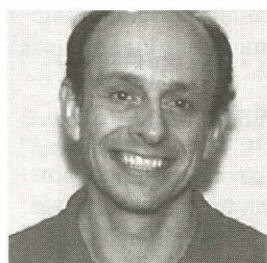


Caltech336

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

The campus community biweekly
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Quarky scientist wins Nobel Prize

Hugh David Politzer has won the 2004 Nobel Prize in physics for work he began as a graduate student on how the elementary particles known as quarks are bound together to form the protons and neutrons of atomic nuclei. The announcement was made on Tuesday by the Royal Swedish Academy of Sciences.

Politzer, a professor of theoretical physics at Caltech, shares the prize with David Gross and Frank Wilczek. The key discovery celebrated by today's prize was made in 1973, when Politzer, a Harvard University graduate student at the time, and two physicists working independently from Politzer at Princeton University—Gross and his graduate student Wilczek— theorized that quarks actually become bound more tightly the farther they get from each other.

This discovery has been known for 31 years as "asymptotic freedom," and is often described by physics professors to their students with the analogy of a rubber band increasing in tightness as it is pulled apart. Asymptotic freedom established quantum chromodynamics (QCD) as the correct theory of the

strong force, one of the four fundamental forces of nature.

Caltech president David Baltimore, himself a Nobel laureate, said he was pleased that another Caltech faculty member has joined the list of the Institute's Nobel recipients. "It's wonderful that David was acknowledged for something that was so far back in his career," Baltimore said. "It shows what young people can do if they think differently."

Politzer joined the Caltech faculty as a visiting associate in 1975, the year after finishing his Harvard PhD in physics and three years after publishing his work on asymptotic freedom. He earned tenure in 1976, became a full professor in 1979, and served as executive officer of the physics department from 1986 to 1988.

A native of New York City, Politzer earned his bachelor's degree from the University of Michigan in 1969. The paper that inaugurated his Nobel Prize-winning work, titled "Reliable Perturbative Results for Strong Interactions?," appeared in the journal *Physical Review Letters* in 1973 and was Politzer's first published article.

Politzer's initial foray into the public limelight came in 1989, when he was recruited to play physicist Robert Serber in the movie *Fat Man and Little Boy*, which recounted the story of the Manhattan Project and starred Paul Newman as the hard-driving

see Nobel, page 6

Shrek comes to Family Night

A fearsome but good-hearted green ogre will be a star attraction at this year's Caltech Family Night, the kickoff for the 2004 United Way campaign.

Approximately 2,000 people are expected at Family Night, to take place Friday, October 22, on the Beckman Mall. The event will include two screenings of the popular animated film *Shrek 2* in Beckman Auditorium. Admission stickers for the 4:15 p.m. show and wristbands for the 6:45 show will be available at stands at the mall's four corners. Featuring the voices of Mike Myers, Eddie Murphy, Cameron Diaz, and Julie Andrews, the movie is rated PG.

Many familiar Family Night traditions will return, including the pasta dinner, served from 5 to 7 p.m. (no tickets will be needed, as in past years); balloon sculptures; face painting; caricaturists; and displays from the Caltech Bookstore and of children's art. The evening is sponsored by Student Affairs, Human Resources, Institute Housing, Campus Life, and Public Events.

The two-week United Way campaign, which begins October 25, will raise funds

see Family Night, page 6

Annual Enrollment begins on Monday

Benefits Annual Enrollment begins this year on October 11 and extends to October 29th. One change that may please many is the return of the Blue Cross medical insurance plans. The Kaiser option will be offered as well.

Although costs for quality health care continue to skyrocket nationally, employees will see relatively small increases (ranging from no change to \$9 monthly) in the medical rates for the 2005 benefits year. Most deductibles and co-payments will not change from 2004.

Caltech will continue to offer the Delta Dental and Safeguard Dental plans, health-care spending accounts, long-term disability (LTD), and life and personal accident insurance. An enrollment packet containing the full details will be sent to all Caltech and JPL employees by mid-October.

The period for Annual Enrollment 2005 runs from October 11 to October 29, and during this time members may

see Benefits, page 6

Teaming up against gravity



Members of Caltech's incoming class of 2008 participate in a team-building exercise at the annual Frosh Camp orientation, held the week of September 19. Groups of eight students attempted to defy gravity by using their index fingers to lift a ring over their heads.

Einstein feted at Skirball, Caltech

The wild-haired scientist who is one of history's most famous—and who is, to some degree, one of Caltech's own—is the subject of a new local exhibition this fall and winter.

"Einstein," which showcases the physicist's life and work, has previously been on display at the American Museum of Natural History in New York, at the Field Museum in Chicago, and at the Museum of Science in Boston. It can now also be seen in Los Angeles in an unusual collaboration between the Institute, the Skirball Cultural Center, the Getty Trust, and USC. The exhibit opened at the Skirball on September 14, and includes materials from the Albert Einstein Archives, as well as a CD-ROM contributed by USC that documents the physicist's three terms at Caltech in the 1930s.

A special Caltech-JPL day at the Skirball will be held Saturday, November 13, with free admission for the first 150 campus community members who sign up (limit two tickets per Caltech-JPL ID), along with free bus transport. Tickets will be available beginning October 7 at the Caltech Ticket Office, 332 South Michigan

see Einstein, page 6



Ensure your vote is counted

After studying U.S. elections for four years, experts from Caltech and MIT say that American voters can take seven crucial steps to ensure that their votes are counted in the November 2 presidential election.

By following the steps, voters will help prevent the problems that arose in the 2000 presidential election, when as many as three million votes were lost due to voter registration mix-ups, two million additional votes perhaps were lost due to faulty voting equipment and confusing ballots, and another one million were likely lost as the result of polling-place problems.

The announcement is made as part of the ongoing Caltech-MIT Voting Technology Project, which was initiated in December 2000 by Caltech president David Baltimore and MIT president Charles Vest following the election fiasco of the

see Voting, page 6

NewsBriefs



Artist Lita Albuquerque is snapped while working on her installation south of Avery House. Part of Caltech's Tender Land festival contribution, the artwork *Stellar Mapping* will be formally unveiled, along with that of Michael McMillen, on October 9.

Personals

Welcome to Caltech

June

Clive Dickinson, postdoctoral scholar in astronomy.

August

Richard Blair, Caltech postdoctoral scholar in JPL's materials and device technologies group; **Tuyen Dang**, grant manager, chemistry and chemical engineering; **Marie Lara**, assignments coordinator, Campus Life; **Hui-Qiang Lou**, postdoctoral scholar in chemistry; **Jennifer Shotz**, development associate, Development and Alumni Relations; **Benjamin Williams**, welder, physics, mathematics and astronomy; **Zanxian Xia**, staff scientist, biology.

