barclay Kamb (left) and Hermann Engelhardt pose with an ice plug from Antarctica.

## Reach for the stars, Ride urges girls

Having reached for the stars herself, the first American woman in space continues to encourage middle-school girls to do the same.

Sally Ride, who made history aboard the space shuttle *Challenger* in 1983, will once again bring to campus the Los Angeles Science Festival for girls in grades 5 to 8. This year's event, with the theme "Reach for the Stars," will take place on Saturday, March 29.

Through the national festivals and a science club, Ride, who is a physics professor at UC San Diego and a Caltech trustee, strives to stoke girls' innate curiosity in science, math, and technology. By making the subjects fun and accessible, she aims to reverse the trend, shown by studies, of girls losing interest and self-confidence in these areas by the eighth grade—even though they perform as well as boys.

The festival will begin at 11:30 a.m. with on-site registration, lunch, and a street fair. Other events, scheduled from 1 to 4:30 p.m., will include a keynote session with Ride and *Los Angeles Times* science writer K. C. Cole, "Discovery" workshops, and a raffle. Students can choose from 18 workshops given by local scientists, including many from Caltech: professors Jean Ensminger, Melany Hunt, Julie Kornfield, and Joann Stock; graduate student in biology Meghan Adams; alum (PhD 2001, chemistry) and staff member Elizabeth Krider; and a group from SIRTf (the Space Infrared Telescope Facility). Also presenting workshops will be JPL researchers Andrea *see Ride, page 6*

## Caltech to recognize distinguished alumni

Caltech has a well-deserved reputation for nurturing student talent and cultivating their potential, a fact made evident by the lofty achievements of many of its graduates. The highest honor that Caltech confers on such graduates is the Distinguished Alumni Award, which recognizes their accomplishments and notable careers. This year, the award's selection committee, which includes president David Baltimore, provost Steve Koonin, faculty representatives, and Alumni Association members, chose a group of five graduates of inimitable caliber.

Fernando J. Corbató is a professor emeritus at MIT in the department of electrical engineering and computer science. He received his BS from Caltech in physics in 1950 and was a trailblazer in *see Alumni, page 6*

## Fear and love in Illyria



Sir Andrew Aguecheek (grad student Noah Robinson), a notorious coward and would-be suitor of the countess Olivia, flees a swordfight by hiding behind Fabian (sophomore Nicholas Rupprecht) in TACIT's production of Shakespeare's *Twelfth Night*. The play continues through Saturday in Ramo Auditorium.

## Two hundred Caltech athletes named good sports

Caltech's entire roster of varsity athletes—all 200 of them—have been named 2003 Sports Ethics Fellows by the Institute for International Sport.

Termed by the institute as its "most unique" and "most compelling" appointment this year, the honor propels the Beaver athletes into an elite group that includes four-time Tour de France winner Lance Armstrong; five-time world champion and Olympic triple gold medal runner Marion Jones; two-time Olympic gold medal marathoner Frank Shorter; New Orleans Saints quarterback Aaron Brooks; and eight-time Boston Marathon women's wheelchair champion Jean Driscoll.

Daniel Doyle, Jr., founder and executive director of the Institute for International Sport, addressed Caltech athletes, coaches, and administrators on February 20 as part of a sportsmanship and leadership lecture series at Southern California Intercollegiate Athletic Conference schools.

He said, "I don't think I've ever observed an athletic program that better defines sports' most virtuous qualities than that of Caltech.

"I met a group of young people who face formidable academic pressure and who value their sports experience for

reasons that transcend winning," he said. "I met a group of coaches who are passionate in their commitment to help these young people learn valuable lessons from sports and to provide them with an experience that lessens the extraordinary academic pressure they face every day."

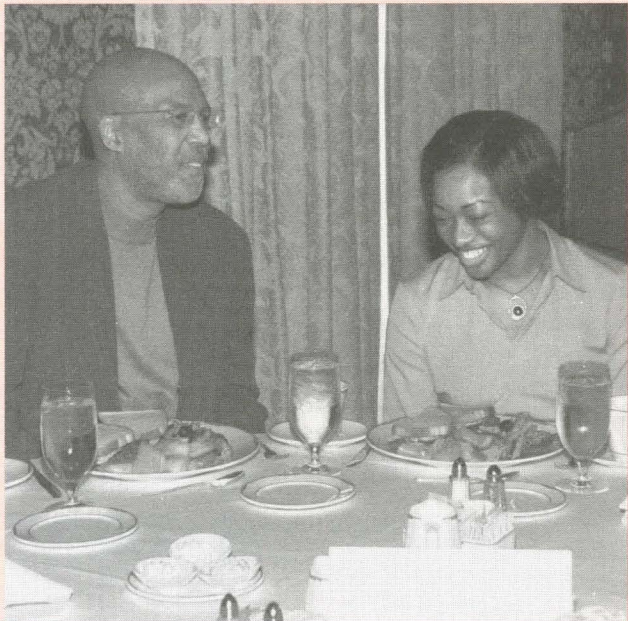
He noted that coaches and athletes from opponent schools have consistently praised Caltech athletes' competitiveness and sportsmanship. "These are brilliant young people who will do great things for this world and who embody the best in sports," he said.

Caltech athletics director Tim Downes said, "The impact of Dan Doyle's presentation was felt deeply by all of our athletes. I've never seen them respond in such an enthusiastic and overwhelming manner.

"The courage they display, with little recognition for their accomplishments and little positive encouragement as to wins and losses, is a perfect example of everything that is positive about sports and competition," Downes said. "It is very hard for me to articulate what athletics means to our students and what *see Athletes, page 2*



# NewsBriefs



Clinical psychologist and Antioch University professor Terrence Roberts (with Tashica Williams, chair of the Black Graduate Student Association) spoke at a February 28 Athenaeum lunch in observance of Black History Month. One of the Little Rock Nine—the first African American students to integrate Central High School in Arkansas in 1957—Roberts discussed “Lessons from Little Rock: An Educational Agenda for the 21st Century.”

