

Caltech 336

T E S S E N T I A L S S E M I T W

The campus community biweekly

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Sloan grant furthers brain studies

Mark Wheeler

Continuing its support of Caltech's efforts to unravel the workings of the most complex structure in our world—the human brain—the Alfred P. Sloan Foundation has awarded an additional grant of \$400,000 to support the Institute's Sloan-Swartz Center for Theoretical Neurobiology.

The center was established in 1994 with a \$1.4 million grant from Sloan. Its goal was twofold: to develop a new field of study called theoretical neurobiology, and to train the next generation of neuroscientists. Given the brain's complexity, with its hundred-billion-plus nerve cells, each capable of forming connections with literally thousands of other cells, it was recognized that understanding how the brain functions required an increasingly sophisticated research approach.

Neurobiology is the study of the brain and nervous system in humans and other animals. Theoretical neurobiology allows Caltech scientists and students to share

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A global salute to humankind's future

Zane Crawford

The hum of machinery droned on all around him, incessantly.

"Are you bored?" a voice squawked through the headset.

"I could bear it a little better if there were some music," the young man joked.

Soon the omnipresent hum became a deafening roar, the young man was crushed back into his seat, and a blinding light streaked into the sky above the steppes of central Asia. After a few minutes the quiet abruptly returned, and the force of his acceleration was replaced with a euphoric weightlessness. The young man looked out his one tiny window. The luminous bluish arc of Earth's limb stretched across his field of view.

"I see Earth . . . it's so beautiful!"

One hundred eight minutes later, the young man was once again above the plains of the Soviet Union, and soon to be immortalized as the first human to venture into the endless star-filled sea of space.

His name was Yuri Gagarin. The date was April 12, 1961—40 years ago next Thursday.

Gagarin, who was also a fighter pilot, was tragically killed when his MiG-15 trainer crashed seven years later, but his name may well be recognized after the political leaders of the 20th century have

see *Yuri's Night*, page 6

Students launch undergrad journal

Javier Marquez

In the world of academia, "publish or perish" is the mantra by which careers live or die. Such a mindset is most pervasive in the upper echelons of academia that Caltech inhabits. This need has encompassed nearly every level of research.

Generally, investigators submit their research findings in the form of sober, technical papers to journals like *Science* and *Nature*. The reputation of these journals is nonpareil, and having their editors select one's submission is a definite career coup. It confers status on scientists, enhances their reputations outside their home institutions, and affirms the worth of their research.

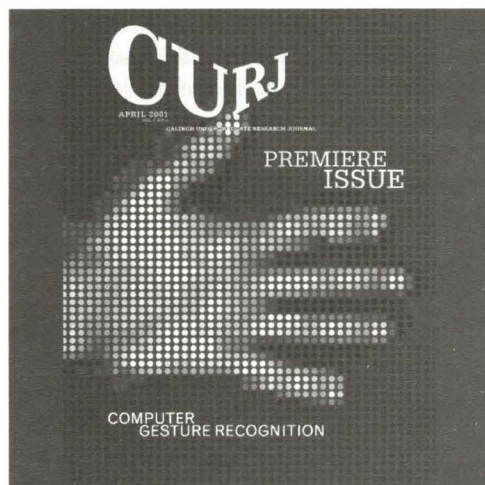
This reward system has not gone unnoticed by the youngest researchers. The pressure to publish is no longer restricted to researchers, graduate students, and postdocs—the community that is essentially obligated to publicize its work. Now undergraduates are feeling the pressure as well.

In response, as well as from the desire to produce a publication that is both enlightening and entertaining, a group of students has founded the *Caltech Undergraduate Research Journal*, whose inaugural issue premieres this week.

"Caltech has an enormous undergraduate research program. It's fitting that Caltech also have a premier undergraduate research journal," said Lakshminarayan "Ram" Srinivasan, CURJ's indefatigable editor-in-chief. "The journal can give them a perspective of what other undergrads are doing in the labs and foster a culture of undergraduate research."

A junior majoring in electronic and computer engineering, Srinivasan, along with a cadre of like-minded students at Caltech and the Art Center College of Design, decided that there was a need among his fellow undergraduates for a professional and widely distributed outlet for their research.