Mathieu Desbrun joined Caltech's faculty effective August 1 as an associate professor of computer science. Working on geometric computational modeling, with applications in computer graphics and mechanics, Desbrun has been recognized by the Association for Computing Machinery as an outstanding young researcher in his field. He received his PhD from the National Polytechnic Institute of Grenoble in 1997, and he had been a visiting associate at Caltech since 2000.

September

Swan Anderson, utility mechanic, Facilities Management; **Karen Baumgartner**, server, Dining Services; **Nicole Bell**, Sherman Fairchild Postdoctoral Scholar in Astrophysics; **Stephanie Berrocal**, department assistant, Housing; **James Bruckner**, Caltech postdoctoral scholar in JPL's science and technology development section; **Benjamin Brunner**, Caltech postdoctoral scholar in JPL's earth and space sciences division; **Kathryn Carey**, lifeguard, Athletics; **Ricardo Caro**, guest-relations coordinator, Athenaeum; **Joseph Carson**, Caltech postdoctoral scholar in JPL's astrophysics and space sciences section; **Fulvia Castelli**, postdoctoral scholar in psychology; **Alejandro Chacon**, assistant director, Development and Alumni Relations; **Gavin Chan**, research technician associate, biology; Tao Cheng, postdoctoral scholar in environmental science and engineering; **Andrew Childs**, Lee A. DuBridge Postdoctoral Scholar in Physics; **Celine Cornet**, Caltech postdoctoral scholar in JPL's multi-angle imaging element, flight science experiments section; postdoctoral scholars **Hugues de Riedmatten**, in physics, and **Vandana Desai**, in astronomy; **Alice Doyle**, grant manager, biology; **David Erickson**, postdoctoral scholar in electrical engineering; **Matvey Farber**, laboratory assistant, Space Radiation Laboratory; **Lin Feng**, postdoctoral scholar in chemistry; **Chris Gandhi**, postdoctoral scholar in chemistry and associate, Howard Hughes Medical Institute; **JM Geremia**, senior postdoctoral scholar in the Center for the Physics of Information; postdoctoral scholars **Chunling Gong**, in biology, **Thomas Greve**, in physics, **Hossam Haik**, in chemistry, and **Youngae Han**, in applied and computational mathematics; **Jamaul Harvey**, assistant equipment manager, and **Deborah Haywood**, lead building attendant, both in Athletics; **Derek Hodgson**, visitor in

biology; **Francois Houlard**, Citrus Bistro supervisor, Dining Services; **Ya-Ju Hsu**, postdoctoral scholar in geophysics; **Shuichi Kimata**, visitor in chemical engineering; **Armin Kleinboehl**, Caltech postdoctoral scholar in JPL's atmospheric chemistry research element; **Rouslan Kretchetnikov**, postdoctoral scholar in control and dynamical systems; **Michael Kukla**, data analyst, Student Affairs; postdoctoral scholars **Chao Li**, in geobiology, and **Dunia Lopez-Pintado**, in the Social and Information Sciences Laboratory; **Stojan Madzunkov**, Caltech postdoctoral scholar in JPL's space physics element; **Natalia Malkova**, postdoctoral scholar in biology; **Vuk Mandic**, Robert A. Millikan Postdoctoral Scholar in Physics; **Shaunt Mangioglou**, server, Athenaeum; **Timothy McHugh**, parking officer, Campus Security and Parking Services; **Kathryn Morgan**, administrative assistant in computer science; **Alshakim Nelson**, postdoctoral scholar in chemistry; **Ryan O'Connor**, card officer/business analyst, Student Affairs; postdoctoral scholars **Christopher O'Leary**, in anthropology, and **Christian Poelma**, in bioengineering; **Timur Pogodin**, research associate, biology; **Katie Polsky**, psychology intern, Counseling Center; **Xiang Qu**, postdoctoral scholar in biology; **Arturo Rizo**, parking officer, Campus Security and Parking Services; **Heidi Rolufs**, lab administrator, engineering and applied science; **Shane Ross**, visitor in control and dynamical systems; **Sara Salem**, assistant to the special events manager, Office of the President; **Laurent Selle**, postdoctoral scholar in aeronautics; **Masaki Shigemori**, Sherman Fairchild Postdoctoral Scholar in High Energy Physics; **Matthew Siegler**, research associate, geological and planetary sciences; **Joel Smith**, postdoctoral scholar in biology; **Kelly Smith**, administrative assistant, Development and Alumni Relations; **Liyu Su**, psychology intern, Counseling Center; **Chaitanya Swamy**, postdoctoral scholar in the Center for the Mathematics of Information; **Mary Thompson**, department assistant, materials science; **Mark Trojanowski**, assistant project manager, Architectural and Engineering Services; postdoctoral scholars **Gensheng Wang**, in physics, **Pawel Wocjan**, in computer science, and **Lin Xiao**, in the Center for the Mathematics of Information; **Masao Yanagawa**, visitor in chemistry; postdoctoral scholars **Tomohiro Yanao**, in control and dynamical systems, and **Jason Zan**, in JPL's science and technology development section.

New positions

Stephen Mayo, professor of biology and chemistry and associate investigator, Howard Hughes Medical Institute, has been appointed executive officer for biochemistry and molecular biophysics, effective September 1. A Caltech alum (PhD 1987), he joined the Institute as a senior research fellow in 1991, becoming assistant professor in 1992 and full professor in 2003.

Ares Rosakis, Theodore von Kármán Professor of Aeronautics and Mechanical Engineering, has been appointed director of the Graduate Aeronautical Laboratories, effective July 1. Rosakis received his PhD from Brown University in 1982 and joined Caltech that same year.

Erin Schuman, associate professor of biology, has been appointed professor of biology, effective August 1. She is also an associate investigator, Howard Hughes Medical Institute, and is the executive officer for neurobiology. Schuman received her PhD from Princeton University in 1990, and joined Caltech in 1993 as an assistant professor.

Retirements

Paul Roberts retired on September 17. A research technician in the Seismo Lab, he had worked at Caltech for 25 years.

Honors and awards

David Baltimore, president of Caltech and Nobel laureate, received an honorary doctor of science degree from Rockefeller University at its 40th commencement ceremony.

Seymour Benzer, Boswell Professor of Neuroscience, Emeritus, has been selected to receive the inaugural 2004 Neuroscience Prize of the Peter Gruber Foundation. Each year the foundation will present a gold medal and a \$200,000 cash award "to an outstanding scientist who has contributed to fundamental advances in the field of neuroscience." A Caltech professor since 1967, Benzer was named Boswell Professor in 1975.

Alexei Borodin, professor of mathematics, received the Prize of the Moscow Mathematical Society in 2003. He received his PhD from the University of Pennsylvania in 2001 and joined Caltech's faculty as professor in 2003.