## Personals

### Welcome to Caltech

#### November

Postdoctoral scholars **Anne Petitjean**, in chemistry, and **Daniel Rizzuto**, in biology.

#### December

**Christopher Bielawski**, postdoctoral scholar in chemical engineering; **Rebecca Butler**, Caltech postdoctoral scholar in JPL's atmospheric chemistry element; **Chris Gelino**, postdoctoral scholar in astronomy; **Douglas Haig**, visitor in physics; **Yoshikazu Hishinuma**, Caltech postdoctoral scholar in JPL's MEMS technology group; **Jens Kaiser**, postdoctoral scholar in chemistry; **Weili Ke**, visitor in physics; **Roxanne Kunz**, postdoctoral scholar in chemistry; **Debbie Leung**, Tolman Postdoctoral Scholar in Theoretical Physics; **Zaiwei Li**, visitor in chemistry; postdoctoral scholars **Shaomin Liu**, in chemical engineering, **Michael McKerns**, in materials science, and **Parisa Mehrkhodavandi**, in chemistry; visitors **Anne-Sophie Meriaux**, in geology, and **Michael Raz**, in aeronautics; postdoctoral scholars **Jacob Scheuer**, in applied physics, **Joerg Schilling**, in electrical engineering, and **Stefan Steinbacher** and **Haibin Su**, both in chemistry; **Kerstin Weinberg**, senior postdoctoral scholar in aeronautics; **Yongfu Wu**, postdoctoral scholar in chemistry.

#### January

Postdoctoral scholars **Marco Arienti**, in aeronautics, **Raktim Bhattacharya**, in control and dynamical systems, **Laurent Bollinger**, in geology, **Chun-Hong Chen**, in biology, **Deepshikha Datta**, in chemistry, and **Annick Dubois**, **Maxellende Ezin**, **A. Nicole Fox**, and **Feng Gao**, all in biology; **Yongning He**, postdoctoral scholar in biology and associate, Howard Hughes Medical Institute; postdoctoral scholars **Cristina Iancu**, in biology, and **Stefan Iglauer**, in chemistry; **Anton Ivanov**, visitor in planetary science; postdoctoral scholars **Amisha Kamal Kizhakkedathu** and **Xicai Liu**, both in chemistry, and **Omar Lopez-Cruz**, in astronomy; visitors **Gweltaz Maheo**, in geochemistry, and **Matteo Pardo**, in chemistry; **Christine Pelletier**, Caltech postdoctoral scholar in JPL's intelligent instruments and technology group; visitors **Stevan Quenette**, in geophysics, and **Christopher Rao**, in biology; **Kaice Reilly**, postdoctoral scholar in physics; **Henry Roe**, O. K. Earl Postdoctoral Scholar; postdoctoral scholars **Deirdre Scripture-Adams**, in biology, **Paula Smith**, in geochemistry, and **Yang Song**, in electrical engineering; visitors **Wolfgang Tichy** and **Yunyong Wang**, both in physics; postdoctoral scholars **Michael Willis**, in geophysics, and **Sebastian Wolf**, in astronomy;

**Alexander Wolszczan**, visitor in planetary science; postdoctoral scholars **Eylon Yavin**, **Hongbin Yu**, **Aihua Zhang**, and **Luzheng Zhang**, all in chemistry.

#### February

**Muhammad Ahmed**, research engineer, electrical engineering/computation and neural systems; **Louisa Fung**, department assistant, Infrared Processing and Analysis Center (IPAC); postdoctoral scholars **Sekar Govindasamy** and **John Magyar**, both in chemistry; **Hugo Perfettini**, visitor in geology; **Ye Pu**, postdoctoral scholar in electrical engineering; **Kejun Zhu**, visitor in physics.

### Retirements

**William Green**, senior technical manager with the Infrared Processing and Analysis Center (IPAC), will retire on April 1, after 22 years at Caltech.

**Jerry Solomon** retired on February 1. A member of the Beckman Institute, he had been with Caltech for 20 years.

**Gerhard Stapfer**, facilities manager at the Laser Interferometer Gravitational-Wave Observatory (LIGO), Livingston, Louisiana, retired on February 1, after 36 years with Caltech.

## Honors and awards

**Paul Asimow**, assistant professor of geology and geochemistry, has been selected to receive the F. W. Clarke Award, which “is given to a young scientist in recognition of a single outstanding contribution to geochemistry or cosmochemistry, published as a single paper or a series of papers on a single topic.” The award will be presented during the plenary session of the 2003 Goldschmidt Conference in Kurashiki, Japan. In addition, the Alfred P. Sloan Foundation has chosen Asimow for a Sloan Research Fellowship. “Coveted as an extraordinarily competitive award, the Sloan Research Fellowship carries with it a grant of \$40,000 to be used in a flexible and largely unrestricted manner so as to provide the most constructive possible support of the professor's research.”

### Sacks, from page 1

*New Yorker*, *Parade Magazine*, and others, reveal the peculiar lives of acquaintances and patients coping with such brain dysfunctions as Tourette's syndrome, autism, Parkinson's disease, musical hallucination, phantom limb syndrome, schizophrenia, retardation, and Alzheimer's disease.

Sacks's scientific yet humane approach to these abnormalities makes his books attractive to the general public. Indeed, *Awakenings* inspired a play by Harold Pinter and was made into an Oscar-nominated Hollywood movie starring Robert De Niro and Robin Williams.