Colin Camerer, Axline Professor of Business Economics, **Mani Chandy**, Ramo Professor and professor of computer science, **Alan Hájek**, associate professor of philosophy, **Kayoko Hirata**, lecturer in Japanese, and **Feng-Ying Ming**, lecturer in Chinese, were named in June as recipients of 2004 ASCIT (Associated Students of Caltech) Teaching Awards. Awards for teaching assistants went to grad students **Dave Goulet**, applied and computational mathematics, and **Mihai Stoiciu**, mathematics, and to undergraduate **Victor Tsai**, planetary science; Tsai graduated in June with his BS in geophysics.

Dining Services at Caltech won its third Grand Prize award in four years in the Standard Menu category, at the National Association of College and University Food Services convention last July in Las Vegas. The Catering Team achieved a perfect 10 in all categories. "We are extremely proud to win this award again this year," says Director of Dining Services **André Mallié**. Accepting the award on behalf of Dining Services were **Jaime Reyes**, catering manager, and **Mabel Wong**, technology manager.

Alan Hájek, a Caltech associate professor of philosophy who this past summer took a senior position with the Research School of Social Sciences at the Australian National University, won the American Philosophical Association Article Prize, 2004, for "the best article published in the previous two years." He received the prize for his article "What Conditional Probability Could Not Be," published in *Synthese* in December 2003.

Ali Hajimiri, associate professor of electrical engineering, has been named to the 2004 list of the world's 100 Top Young Innovators by MIT's *Technology Review*. Nominees are recognized for their contributions in transforming the nature of technology and business in industries such as biotechnology, medicine, computing, and nanotechnology. Hajimiri received his PhD from Stanford in 1998, joining Caltech that same year as an assistant professor. He was appointed associate professor last year.

Babak Hassibi, associate professor of electrical engineering, has received a Presidential Early Career Award for Scientists and Engineers for his "fundamental contributions to the theory and design of data transmission and reception schemes." The award "recognizes outstanding young scientists and engineers who, early in their careers, show exceptional potential for leadership at the frontiers of knowledge," and provides five years of grant support. Hassibi received his PhD from Stanford in 1996 and joined Caltech in 2001.

Leroy Hood, visiting associate in biology, became the sixth recipient of the annual Biotechnology Heritage Award at the BIO 2004 Annual International Convention, held June 6-9 in San Francisco. The cofounder and president of the Institute for Systems Biology, as well as the cofounder of Amgen, Applied Biosystems, and other biotechnology companies, Hood received his BS from Caltech in 1960 and his PhD in 1968.

Vadim Kaloshin, associate professor of mathematics, received the Prize of the Moscow Mathematical Society in 2002. He received his BA from Moscow State University in 1994 and his PhD from Princeton University in 2001. He joined Caltech's faculty as associate professor in 2002.

Ken Libbrecht, professor of and executive officer for physics, has received a 2004 Benjamin Franklin Award for his book *The Snowflake: Winter's Secret Beauty*. The awards recognize excellence in independent publishing, and Libbrecht's book was honored in the Science/Environment category. Libbrecht received his BS from Caltech in 1980 and his PhD from Princeton in 1984, the same year he joined Caltech as an assistant professor of astrophysics. He has been professor since 1995 and executive officer since 1997.

Michael Ortiz has been named the Dotty and Dick Hayman Professor of Aeronautics and Mechanical Engineering, effective July 1; this title replaces that of professor of aeronautics and mechanical engineering. He came to Caltech in 1994 as a Sherman Fairchild Distinguished Scholar and joined the faculty as a professor the next year. A graduate of Polytechnic University of Madrid, he received his PhD from UC Berkeley in 1982.

see Honors, page 5

Caltech's crème de la crème

With average SAT scores of 1500, Caltech undergrads continue to rank among the nation's best. And among this elite group, some manage to distinguish themselves yet further through outstanding scholastic achievement, research, and faculty recommendations.

The Faculty Scholarships and Financial Aid Committee is pleased to present 50 such students with the 2004-05 Upperclass Merit Awards. Funded by generous contributions from donors, the Carnation Scholarships (made possible by the Stuart Foundation), Caltech Upperclass Merit Awards (endowed by Lew and Edie Wasserman), John Stauffer Scholarship (for chemistry/chemical engineering majors), and the Rosalind W. Alcott Awards total more than \$1 million.

Congratulations to these students, who will receive stipends ranging from three-quarters tuition to full tuition plus room and board for the academic year.

Carnation Scholarships

Vincent Auyeung
Arjun Bansal
Adam D'Angelo
Wei Lien Dang
Mithun Diwakar
Christopher Franco
Yiyang Gong
Viviana Gradinaru
ChongQin Guo
Judith Hubbard
Patrick Hummel
Matthew Johnston
Daniel Koslover
Tony Lee
Jeremy Leibs
Jennifer Li
Binghai Ling
Marin Markov
Clare Moynihan
Timothy Nguyen
Karin Oberg
Yingkai Ouyang
Weronika Patena
Yan Qi
Joan Karen Sum Ping
Tom Sze
Neil Tiwari
Jing Xiong
Mehmet Yenmez

Caltech Upperclass Merit Awards

Pavel Batrachenko
Brant Carlson
Elena Fabrikant
Jenny Fisher
Lisa Fukui
Joseph Gonzalez
Lea Hildebrandt
Dorota Korta
EthelMae "Vicki" Loewer
Po-Ru Loh
Galen Loram
Ryan Olf
Laura Pruitt
Brian Underwood
Joe Wasem
Trevor Wilson
Phillip Zukin

John Stauffer Scholarship

Xiao Peng

Rosalind W. Alcott Awards

Christina Dwyer
Christopher McClendon
Bin Wu

October 11–24, 2004

Monday Tuesday Wednesday Thursday Friday Saturday Sunday

Monday, October 11

Geological and Planetary Sciences Seminar

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Magma Source Regions and Mantle Flow Patterns Beneath Island Arcs and Back Arc Basins,” Professor Douglas Wiens, Earth and Planetary Sciences, Washington University in St. Louis.

Inorganic-Electrochemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Phosphorescent d10 and d8 Complexes: Fundamentals and Potential Optoelectronic Applications,” Mohammad Omary, assistant professor of chemistry, University of North Texas.

Applied Mathematics Colloquium

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4:15 p.m.—“Astronomical Data Analysis by Multiscale Methods,” Jean-Luc Starck, research fellow, department of astrophysics, Center for Research on Nuclear Energy, Saclay, France.

Tuesday, October 12

Computer Science Faculty Research Lecture Series

74 Jorgensen, noon—“Internet Protocols,” Steven Low, associate professor of computer science and electrical engineering, Caltech. Refreshments.

Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—“Galactic Disks,” Professor Ken Freeman, Mount Stromlo Observatory, Australian National University. Refreshments.

Chemical Physics Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Photoexcitation of Molecules Imbedded in Helium,” Curt Wittig, Miller Chair in Letters, Arts and Sciences, and professor of chemistry, USC.

Empirics Seminar Series

25 Baxter, 4 p.m.—“Racism and Redistribution: A Solution to the Problem of American Exceptionalism,” John Roemer, Varick Professor of Political Science and Economics, Yale.

General Biology Seminar

119 Kerckhoff, 4 p.m.—“Modeling the Structures of Proteins and Macromolecular Assemblies,” Andrej Sali, department of pharmaceutical chemistry and California Institute for Quantitative Biomedical Research, UC San Francisco.

High Energy Physics Seminar

248 Lauritsen, 4 p.m.—“Run II New Phenomena at DO,” Yuri Gershtein, research associate in physics, Brown University.

Wednesday, October 13

Caltech Library System Presents: Web of Knowledge

Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—Learn to use the Caltech Library System’s powerful new tool, the Web of Knowledge. Information: <http://library.caltech.edu/learning/default.htm>.

Astronomy Colloquium

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Updates on Extrasolar Planet Detections,” Debra Fischer, professor of astronomy, San Francisco State University. Information: www.astro.caltech.edu/~gma/colloquia.html.

Organic Chemistry Seminar

153 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Organic Synthesis as a Tool to Address Biological Problems,” Professor Kazunori Koide, department of chemistry, University of Pittsburgh.

Earnest C. Watson Lecture Series

Beckman Auditorium, 8 p.m.—“Running Out of Gas,” David Goodstein, professor of physics and applied physics, Gilloon Distinguished Teaching and Service Professor, and vice provost, Caltech. 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.

Thursday, October 14

Caltech Library System Presents: Web of Knowledge

Sherman Fairchild Library, multimedia conference room, 2 to 3:30 p.m.—Learn to use the Caltech Library System’s powerful new tool, the Web of Knowledge. Information: <http://library.caltech.edu/learning/default.htm>.

Physics Research Conference

201 E. Bridge, 4 p.m.—“Mesoscopic Magnetic Imaging,” Kathryn Moler, associate professor of applied physics, Stanford University. Refreshments, 114 E. Bridge, 3:45 p.m.

Von Karman Lecture Series

JPL, von Karman Auditorium, 7 p.m.—“Mars Reconnaissance Orbiter: An Unprecedented Look at Mars,” Dr. Jim Graf, Mars Reconnaissance Orbiter Project Manager, JPL. Admission is free. Information: www.jpl.nasa.gov/lecture.

Friday, October 15

High Energy Theory Seminar

469 Lauritsen, 11 a.m.—“Evidence for the Strongest Version of the 4d a-Theorem, via a-Maximization Along RG Flows,” Ken Intriligator, professor of physics, UC San Diego. Information: www.theory.caltech.edu/people/seminar/schedule.html.

Inorganic-Organometallics Seminar

151 Crellin, 4 p.m.—“Direct Measurement of Propagation Rate Constants for Zirconocene Catalyzed Alkene Polymerization,” Sara Klamo, 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.—“Mars Reconnaissance Orbiter: An Unprecedented Look at Mars,” Dr. Jim Graf, Mars Reconnaissance Orbiter Project Manager, JPL. Admission is free. Information: www.jpl.nasa.gov/lecture.

Saturday, October 16

SURF Seminar Day

Winnett quad, 9 a.m. to 5 p.m.—SURF students give oral or poster presentations of their summer research projects at this annual event. Information: Student-Faculty Programs Office, 395-2886 or sfp@caltech.edu.

Monday, October 18

Center for Neuromorphic Systems Engineering Seminar

24 Beckman Labs, 4 p.m.—Topic to be announced. Keir Pearson, department of physiology, University of Alberta.

Geological and Planetary Sciences Seminar

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“From CAIs to Spinach: Insights from Mg Isotopes,” Albert Galy, lecturer, University of Cambridge.

High Energy Physics Seminar

469 Lauritsen, 4 p.m.—Topic to be announced. Dan Pirjol, MIT. Information: www.theory.caltech.edu/people/carol/seminar.html.

Inorganic-Electrochemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Small Molecule Activation at Transition Metal and Uranium Centers in New Trigonal Coordination Environments,” Karsten Meyer, assistant professor of chemistry, UC San Diego.

Applied Mathematics Colloquium

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4:15 p.m.—“Weak Lacunae of Electromagnetic Waves in Dilute Plasma,” Professor Semyon Tsynkov, department of mathematics, North Carolina State University.

Tuesday, October 19

Beckman Institute Seminar Series

Beckman Institute Auditorium, 10:30 a.m. to noon—“Identifying Protein Kinase Substrates by Mass Spectrometry,” Yong Chi, Institute for Systems Biology, Seattle. Refreshments, 10 a.m. Information: 395-2791.

Computer Science Research Lecture

74 Jorgensen, noon—“Team Caltech and the DARPA Grand Challenge: Software and Strategies for Autonomous Navigation,” Ben Brantley, lecturer in computer science, Caltech. Refreshments.

Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—“Globular Clusters Formed in Gas-Rich Galaxy Mergers: Implications for the Formation of Giant Early-Type Galaxies,” Paul Goudfrooij, Space Telescope Science Institute. Refreshments.

Chemical Physics Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Fluoropolymers for Use in Next Generation Photolithography, Soft Lithography, Microfluidics, and Proton Exchange Membranes,” Joseph M. DeSimone, Kenan Distinguished Professor of Chemistry and Chemical Engineering, University of North Carolina at Chapel Hill.

General Biology Seminar

119 Kerckhoff, 4 p.m.—“Mitochondrial Behavior,” Jodi Nunnari, associate professor of molecular and cellular biology, UC Davis.

High Energy Physics Seminar

248 Lauritsen, 4 p.m.—“Top Physics at CDF and DO,” Charles Pager, postdoctoral researcher in physics, UCLA.

Wednesday, October 20

Environmental Science and Engineering Seminar

142 Keck, 3:40 to 5 p.m.—“Advective Transport Processes in Sediments and Effects on the Biogeochemistry,” Wiebke Ziebis, assistant professor of marine environmental biology, USC. Information: www.esse.caltech.edu/seminars/index.html.

Astronomy Colloquium

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—Topic to be announced. Professor Ray Carlberg, Canadian Institute of Theoretical Astrophysics, University of Toronto. Information: www.astro.caltech.edu/~gma/colloquia.html.

Information Science and Technology Seminar

080 Moore, 4 p.m.—“How to Compute the Volume?”, Professor Santosh Vempala, department of mathematics, MIT. Based on joint work with L. Lovasz, Microsoft Research.