An inveterate writer who has kept a journal since he was 14, Sacks has in the past two years published two accounts of his own life: *Uncle Tungsten*, a memoir about the role that science played in his early childhood, and *Oaxaca Journal*, a fern-lover's diary of a trip through that southern Mexican state. Perhaps not surprisingly, this author and scientist who examines with generous curiosity the brain conditions that afflict his patients is similarly fascinated by the ability of the primitive fern to survive and change.

In “Creativity and the Brain,” Sacks will talk about the ways people adapt to various neurological disorders and what we can learn about the human brain and mind from their experiences.

Sacks's presentation is a William and Myrtle Harris Distinguished Lecture in Science and Civilization, and is cosponsored by the Division of the Humanities and Social Sciences, the Beckman Institute, and the Words Matter program. Professional American Sign Language interpretation will be available. The Harris lecture series was founded in 1996 to foster greater understanding between the sciences and the humanities.

### Athletes, from page 1

being named Sports Ethics Fellows will mean to them and Caltech.”

Sports Ethics Fellows are selected in conjunction with the institute's annual National Sportsmanship Day “Dare to Play Fair” program, celebrated this year on March 4 by more than 10,000 schools, colleges, and universities from all 50 states, and 100-plus countries. The event was conceived to raise awareness about ethics issues in athletics and daily life, and to stimulate dialogue among administrators, coaches, teachers, and students. Fellows are asked to help promote sportsmanship ideals by writing editorials, making public service announcements, and speaking to schools and community groups.

Created in 1986 and located at the University of Rhode Island, the Institute for International Sport administers programs to help promote goodwill among future world leaders through the tools of athletics and art. For more information, visit [www.internationalsport.com](http://www.internationalsport.com).

## Letters to the editor

Editor,  
I owe my colleagues in HSS [the Division of the Humanities and Social Sciences] an apology. The site of the former Clinton K. Judy Library in Baxter Hall is not—as I wrongly said—now an economics lab. It is now a suite of new offices (some occupied by heavily book-using humanists). Professor Judy is doubtless spinning more slowly in his grave than I thought.

John Sutherland  
Dabney Hall of the Humanities

## Organic veggies come to campus

Do you like knowing exactly what you're putting into your family's bodies and where it comes from? Now Techers can enjoy fresh produce grown here in Southern California without pesticides or chemicals and delivered to campus weekly.

Caltech is now an official drop-off point for Tierra Miguel Farm, an organic, community-supported agricultural organization in northern San Diego County. Tierra Miguel grows all its produce using only biodynamic, sustainable practices such as composting and soil enhancement. For an annual pledge, comparable to store-bought organic produce prices, subscribers can receive every Friday enough fresh, seasonal vegetables, fruits, and herbs to feed a family of four.

Marionne Epalle, manager of communications for the Division of Engineering and Applied Science, has been subscribing to Tierra Miguel for almost a year and thought others on campus would also be interested. She proposed Caltech as a new drop-off site, and is now the site coordinator. “I am also interested in helping the organization,” she says, “because I like to support environmentally friendly practices like organic and sustainable agriculture.”

Epalle received official approval from Tom Mannion, director of Caltech Auxiliary and Business Services, and he suggested the Caltech Y as a possible drop-off spot. Athena Castro, director of the Y, was “very enthusiastic,” offering use of the patio for the drop-off site and extra storage space for recycling boxes. Undergraduate student Spencer Mortensen, who heads up Caltech's Environmental Task Force, is also lending support, hosting the community-supported agriculture webpage on CETF's site and spreading the word through e-mail.

Six Caltech subscribers have signed up so far, and Epalle hopes to increase that number. She will have an information table at the upcoming campus health fair in April, and is also planning a visit to Tierra Miguel's open house on Saturday, April 5. If interested, contact her at ext. 8093 or [marionne@caltech.edu](mailto:marionne@caltech.edu). For more information on community-supported agriculture or to subscribe, visit [www.its.caltech.edu/~cetfers](http://www.its.caltech.edu/~cetfers).

## A symphonious show

The Caltech-Occidental Symphony Orchestra, directed by Allen Gross, will perform its annual pair of winter concerts this weekend. Caltech freshman Tyson Mao will be the featured violinist in the program, which comprises Liszt's *Les Preludes*, Khachaturian's Violin Concerto, and Beethoven's Symphony no. 3 (*Eroica*).

The free public concerts will begin at 8 p.m. at Occidental College's Thorne Hall on Saturday, March 8, and at Ramo Auditorium on Sunday, March 9. For more information on Saturday's performance, call (323) 259-2785; for the Sunday event, call Caltech Public Events at 1 (888) 2CALTECH or (626) 395-4652.

A full 70-piece orchestra, the Caltech-Occidental Symphony is composed of students, faculty, and staff from Caltech and Occidental College. The orchestra meets weekly and each year gives three pairs of concerts on the two campuses, and sponsors an annual concerto competition to give accomplished student musicians the chance to perform as soloists.



March 10–16, 2003

M T W T F S S

Monday, March 10

**Thesis Seminar**  
147 Noyes, Sturdivant Lecture Hall, 10:30 a.m.—“New Quantum Monte Carlo Algorithms to Efficiently Utilize Massively Parallel Computers,” David Randall “Chip” Kent IV, graduate student in chemistry, Caltech.

**Aeronautics Seminar**  
101 Guggenheim Lab, Lees-Kubota Lecture Hall, 1 p.m.—“MEMS Used in Blast Initiator Technology,” May Chan, U.S. Navy, China Lake. Information: [www.galcit.caltech.edu/seminars.shtml](http://www.galcit.caltech.edu/seminars.shtml).

**Astronomy Tea Talk**  
106 Robinson, 4 p.m.—Topic to be announced. Eduardo Martin, Institute for Astronomy, University of Hawaii. Information: [www.astro.caltech.edu/~cc/tea\\_talks](http://www.astro.caltech.edu/~cc/tea_talks).

**Ulric B. and Evelyn L. Bray Seminar**  
25 Baxter, 4 p.m.—“The Subtle Theory of Information Disclosure in Auctions,” Ron Harstad, professor of economics, Rutgers University. Refreshments.

**Geological and Planetary Sciences Seminar**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“What Really Inhabits the Substellar Companion Zoo (e.g., Hot Jupiters or Roasted Leftovers)?”, Dr. David Black, visiting scientist, Lunar and Planetary Institute, Houston, Texas. Information: [www.gps.caltech.edu](http://www.gps.caltech.edu).

**Inorganic-Electrochemistry Seminar**  
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Biomaterials at the Beach: Metal-Protein Interactions in Mussel and Barnacle Adhesives,” Jonathan Wilker, assistant professor, department of chemistry, Purdue University, West Lafayette, Indiana.

Tuesday, March 11

**Institute for Quantum Information Seminar**  
74 Jorgensen, 3 p.m.—Topic to be announced. Professor Michael Westmoreland, chair, department of mathematics, Denison University.

**Mechanical Engineering Seminar**  
206 Thomas, 3 p.m.—“Small-Scale Noncontinuum Glows and Their Simulation,” Nicolas Hadjiconstantinou, Rockwell International Assistant Professor, department of mechanical engineering, MIT.

**Thesis Seminar**  
151 Crellin, 3:30 p.m.—“In Vitro Selection with mRNA Display Library Containing Unnatural Amino Acids,” Shuwei Li, graduate student in chemistry, Caltech.

**Caltech/JPL Association for Gravitational-Wave Research Seminar Series**  
114 E. Bridge, 4 p.m.—“First LIGO Search for Binary Inspirals,” Peter Shawhan, LIGO Laboratory, Caltech.

**Carnegie Observatories Colloquium Series**  
William T. Golden Auditorium, 813 Santa Barbara Street, 4 p.m.—Topic to be announced. Professor Ken Lanzetta, department of physics and astronomy, SUNY Stony Brook. Refreshments, 3:30 pm.

**W. N. Lacey Lectureship in Chemical Engineering**  
106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—“Chemical and Biological Microfluidic Systems,” Klavs F. Jensen, du Pont Professor of Chemical Engineering and professor of materials science and engineering, MIT. Refreshments, 113 Spalding Labs, 3:30 p.m. Information: [www.che.caltech.edu/calendar/seminars.html](http://www.che.caltech.edu/calendar/seminars.html).

**Rhetoric, Knowledge, and Information Seminar Series**  
237 Baxter, 4 p.m.—“What Hath God Wrought: The Communications Revolution and Other Revolutions in America, 1815–1848,” Dan Howe, professor emeritus of history, UCLA, and Huntington Library. Refreshments.

Wednesday, March 12

**Mathematical Physics Seminar**  
351 Sloan, noon—“Magnetic Flows on Riemannian Manifolds,” Norbert Peyerimhoff, Ruhr-Universität Bochum. Information: [www.math.caltech.edu/events/mathphys.html](http://www.math.caltech.edu/events/mathphys.html).

**Astronomy Colloquium**  
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“X-ray Astronomy: The Early Pioneering Years,” Walter Lewin, professor of physics, MIT. Information: [www.astro.caltech.edu/~gma/colloquia.html](http://www.astro.caltech.edu/~gma/colloquia.html).

**Environmental Science and Engineering Seminar**  
142 Keck, 4 p.m.—Topic to be announced. Professor Richard Turco, department of atmospheric sciences, UCLA.

**Wiersma Lecture**  
24 Beckman Labs, 4 p.m.—“Ultrastructure of LTP,” Professor Kristen Harris, Institute of Molecular Medicine and Genetics, Medical College of Georgia.

Thursday, March 13

**Inorganic-Electrochemistry Seminar**  
147 Noyes, Sturdivant Lecture Hall, 2 p.m.—“Chemio-, Regio-, and Stereo-Selective Formation of Covalent Bonds through the Operation of Non-Covalent Interactions: From Molecular to Supramolecular to Superdupermolecular Chemistry,” Nicholas J. Turro, Schweitzer Professor of Chemistry, Columbia University.

**General Biology Seminar**  
119 Kerckhoff, 4 p.m.—“Genetic Determination of Fat Regulation,” Keveh Ashrafi, department of molecular biology, Massachusetts General Hospital.

**W. N. Lacey Lectureship in Chemical Engineering**  
106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—“Multiphase Transport and Reaction in Microfluidic Systems,” Klavs F. Jensen, du Pont Professor of Chemical Engineering and professor of materials science and engineering, MIT. Refreshments, 113 Spalding Lab, 3:30 p.m. Information: [www.che.caltech.edu/calendar/seminars.html](http://www.che.caltech.edu/calendar/seminars.html).

**Physics Research Conference**  
201 E. Bridge, 4 p.m.—“Exploring the Landscape for RNA Folding,” Dan Herschlag, professor of biochemistry, Stanford University. Refreshments, 114 E. Bridge, 3:45 p.m. Information: [www.pma.caltech.edu/~physcoll/PhysColl.html](http://www.pma.caltech.edu/~physcoll/PhysColl.html).

Friday, March 14

**Inorganic-Organometallics Seminar**  
151 Crellin, 4 p.m.—“The Trans-Effect in Pyridine-Derived Carbene Complexes of Platinum: Separating Ground-State and Transition-State Effects,” Jonathan Owen, graduate student in chemistry, Caltech.