Organic Chemistry Seminar

153 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Catalytic Asymmetric Cyclization Reactions for Natural Product Synthesis,” Professor Dan Yang, department of chemistry, University of Hong Kong.

Thursday, October 21

Physics Research Conference

201 E. Bridge, 4 p.m.—“Cosmic Superstrings,” Joseph Polchinski, professor of physics, UC Santa Barbara. Refreshments, 114 E. Bridge, 3:45 p.m.

Friday, October 22

High Energy Theory Seminar

469 Lauritsen, 11 a.m.—Topic to be announced. Pascal Grange, Ecole Polytechnique, Paris. Information: www.theory.caltech.edu/people/seminar/schedule.html.

Inorganic-Organometallics Seminar

151 Crellin, 4 p.m.—“Electron Tunneling Wires for Studying Biocatalysis,” Stephen Contakes, postdoctoral scholar in chemistry, Caltech.

Kellogg Seminar

Lauritsen Library, 4 p.m.—“Evidence for a Distorted Spectrum for K2K,” Michael Smy, UC Irvine.

CampusEvents

Monday, October 11

Credit Union Closure

All branches of the Caltech Employees Federal Credit Union will be closed for staff training.

Standard First-Aid / CPR / AED

Brown Gym classroom, 7:30 a.m. to 5 p.m.—Standard first-aid, cardiopulmonary resuscitation (CPR), and automatic external defibrillator (AED) 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.

MentorNet

Caltech Women's Center, noon—Learn about MentorNet, a program that provides one-on-one mentoring by pairing engineering and science undergraduate and graduate students with industry professionals or faculty in their field. Lunch will be provided. Registration: emery@studaff.caltech.edu.

East Coast Swing Class

Winnett lounge, 7:30 p.m.—Learn East Coast swing with a professional instructor. This is the second class in a five-week series. Fee: Caltech students, \$6 per class; others, \$8 per class. No partner or experience is required.

Tuesday, October 12

Adult, Child, and Infant First-Aid and CPR Training

Brown Gym classroom, 7:30 a.m. to noon—Adult, child, and infant first-aid and CPR training will be 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 Thursday, October 14. Registration: 395-6727 or safety.training@caltech.edu.

Amnesty International Letter Writing

Athenaeum Rathskeller, 7:30 to 9 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. Visit our website at www.its.caltech.edu/~aigp22.

Volleyball

vs. Life Pacific, 7:30 p.m.

Wednesday, October 13

CPR/AED Recertification

Brown Gym classroom, 7 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. Registration: 395-6727 or safety.training@caltech.edu.

Cross Country

NCAA Regionals, at Prado Park, Chino, 9 a.m.

Fall Career Fair

Bechtel Mall, 10:30 a.m. to 2:30 p.m.—An informal opportunity for students of all levels as well as postdocs to gather company information, speak with company representatives, and drop off their résumés.

Men's Soccer

vs. University of La Verne, 4 p.m.

Thursday, October 14

Film and Presentation: Votes for Women

Caltech Women's Center, noon—The film *Votes for Women* chronicles the 72-year-long struggle for the right of women to vote. Sharon Mullenix, president of the Pasadena League of Women Voters, will be on hand to discuss the important role of female voters in the upcoming presidential election. Pizza and drinks will be provided.

Friday, October 15

Weird Nature: Devious Defenses

Beckman Auditorium, 10 a.m.—A school-day presentation for school groups in grades 3 to 12. A discussion after the screening will be led by Kjerstin Easton, electrical engineering department, Caltech. Information: 395-6059. Seating is unreserved and costs \$5.

Cross Country

SCIAC Multi-Duals, at La Mirada Park, 4 p.m.

Saturday, October 16

Caltech/MIT Enterprise Forum

Baxter Lecture Hall, 8 a.m. to noon—The Caltech/MIT Enterprise Forum will kick off the 2004–05 academic year with a program directed to the needs of people who have developed expertise and a vision for leading-edge technology, and who want to become entrepreneurs. "From Techie to Tycoon" will feature a panel of entrepreneurs who became involved with companies that were little more than a gleam in the eye when they started out. Information: www.entforum.caltech.edu.

Men's Soccer

at Cal Lutheran University, 11 a.m.

Inti-Illimani: Music of the Andes

Beckman Auditorium, 8 p.m.—Inti-Illimani's music has traditional Latin American roots and is played on more than 30 wind, string, and percussion instruments. Their synthesis of instrumentals and vocals weaves an extraordinary cultural mural. (See Public Events contact information on this page.)

Sunday, October 17

Amnesty International Book Discussion Group

Vroman's Bookstore, 695 E. Colorado Boulevard, second floor, 6:30 p.m.—This month's book is *The Dark Bride*, by the Colombian author Laura Restrepo. All are welcome. Sponsored by Caltech/Pasadena AI Group 22. Visit Group 22 at www.its.caltech.edu/~aigp22.

Monday, October 18

East Coast Swing Class

Winnett lounge, 7:30 p.m.—Learn East Coast swing with a professional instructor. This is the third class in a five-week series. Fee: Caltech students, \$6 per class; others, \$8 per class. No partner or experience required.

Tuesday, October 19

Creating Engaging Presentations with Ease

Brown Gym classroom, 8:30 a.m. to 4:30 p.m.—This one-day workshop, for supervisors and nonsupervisors, will provide the structure for developing and delivering interesting, engaging presentations. Information: http://cit.hr.caltech.edu/Education/super&non_super/presentations.htm.

Volleyball

vs. West Coast Baptist College, 5 p.m.

International Women's Self-Defense Workshop

Caltech Women's Center, 7 p.m.—This workshop will introduce cultural differences in communication styles as well as strategies for presenting yourself and your feelings more assertively. Registration: wcenter@studaff.caltech.edu.

Volleyball

vs. La Sierra University, 7 p.m.

Wednesday, October 20

Men's Soccer

vs. Whittier College, 4 p.m.

Thursday, October 21

Voices of Vision Series: Bob Schieffer

Beckman Auditorium, 8 p.m.—Bob Schieffer, chief Washington correspondent for CBS News and anchor and moderator of *Face the Nation*, will talk about his recent memoir, *Face the Nation: My Favorite Stories from the First 50 Years of the Award-Winning News Broadcast*. A book signing will immediately follow the talk. Admission is free. (See Public Events contact information on this page.)

Friday, October 22

Volleyball

vs. Claremont-Mudd-Scripps, 7:30 p.m.

Saturday, October 23

Men's Soccer

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

Belly-Dancing Classes

Braun Gym, multipurpose room, 12:45 p.m.—Learn to belly dance with Leela, a popular performer and instructor. Fee for trial class: \$5 for Caltech students, \$8 for others. Fee for full 8-week series: \$20 for Caltech students, \$50 for other Caltech community members.