# March 17–23, 2003

M T W T F S S

## Monday, March 17

### William and Myrtle Harris Distinguished Lectureship in Science and Civilization

Beckman Auditorium, 8 p.m.—“Creativity and the Brain,” Oliver Sacks, MD, author of *Awakenings*, *The Man Who Mistook His Wife for a Hat*, and numerous other books and articles. Free and open to the public. Professional American Sign Language interpretation will be available. Information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

## Tuesday, March 18

### Chemical Physics Seminar

147 Noyes, Sturdivant Lecture Hall, 2 p.m.—“Nanochannels, Nanofluidics, and Single Molecules,” Robert Austin, professor of physics, Princeton University.

### Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 4 p.m.—“Nearby Clusters of Galaxies: New Answers to Old Questions,” Dr. Omar Lopez-Cruz, Observatories of the Carnegie Institution of Washington. Refreshments, 3:30 p.m.

### William Bennett Munro Memorial Seminar

25 Baxter, 4 p.m.—“Legal Regime, Organizational Choice, and Economic Development: A Comparison of France and the United States in the Mid-Nineteenth Century,” Naomi Lamoreaux, professor of economics and history, UCLA. Refreshments.

### Caltech/MIT Enterprise Forum

Beckman Institute auditorium, 5:30 to 9 p.m.—“Venture in Medical Technologies,” a panel discussion on new ventures in medical devices and what entrepreneurs want to know about them. Registration, networking, and complimentary dinner, Beckman Institute courtyard, 5:30 p.m. Program, 7 to 9 p.m., Beckman Institute auditorium. Fee: \$35; \$10 for full-time students with ID; free to Caltech students and faculty. Information: 395-3916 or [entfor@caltech.edu](mailto:entfor@caltech.edu).

## Wednesday, March 19

### Astronomy Colloquium

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Some Thoughts on Neutrino Transport, Supernova Theory, and Neutrino Breakout Bursts,” Professor Adam Burrows, department of astronomy, University of Arizona. Information: [www.astro.caltech.edu/~gma/colloquia.html](http://www.astro.caltech.edu/~gma/colloquia.html).

### Environmental Science and Engineering Seminar

142 Keck, 4 p.m.—Topic to be announced. Professor Claudia Pasquero, department of atmospheric sciences, UCLA.

### General Biology Seminar

119 Kerckhoff, 4 p.m.—Topic to be announced. Professor Martin Chalfie, department of biological sciences Columbia University.

### Applied and Computational Mathematics Colloquium

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4:15 p.m.—“Fast Accurate Solution of Stiff PDE,” Lloyd N. Trefethen, professor of numerical analysis and fellow of Balliol College, Oxford University. Refreshments, 3:45 p.m. Information: [www.acm.caltech.edu/colloq.shtml](http://www.acm.caltech.edu/colloq.shtml).

### Leakey Speaker Series

Beckman Auditorium, 8 p.m.—“Grandmothers and Human Evolution,” Kristen Hawkes, Distinguished Professor of Anthropology, University of Utah. Tickets and information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

## Thursday, March 20

### Chemical Engineering Seminar

106 Spalding Lab, Hartley Memorial Seminar Room, 2:30 p.m.—“Hydroplaning of Cars: Basic Experiments and Models,” Dr. Francoise Brochard-Wyart, Institut Curie, France. Refreshments, 113 Spalding Lab, 3:30 p.m. Information: [www.che.caltech.edu/calendar/seminars.html](http://www.che.caltech.edu/calendar/seminars.html).

### Chemical Engineering Seminar

106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—“A Global View of Soap Films and Foams,” Dr. Pierre-Gilles de Gennes, Institut Curie, France. Refreshments, 113 Spalding Lab, 3:30 p.m. Information: [www.che.caltech.edu/calendar/seminars.html](http://www.che.caltech.edu/calendar/seminars.html).

### Von Karman Lecture Series

JPL, von Karman Auditorium, 7 p.m.—“The Cassini-Huygens Mission to Saturn,” Dr. Robert Mitchell, manager, Cassini Program, JPL. Admission is free. Information: [www.jpl.nasa.gov/lecture](http://www.jpl.nasa.gov/lecture).

## Friday, March 21

### Chemical Engineering Special Seminar

106 Spalding Lab, Hartley Memorial Seminar Room, 11 a.m.—“Filaments of Extrusion from Vesicles,” Dr. Francoise Brochard-Wyart, Institut Curie, France. Refreshments, 113 Spalding Lab, 10:30 a.m. Information: [www.che.caltech.edu/calendar/seminars.html](http://www.che.caltech.edu/calendar/seminars.html).

### Condensed Matter Physics Seminar

107 Downs Lab, noon—Topic to be announced. Kathryn Moler, assistant professor of applied physics, Stanford. Information: [www.its.caltech.edu/~jpelab/CMP\\_Seminar\\_Dates.html](http://www.its.caltech.edu/~jpelab/CMP_Seminar_Dates.html).

### Inorganic-Organometallics Seminar

151 Crellin, 4 p.m.—“Olefin Polymerization and Oligomerization Catalysts with Group III, IV, and VI Metals: Design and Characterization,” Theo Agapie, graduate student in chemistry, Caltech.

### Von Karman Lecture Series

Pasadena City College, 1570 E. Colorado, the Vosloh Forum (south of Colorado on Bonnie), 7 p.m.—“The Cassini-Huygens Mission to Saturn,” Dr. Robert Mitchell, manager, Cassini Program, JPL. Admission is free. Information: [www.jpl.nasa.gov/lecture](http://www.jpl.nasa.gov/lecture).

## Discussing Granny’s role in human prehistory

Caltech and the Leakey Foundation will present the next lecturer in the 2003 Speaker Series on Human Origins, anthropologist and evolutionary ecologist Kristen Hawkes, on Wednesday, March 19. The public lecture is the second of three talks cosponsored by the two institutions and aimed at sharing groundbreaking human-origins research.

Best known for her comprehensive research on modern forager ecology, Hawkes, chair of the anthropology department at the University of Utah, will discuss “Grandmothers and Human Evolution,” beginning at 8 p.m. in Beckman Auditorium.

Humans take a long time to grow up and have unusually long potential lifespans, even in societies without scientific medicine. Our unusually “slow” life histories are often attributed to the appearance of nuclear families in human evolution, through which support by hunting fathers allowed children to remain dependent longer. More recent work, however, suggests that variations in adult mortality rates among primates are what influence the wide range in age at maturity. In her lecture, Hawkes will talk about some of the evidence against this hypothesis and provide support for an alternative possibility—that our life histories are the legacy of a novel role played by ancestral grandmothers.

Tickets to the lecture are \$10. For more information, contact Public Events at 1 (888) 2-CALTECH, (626) 395-4652, or [events@caltech.edu](mailto:events@caltech.edu), or visit [www.events.caltech.edu](http://www.events.caltech.edu). Individuals with a disability can call (626) 395-4688 (voice) or (626) 395-3700 (TDD).

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# CampusEvents

## Monday, March 10

### 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.

### Men’s Golf

vs. Occidental College, at Annandale Country Club, 1 p.m.

### Ballroom Dance Club

Winnett Lounge, 7:30 p.m.—Intermediate salsa, taught by a professional dance teacher. This class will develop choreography and styling for dancers with previous salsa dancing experience. No partner is required. A practice session will follow the lesson. Fee: Caltech students, \$6 per class; \$8 per class for others.

### Ballroom Dance Club

Winnett Lounge, 9:30 p.m.—Lessons in international-style rumba, taught by a professional instructor. No partner is required, but practice outside of class sessions is expected. Fee: between \$2 and \$6 per class, depending on attendance.

## Tuesday, March 11

### Photoshop Class

NewMedia Classroom, 363 S. Hill Avenue, 10 a.m. to noon—Learn the important functions of Photoshop, such as selection, layers, image enhancement, and correct file formats. The emphasis is on research images, but the information is useful to anyone working with images. This two-day class will continue on Thursday at 10 a.m. Fee: \$100. Registration: carolynp@caltech.edu. Information: <http://muri.caltech.edu/nmc/index.htm>.

### 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](mailto: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](http://www.its.caltech.edu/~taichi).

### Amnesty International Letter Writing

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

### Intermediate Jazz Dance Class

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

## Wednesday, March 12

### Baby Furniture and Household Equipment Pool

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

### 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 [icklavins@hotmail.com](mailto:icklavins@hotmail.com).

### International Women’s Day

Center for Student Services, second floor common area, noon—Members of the campus community are invited to lunch and an informal discussion in honor of International Women’s Day. Reservations and information: 395-3221 or [wcenter@studaff.caltech.edu](mailto:wcenter@studaff.caltech.edu). Cosponsored by International Student Programs and the Women’s Center.

### Ballroom Dance Club

Winnett Lounge, 7:30 p.m.—West Coast swing lessons for those with some WCS experience. Open dancing follows the class. Fee: \$1 per person; free for freshmen, first-year grad students, and those taking the class for PE credit.

## Thursday, March 13

### Photoshop Class

NewMedia Classroom, 363 S. Hill Avenue, 10 a.m. to noon—A continuation of Tuesday’s class. Information: <http://muri.caltech.edu/nmc/index.htm>.

### Men’s Tennis

vs. University of Puget Sound, 3 p.m.

### Women’s Tennis

vs. University of Puget Sound, 3 p.m.

## Friday, March 14

### Women’s Club Welcoming Coffee

JPL, von Karman Auditorium, 9 to 10:30 a.m.—An opportunity to meet new friends, welcome newcomers, and learn more about the Caltech Women’s Club. Information: Carol Andersen, (818) 790-8175 or [carol@vis.caltech.edu](mailto:carol@vis.caltech.edu).

### Fire-Extinguisher Training

Wilson parking garage north, roof, 11 a.m.—This class will teach basic fire safety and hands-on training on how to use a fire extinguisher. Class size is limited; please call 395-6727 or e-mail [safety.training@caltech.edu](mailto:safety.training@caltech.edu) to reserve a place.

### Men’s Tennis

vs. Colorado College, noon.

### Women’s Tennis

vs. Colorado College, noon.

### Caltech Tai Chi Club

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

### The Importance of Being Earnest

Beckman Auditorium, 8 p.m.—Aquila Theatre Company presents the comedy by Oscar Wilde. (Contains mature themes suitable for high school and adult audiences.) Tickets and information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

## Saturday, March 15

### Men’s Tennis

vs. University of Mary Hardin-Baylor, 3 p.m.

### A Midsummer Night’s Dream

Beckman Auditorium, 8 p.m.—Aquila Theatre Company presents an imaginative interpretation of Shakespeare’s timeless comedy. Suggested for ages 12 and older. The Friends of Beckman Auditorium and subscribers are invited to attend a talk in Beckman Institute auditorium prior to the performance. Tickets and information: 395-4652, 1 (888) 2CALTECH, or [events@caltech.edu](mailto:events@caltech.edu). Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at [www.events.caltech.edu](http://www.events.caltech.edu).

## Sunday, March 16

### Amnesty International Book Discussion Group

Vroman’s Bookstore, 695 E. Colorado Boulevard, 2nd floor, 6:30 p.m.—This month’s book will be *A World Made New: Eleanor Roosevelt and the Universal Declaration of Human Rights*, by Mary Ann Glendon. All are welcome. Registered members of the group can buy the book at a discount from Vroman’s. Sponsored by Caltech/Pasadena AI Group 22. Visit Group 22 at [www.its.caltech.edu/~aigp22](http://www.its.caltech.edu/~aigp22).