A Woman's Best Defense

Caltech Women's Center, 1 to 5 p.m.—One in every three women in Los Angeles County will be assaulted in her lifetime. This is a frightening statistic, but each woman has the power to decrease her chances of becoming a victim of violent crime. This introductory workshop features skills for avoidance, deterrence, and resistance of physical and verbal assault. Registration: wcenter@studaff.caltech.edu.

Swimming and Diving

vs. Soka University and Whittier College, 4 p.m.

Volleyball

vs. California Lutheran University, 7:30 p.m.

Lúnasa

Beckman Auditorium, 8 p.m.—The members of Lúnasa redefine Irish music by teaming upright acoustic bass with percussive guitar to seek out the essential heartbeat of a tune. The result is a sound that, though distinctly Irish in flavor, touches on jazz and other improvisational music forms. (See Public Events contact information on this page.)

Sunday, October 24

Men's Self-Defense

Caltech Women's Center, 1 to 5 p.m.—This training offers participants the opportunity to deliver full-force, knock-out blows to a padded assailant in lifelike physical scenarios. Explore the meaning of body language and ego management. Verbal techniques in de-escalating a dangerous situation are also extensively covered. Registration: wcenter@studaff.caltech.edu.

Skeptics Society Lecture

Baxter Lecture Hall, 2 p.m.—"Why We Lie: The Evolutionary Roots of Deception and the Unconscious Mind," Dr. David Livingstone Smith, philosopher and evolutionary psychologist. Donation is \$8 for nonmembers and non-Caltech students. Free to the Caltech/JPL community. Tickets and information 794-3119 or skepticmag@aol.com. A book signing will follow the lecture.

Ongoing events

Tuesdays

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: 584-0970 or kimdeman@yahoo.com.

Caltech Shorinji Kempo Club

Brown Gymnasium, 7 p.m.—Learn effective self-defense and martial arts. Sessions are free. No experience required. Wear comfortable clothing.

Caltech Tai Chi Club

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

Wednesdays

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. Stop by and make new friends from around the world. Information: 793-2535 or nancyhewett@earthlink.net.

Thursdays

Caltech Shorinji Kempo Club

Brown Gymnasium, 7 p.m.—Learn effective self-defense and martial arts. Sessions are free. No experience required. Wear comfortable clothing.

Fridays

Caltech Tai Chi Club

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

Caltech Chess Club

Page House dining room, 8 p.m.—Be you master or novice, you will enjoy the chess club's weekly meetings. Information: <http://www.its.caltech.edu/~citchess>.

Sundays

Caltech Shorinji Kempo

Braun Athletic Center, aerobics room, 3:30 p.m.—Learn effective self-defense and martial arts. Sessions are free. No experience required. Wear comfortable clothing.

Public Events information and tickets

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.

Honors, from page 2

Robert Phillips, professor of mechanical engineering and applied physics, has been named by the National Institutes of Health (NIH) as one of nine recipients of the first annual Director's Pioneer Award. The award will provide Phillips, an authority on the nanoscale mechanics of biological systems, with \$2.5 million for the next five years as part of the NIH's new "Roadmap for Medical Research" program. He received his PhD from Washington University in 1989, joining Caltech as professor of mechanical engineering in 2000.

Thomas Phillips has been named the Altair Professor of Physics, effective July 1; this title replaces that of professor of physics. He continues as director of the Caltech Submillimeter Observatory. Phillips received his doctorate from the University of Oxford in 1964, and joined Caltech as professor of physics in 1979.

Ares Rosakis has been named the Theodore von Kármán Professor of Aeronautics and Mechanical Engineering, effective July 1; this title replaces that of professor of aeronautics and mechanical engineering. A graduate of the University of Oxford, he received his PhD from Brown University in 1982, joining Caltech's faculty that same year. Rosakis is also director of the Graduate Aeronautical Laboratories.

Anneila Sargent has been named the Benjamin M. Rosen Professor of Astronomy, effective July 1; this title replaces that of professor of astronomy. She continues as director of the Owens Valley Radio Observatory. A graduate of the University of Edinburgh who received her PhD from Caltech in 1977, Sargent has served as a member of the Institute's research faculty or professional staff ever since, being appointed professor in 1998 and director of the Owens Valley Radio Observatory that same year. She served as director of the Interferometry Science Center from 2000 to 2003.

John Schwarz, Brown Professor of Theoretical Physics, was selected to deliver the keynote speech for the opening ceremony of the Center for Mathematics and Theoretical Physics at the Shanghai Institute for Advanced Studies (administered by the University of Science and Technology of China), which took place July 30–31; the honor included the granting of an honorary professorship. Schwarz received his AB from Harvard in 1962 and his PhD from UC Berkeley in 1966. He joined Caltech as a research associate in 1972, becoming professor in 1985.

Mark Simons, associate professor of geophysics, has received a Presidential Early Career Award for Scientists and Engineers for his work in connection with the National Aeronautics and Space Administration. The award "recognizes outstanding young scientists and engineers who, early in their careers, show exceptional potential for leadership at the frontiers of knowledge," and provides five years of grant support. Simons received his PhD from MIT in 1995 and joined Caltech in 1997.

Brian Stoltz, assistant professor of chemistry, has received a Presidential Early Career Award for Scientists and Engineers for his "creative new research in synthetic organic chemistry." The award "recognizes outstanding young scientists and engineers who, early in their careers, show exceptional potential for leadership at the frontiers of knowledge," and provides five years of grant support. Stoltz received his PhD from Yale in 1997 and joined Caltech in 2000.

Kip Thorne, Feynman Professor of Theoretical Physics, was named in June as recipient of the 2004 GSC (Graduate Student Council) Mentoring Award. **Wilhelm Schlag**, professor of mathematics, received the Teaching Award. The award for teaching assistant went to **Francesco Ciucci**, a graduate student in mechanical engineering.

Paul Wennberg has been named the R. Stanton Avery Professor of Atmospheric Chemistry and Environmental Science and Engineering, effective July 1; this title replaces that of professor of atmospheric chemistry and environmental science and engineering. He received his PhD from Harvard in 1994 and joined Caltech as associate professor in 1998, becoming full professor in 2001.

Theodore Yao-Tsu Wu, professor of engineering science, emeritus, was awarded the American Society of Civil Engineers' 2004 Theodore von Kármán Medal on June 15 at the annual Engineering Mechanics Division Conference. He also received the American Society of Mechanical Engineers' 2004 Lifetime Achievement Award on June 22 at the International Conference on Offshore Mechanics and Arctic Engineering. A Caltech graduate (PhD '52), Wu joined Caltech as a research fellow that same year, becoming assistant professor in 1955, full professor in 1961, and emeritus in 1996.