## Monday, March 17

### 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, March 18

### Premiere Video Editing Class

NewMedia Classroom, 363 S. Hill Avenue, 10 a.m. to noon—Learn about digitizing video for use on your computer, including basic editing techniques, adding titles, and using effects and transitions. Output your final project to tape or to file. This two-day class will continue on Thursday. Fee: \$100. Registration: [carolynp@caltech.edu](mailto:carolynp@caltech.edu). Information: <http://muri.caltech.edu/nmc/index.htm>.

### 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](mailto: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](http://www.its.caltech.edu/~taichi).

## Wednesday, March 19

### 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 [icklavins@hotmail.com](mailto:icklavins@hotmail.com).

## Thursday, March 20

### Premiere Video Editing Class

NewMedia Classroom, 363 S. Hill Avenue, 10 a.m. to noon—A continuation of Tuesday’s class. Information: <http://muri.caltech.edu/nmc/index.htm>.

### Men’s Tennis

vs. University of Wisconsin–Oshkosh, 10:30 a.m.

## Friday, March 21

### Caltech Tai Chi Club

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

## Saturday, March 22

### Track and Field

Northridge Relays, at Cal State Northridge, 10 a.m.

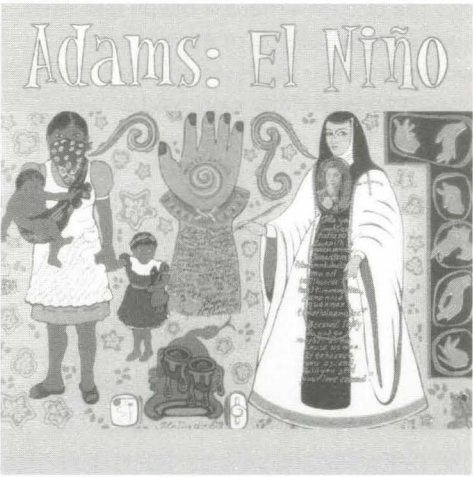
## Sunday, March 23

### Track and Field

Northridge Relays, at Cal State Northridge, 10 a.m.

### Women’s Tennis

at Brandeis University, Boston, 11 a.m.



## Creators of *El Niño* opera to speak

The Caltech community will have the opportunity to gain insights into the creative process that shaped an ambitious, multicultural retelling of the story of Jesus’ birth. Composer John Adams will join director Peter Sellars and conductor Esa-Pekka Salonen in Beckman Auditorium on Saturday, March 8, to present a discussion of Adams’s and Sellars’s *El Niño*. This free Voices of Vision talk will begin at 8 p.m.

For their version of the biblical tale, Adams and Sellars made the creative decision to draw not only from biblical texts, but from the writings of Latin American women, including the 17th century nun Sor Juana Inés de la Cruz.

Given the same name as the winters that sometimes storm in to California with violent gusts of wind and rain, which in turn were named for the boy-child who was born on Christmas Day, *El Niño* is Adams’s reflections on the Nativity and the miracle of birth itself in oratorio form, inspired by Handel’s *Messiah*. Opera lovers will welcome the Los Angeles Philharmonic’s production of *El Niño* at the Dorothy Chandler Pavilion on March 13.

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### Antarctica, from page 1

and "ice ridge BC" will be formally named the Engelhardt Ice Ridge.

Kamb, the Rawn Professor of Geology and Geophysics, Emeritus, is still actively studying the ice streams' rapid flow and its potential effects on the great ice sheet covering 98 percent of the continent. If the ice sheet were to float rapidly outward into the circum-Antarctic ocean and melt, such a huge volume of added water would raise the sea level and drastically impact coastal cities worldwide.

Engelhardt, a senior research associate in geophysics, emeritus, has collaborated with Kamb for years, undertaking a number of Antarctica expeditions to collect data by drilling boreholes in the ice and sending down temperature sensors, pressure gauges, video cameras, and other instruments.

In addition, two of Kamb's former students have received Antarctic namings. Ice ridge CD has been named the Raymond Ice Ridge after Charlie Raymond (PhD 1969), now at the University of Washington; and ice stream F is called the Echelmeyer Ice Stream after Keith Echelmeyer (PhD 1983) of the University of Alaska at Fairbanks.

Antarctica's ice streams move through the ice sheet in somewhat the way an ocean current moves through the sea. Most of the ice sheet flows a few meters a year, but in the places where ice streams form, the ice flow is roughly a hundred times faster—approximately one meter, or more than three feet per day. The ice streams are usually about 18 to 30 miles wide, 180 to 300 miles long, and up to a mile or more deep.

Why do they move so fast? "That's what we're trying to find out," says Kamb. After 10 years of study, the researchers have found the temperature at the ice streams' base to be at the melting point, whereas at the base of the ice sheet outside the ice streams, it's below freezing. The streams' basal melting condition allows water pressure to build up under the ice, which tends both to lift the ice mass above and to weaken the layer of glacial sediment ("till") underlying the streams.

Both of these effects can increase the ice streams' flow, propelled by gravity with the weakened till acting as a lubricant. The researchers believe an increase in basal water pressure should result in a marked increase in ice-stream flow, but so far it hasn't been possible to observe this expected effect in the actual ice streams. It is believed that friction at the lateral shear margins and at "sticky spots" under the ice prevents the velocity from getting out of control.

"The question is what will happen to the ice streams in the future," says Kamb.

"Will they cause a big enough effect on the flow of the ice sheet to contribute appreciably to future sea-level rise? The big issue as to the future behavior of the Antarctic ice sheet is whether it will cause global sea level to rise."

He and Engelhardt have made about a dozen National Science Foundation-funded trips during the Antarctic summer (October to January). The researchers, including Caltech graduate students and support staff from the McMurdo base, drill boreholes six inches wide down to the ice bottom, more than half a mile below. Some holes are used to take core samples, while others house equipment for gathering data.

Neither Kamb nor Engelhardt anticipates returning to Antarctica for the project, but the study is ongoing since their equipment, still in the boreholes, continues providing data.

### Ride, from page 1

Donnellan and Sara Graham and a Mars Exploration Rover project team. In addition, a number of Caltech groups will have exhibits at the street fair, featuring research on earthquakes and robotics and programs from the Center for Neuromorphic Systems Engineering and the Center for the Science and Engineering of Materials.

Parents, teachers, and other interested adults are welcome to attend the festival, and a track of adult workshops will be available. Students may also join the Sally Ride Science Club at the festival or online at a discounted rate.

Recently, as the nation learned about the *Columbia* space shuttle tragedy on February 1, Ride and others in space exploration were hit especially hard. After much consideration about whether to hold a science festival scheduled the following day at the University of Central Florida, she decided to continue as planned, believing it to be the best way to honor the astronauts' legacy. Ride said in a press release, "These brave men and women dedicated themselves to exploring and expanding our frontiers of knowledge. We will never forget them or their contributions."

Registration for the Los Angeles Science Festival is \$20 in advance or \$25 the day of the event, and includes the lunch, keynote session, workshops, and street fair. For more information or to register, visit [www.sallyridefestivals.com](http://www.sallyridefestivals.com) or call (800) 561-5161.

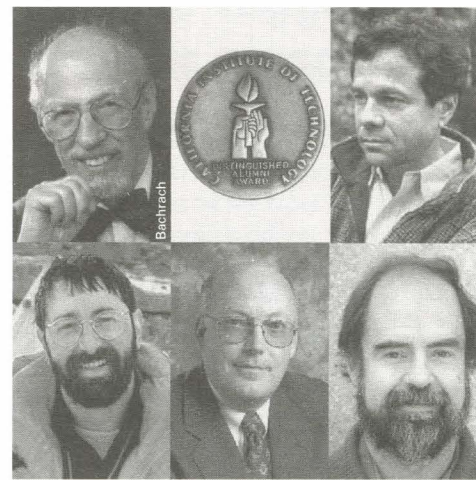
### Alumni, from page 1

the design and development of multiple-access computer systems. At MIT, where he received his PhD in 1956, he was involved with the Computation Center from its formation in 1956 until 1966, and he was a member of the team that founded MIT's Laboratory for Computer Science. Corbató was also instrumental in the development of MIT's Compatible Time-Sharing System. In 1969, Corbató and his colleagues used this technology to develop Multics, a computer system that became the basis of a commercial system offered by Honeywell Information Systems. Corbató's work in time-sharing systems has earned him numerous prizes and accolades. He is a member of the National Academy of Engineering and is a fellow of the American Academy of Arts and Sciences.

Michael W. Hunkapiller, the president of Applied Biosystems Group and the senior vice president of Applera Corporation, holds a 1974 PhD in chemical biology from Caltech. He was a pioneer in the development of automated systems for the analysis, synthesis, and purification of proteins, peptides, and nucleic acids. Used in more than 10,000 laboratories worldwide, these systems are a cornerstone of forensic DNA typing, and have been integral to biotechnology developments such as the Human Genome Project. He holds more than 20 U.S. patents covering these instruments and their associated chemistries.

James E. Gunn is project scientist and acting technical director of the Sloan Digital Sky Survey, a joint project of the University of Chicago, Fermilab, Johns Hopkins University, the Los Alamos National Laboratory, and other leading universities and institutes. Gunn graduated from Caltech in 1966 with a PhD in astronomy. He subsequently worked as a senior space scientist at JPL, and then spent a decade as an assistant professor and then full professor at Caltech. He was a MacArthur Fellow and received the Royal Astronomical Society's gold medal, among many other honors.

Alan Lightman received his PhD in theoretical physics at Caltech in 1974, and thereafter went to Harvard, where he taught astronomy and physics. By the 1980s, Lightman began writing about the human dimensions of science. His essays and reviews have been published in the *Atlantic*, the *New Yorker*, and *Harper's*. In 1989, he went to MIT with a joint appointment in physics and the humanities. His books include *Good Benito*, the best-selling *Einstein's Dreams*, and *The Diagnosis*. The latter was a finalist for the 2000 National Book Award in fiction, and in 1996, he won the American Institute of Physics' Gemant Prize for linking science



The recipients of the Caltech Distinguished Alumni Award are (counterclockwise, from top left): Fernando J. Corbató, BS, 1950; Michael C. Malin, PhD, 1976; Michael W. Hunkapiller, PhD, 1974; James E. Gunn, PhD, 1966; and Alan Lightman, PhD, 1974.

with the humanities. Lightman will return to Caltech in early April as a visiting writer with the Words Matter program.

The Mars Global Surveyor carries with it a bit of Michael C. Malin's ingenuity as it continues to orbit that planet. The Caltech alumnus received his PhD in planetary science and geology in 1976 and worked in JPL's earth and planetary science group until 1979. He is the principal investigator for the Mars Global Surveyor's orbiter camera and for the combined Mars Color Imager/Context Camera of the Mars Reconnaissance Orbiter, which is slated for launch in 2005. This is the latest in a long string of imaging jobs he has had with Mars-bound reconnaissance missions, which has included principal investigator posts with the Mars Observer Camera and the Mars Polar Lander Descent Imager. Malin received a MacArthur Fellowship in 1987 and the NASA Exceptional Scientific Achievement Medal in 2002. He is president and chief scientist of Malin Space Science Systems, Inc.

The 2003 honorees will receive the Distinguished Alumni Award during the Alumni Reunion Weekend and Seminar Day, scheduled to run from Thursday, May 15 through Saturday, May 17.

# Caltech 336

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