Emergency response course open to staff

An intensive first-responder course that will train people who provide emergency first aid for the sick and injured is open for the first time to the Caltech community.

"It is being offered through Staff Education but is open to students, faculty, and staff," says Gregg Henderson, chief of campus security. The 10-week course will instruct participants in triage and special rescue situations, anatomy, and CPR, among other rescue-related topics.

First responders do not replace paramedics but are trained to respond to major catastrophes that may delay the arrival of paramedics or other emergency response professionals. They learn to assess injuries, stabilize a victim's vital functions, and relay that information to emergency professionals.

The rigorous course contains both a written and practical final exam and will be taught by Mark Stapf, an American Red Cross instructor and the coordinator of the Health Advocate Program for undergraduates.

Students will meet twice a week for a total of 60 hours and will be tested in scenarios like safely extracting an accident victim from a vehicle and dealing with disaster situations. Those who successfully complete the class will receive American Red Cross First Responder Certificates.

A group of campus security officers and resident associates took a similar course earlier this year, and Henderson adds that several more security officers are interested in signing up. Plans are in the works to offer the first-responder course twice a year.

Those interested may view the course description and schedule online at http://cit.hr.caltech.edu/Education/super&non_super/first_responder.htm.

Website to help fill college jobs

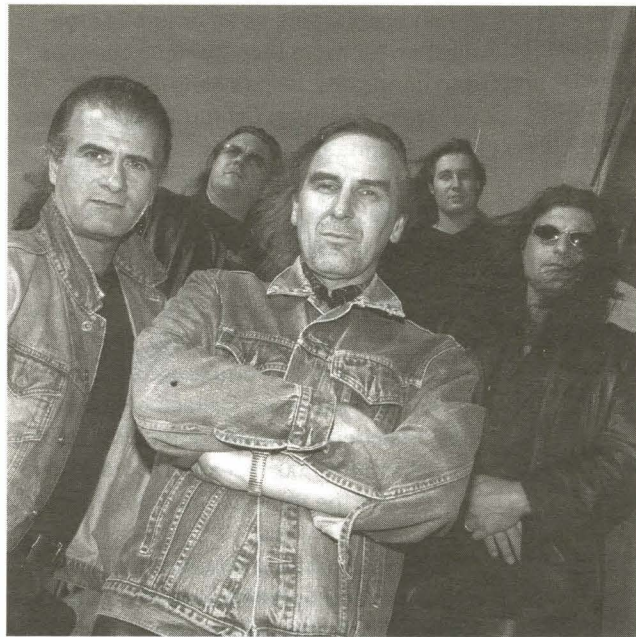
Colleges and universities in Southern California expect to hire more than 50,000 new employees in the next five years, and a new website officially launched this week at UCLA will make it easier for job seekers to find those jobs.

The Southern California Higher Education Recruitment Consortium (HERC), an association of 23 public and private colleges and universities in Southern California, including Caltech, is sponsoring the first higher education employment website in the region, at www.socalherc.org.

The site gives job seekers access to centralized information about thousands of faculty and staff positions at HERC colleges and universities. Previously, job seekers had to visit the websites of each college and university to search for employment opportunities. Currently there are about 1,500 jobs listed on the site.

"Higher education is a significant economic force in Southern California," says UCLA Chancellor Albert Carnesale. "HERC member campuses have a combined overall budget estimated at over \$10.6 billion, and they employ close to 80,000 faculty, staff, administrative, and executive employees.

"In the next five years, HERC member campuses expect to hire more than 50,000 employees to continue to fulfill our shared mission of educating young people, advancing society through scientific and technological innovation, and



The Swiss hard-rock band Krokus.

German films make a comeback

Foreign film fans in the campus community will hail the return of the popular German-language movie series after a hiatus.

According to sponsor Andreas Aebi, a Caltech lecturer in German, newly installed digital projection equipment in Baxter Lecture Hall, courtesy of "a very generous grant" from the Moore-Hufstedler Fund, is enabling the series to return. All the films have English subtitles and will screen on Friday evenings at 7:30 p.m., followed by a reception in Baxter lounge.

The series will kick off October 15 with *Krokus* (2004, Switzerland)—a documentary on the Swiss hard-rock band of the same name, and the group's successes and failures in the United States—and a guest appearance by the film's producer and director, Reto Caduff, who will introduce and discuss it.

Other films scheduled for this term are *Die Schweizermacher* (*The Swissmakers*, 1978, Switzerland) on November 5 and *Paul and Paula* (1973, East Germany). *The Swissmakers*, which according to Aebi is "the most successful Swiss film of all time," is a satire that follows several candidates who aspire to become Swiss citizens, and the judging process that determines their worthiness of this exclusive honor. Aebi describes *Paul and Paula* as "a romantic and ironic view of love with a plea for individual freedom" that despite a governmental ban became one of the country's most popular films.

For more information, e-mail aebi@hss.caltech.edu.

developing responses to social problems in a rapidly changing world," Carnesale adds. "In the next 10 years, Southern California HERC campuses will hire over 100,000 new employees."

HERC members include University of California and California community college campuses, and private colleges and universities. Participating campuses are in areas south of Monterey County, from Santa Barbara in the north to San Diego in the south, and as far east as Palm Desert.

Dlorah Gonzales, director of the employment office at Caltech, says that job seekers often overlook universities. "Many people don't think of colleges and universities when they are looking for a job. We're hoping this online service gives them new options in their search for a new job or a whole new career," Gonzales says.

The full text of this article may be viewed online at <http://pr.caltech.edu/media/>.

New, improved Chandler to emerge

Chandler Dining Hall will begin undergoing construction on Monday, October 11, in anticipation of renovations in the South Houses. According to André Mallié, director of dining services, the first phase of construction will be a covered extension of the north end of the dining room and serving area. During this phase, the glass wall and doors on the dining room's north side will be boarded up for safety reasons, but Chandler will continue its normal hours and service.

Phase one is estimated to be completed by mid-February, at which time Chandler will close for eight to ten weeks for renovation of the entire serving area and dining room. "We apologize for the inconvenience the renovation may cause," Mallié wrote in an e-mail to the campus community, but added that Dining Services will notify the campus community of dining alternatives prior to phase two, and that he is confident people will enjoy the resulting "new Chandler atmosphere, additional seating, and new culinary options."

News extras

Lewis memorial change

For those planning to attend the October 25 memorial for Ed Lewis, please note that the site has changed from Ramo Auditorium to Beckman Auditorium. The memorial is still scheduled to begin at 2 p.m.

Flu clinic returns

The Student Health Center and Human Resources will once again provide free flu shots for campus community members with valid Caltech ID on Wednesday, October 27, from 8:30 a.m. to 4 p.m. in the Winnett lounge. In addition, students who signed up for the meningitis vaccine will get it that day. The cost is \$80 and is payable by cash, check, or student account charge. For more information, call ext. 6393 or visit www.healthcenter.caltech.edu.

Borders honors educators

October 8 to 10 is Educator Appreciation Weekend at Borders. Bring an ID, pay stub, or other proof of educator status to receive 25 percent off most books and other store items, as well as 50 percent off food and beverages in the café. The Pasadena store is at 475 South Lake Avenue.

Nobel, from page 1

project leader, General Leslie Groves. The director of the film, Roland Joffé, had been recruiting career physicists to play some of the roles, and he settled on Politzer, whose academic specialty was quite similar to that of the man he would play.

Politzer, who did not even own a television, later told a reporter from Caltech's publication *On Campus* that he had been reluctant to take the part, but had relented after Joffé convinced him that the "role would not require too much in the way of time or talent." During his two weeks on the set, Politzer warmed up to the project and began discussing nuclear-defense policy with Paul Newman, with whom he shared a memorable dinner of spaghetti and salad—the latter dressed with "Newman's Own," of course.

The latest award brings to 31 the total number of Nobel Prizes won by 30 Caltech faculty and alumni through the years (Linus Pauling won awards in both chemistry and peace).

The full text of this article may be viewed online at <http://pr.caltech.edu/media/>.

Voting, from page 1

previous month. The group, composed of both political scientists and engineers, is charged with the tasks of evaluating the current state of reliability and uniformity of U.S. voting systems, establishing uniform attributes and quantitative guidelines for performance and reliability of voting systems, and proposing specific uniform guidelines and requirements for reliable voting systems. The seven steps are as follows:

1. Make sure you are registered.
2. Get a sample ballot from your local elections office, if one hasn't been mailed to you, and read it carefully.
3. Bring your sample ballot to help you in the voting booth.
4. Try to vote between 10 a.m. and 4 p.m., or allow extra time for long lines.
5. Know your rights and ask for help if you need it.
6. You have a right to vote if you are registered in your precinct, even if your name does not appear on the list of registered voters in your precinct. Ask what to do if your name does not appear.
7. Stop and double-check that your ballot reflects how you want to vote before you turn in your ballot.

English and Spanish versions of the "Seven Steps" guide can be downloaded at www.vote.caltech.edu.

The full text of this article may be viewed online at <http://pr.caltech.edu/media/>.

Family Night, from page 1

for an agency that, as an umbrella organization for more than 250 area charities and nonprofits, helps nearly 4,000,000 people in Southern California. Employees may designate donations to any qualifying organization, including the Caltech Children's Center, Caltech Y, and JPL Child Educational Center. Donations to the two children's centers will provide tuition assistance for campus community members. According to Dlorah Gonzales, director of employment and employee services in Human Resources, Caltech has in the past matched employee donations, raising a total of \$106,000, including more than \$16,000 for the three campus organizations, over the years.

Campus community members can make donation pledges online at http://cit.hr.caltech.edu/united_way.htm, and arrange to pay by check or through automatic payroll deductions. Those without online access can use the Human Resources computer kiosks at 399 South Holliston Avenue. Information packets will be available from campaign coordinators located across campus.

For more information, call ext. 8661 or e-mail dlorah.gonzales@caltech.edu. To learn more about the United Way's local work, visit www.unitedwayla.org.

Science by the seat of the pants

Sliding down a sand dune on your derriere might seem a bit undignified for a Caltech professor. But for Melany Hunt, it's all in the name of science.

The professor of mechanical engineering wants to know why certain large desert sand dunes give off a loud, droning sound when the dune avalanches, a scientist skims down it, or a strong wind blows. While "booming dunes" have been known for centuries, their cause remains a mystery.

Most believe it's friction—grains of very dry sand rubbing together. But that's only part of the story, Hunt suspects, noting that the noise continues after the movement has stopped. Further, the sound is different in winter than in summer.

These intriguing questions tie into Hunt's research on the flow of particulates and granular materials, including the natural environment of sand and debris flows. Thus, she has spent the past few summers investigating booming dunes as a mentor with Caltech's SURF (Summer Undergraduate Research Fellowships) program, which brings college students from various schools to campus to conduct research with faculty members.

Several times each summer, Hunt, her students, and Professor of Mechanical Engineering Chris Brennen trek to Death



Undergrads, grad students, and alumni once again joined the annual summer expedition to Caltech's Centennial Grove, in the Sierra National Forest. The Caltech Y, International Student Programs, the Gnome Club, and the Alumni Association sponsored the trip.

Benefits, from page 1

make their elections on the benefits website at www.hr.caltech.edu/Benefits/anenroll.htm. Blue Cross has a telephone helpline for Caltech members, (866) 820-0765, and a website at www.bluecrossca.com/clients/caltech for more information, including Blue Cross participating providers. If you have any questions or need assistance contact the Benefits Office at (626) 395-6443.

Einstein, from page 1

Avenue. Buses will leave from Avery Circle on Holliston Avenue at noon and 2 p.m., and will return at approximately 3:30 and 5:30 p.m. respectively.

The Skirball Center has a café (reservations required, (310) 440-4515) and pre-packaged refreshments available. Campus community members who can't attend on the 13th will receive a discount rate of \$8 (one ticket per Caltech-JPL ID) throughout the exhibit's run, which ends May 29, 2005.

The event will jump-start a year of campus events celebrating all things Einsteinian. November will also see the publication of Volume 9 of *The Collected Papers of Albert Einstein* by Caltech's Einstein Papers Project (www.einstein.caltech.edu and www.alberteinstein.info). Covering his Berlin correspondence from January 1919 to April 1920, the volume documents Einstein's meteoric rise to fame after a British eclipse expedition in May 1919 confirmed his prediction that gravity would bend light. The volume is edited by project members Diana Kormos-Buchwald, József Illy, Daniel Kennefick, and Tilman Sauer, along with Robert Schulmann.

In 2005, a traveling "Einstein at Caltech" display, chronicling the physicist's time on campus from 1930 to 1932, will launch in February. In addition, an Einstein Centennial Lectures series will take place in Beckman Auditorium. Free and open to the public, each talk will begin at 8 p.m. Featured speakers will be Martin Klein of Yale University, a former general editor of the physicist's *Collected Papers* (March 17); John Norton, chair of history and philosophy of science at the University of Pittsburgh (May 11); Juergen Renn, executive director of the Max Planck Institute for the History of Science in Berlin (September 27); and Caltech's own Kip Thorne, Feynman Professor of Theoretical Physics (November 16). The yearlong Einstein fest will end in November 2005.

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