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The cover of CURJ's premiere issue features an article by Dinkar Gupta on a computer algorithm that interprets hand gestures as commands.

Star tour



Al Gore and his daughter Sarah tour Caltech's W. M. Keck Observatory in Hawaii during a visit March 28. They were later joined by Tipper Gore at a dinner with observatory staff and visiting astronomers.

Autism is focus of BioForum

Nobody is calling it an epidemic, but the numbers are certainly alarming. Today, four out of every 1,000 children are diagnosed with autism, a dramatic shift from 20 years ago, when the disorder was diagnosed in one of every 2,500 children. Why the change?

Knowledge about the etiology of autism is scant. What is known is that autism is a disorder that strikes at the normal development of the brain. It is called a spectrum disorder because different symptoms manifest themselves in a variety of combinations and differing degrees of severity.

A disorder that strikes in early childhood, autism negatively affects a child's areas of communication, social interaction, and play. It also impairs the senses and contributes to behavioral disorders. Typically, these symptoms persist with the autistic person for life.

Caltech is inviting the public to its gathering of four of the top autism researchers in the United States for the 2001 Biology Forum, which is titled "Autism: Deciphering the Puzzle." This group includes Eric Courchesne, a professor of neurosciences at the UC San Diego School of Medicine; Edwin H. Cook Jr., director of the laboratory of developmental neuroscience and deputy director of child and adolescent psychiatry at the University of Chicago; Catherine Lord, director of the develop-

mental disorders clinic at the University of Chicago; and Karin B. Nelson, senior investigator at the National Institute of Neurological Disorders and Stroke, a division of the National Institutes of Health. *Los Angeles Times* science writer Robert Lee Hotz will moderate the panel.

Some believe that childhood vaccinations are to blame for the increase in the cases of autism, while others suspect that its origin lies in genetic mutations, viruses, toxic chemicals in the environment, or abnormal brain chemistry. The BioForum investigators will discuss the results of their research into autism and related developmental disorders.

Cook specializes in the neurobiological aspects of early childhood psychopathology. He is conducting molecular, genetic and psychopharmacological studies of autism and other childhood onset disorders. Courchesne is utilizing brain imaging and conducting neurological testing on 200 autistic patients and nonautistic control subjects as part of a longitudinal study. His lab also measures cognitive function in autism and has begun investigating the genetics of the disorder.

Lord's work examines the links between diagnosis, assessment, and treatment of children with severe psychological disorders, including autism and pervasive developmental disorders. Nelson studies the

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NewsBriefs

Crouching student, kicking staff member



Caltech Shorinji Kempo club members show their stuff at a recent demonstration. From left are Sean Mauch '96, a graduate student in applied and computational math; Ben Hebert, grad student in applied physics; Misha Pesenson, senior research engineer for SIRTf; and Gina Chu, former aeronautics staff member.

Honors and awards

Wolfgang Knauss has been named the Theodore von Kármán Professor of Aeronautics and Applied Mechanics, effective April 1. This title replaces that of professor of aeronautics and applied mechanics.

William Goddard, Charles and Mary Ferkel Professor of Chemistry and Applied Physics, has been selected by the Southern California Section of the American Chemical Society to receive the Richard C. Tolman Medal. The medal will be formally awarded at the Athenaeum on April 19.

Richard Roberts, assistant professor of chemistry, has received a Presidential Early Career Award for Scientists and Engineers "for his innovative combinatorial method of selecting and designing protein motifs that specifically recognize biologically important RNA structures." The award recognizes outstanding young professionals at the outset of their independent research careers, providing up to five years of grant support. He has also been selected as an Alfred P. Sloan Research Fellow.

David Rutledge has been named the Kiyo and Eiko Tomiyasu Professor of Electrical Engineering. Effective April 1, this title replaces that of professor of electrical engineering.

Personals

Births

Paul Patterson, professor of biology, and his wife, **Carolyn Patterson**, a media computing analyst with Caltech's Digital Media Center, have welcomed their first child, Paul Clair, born on January 31. He is the grandnephew of former Caltech professor of geochemistry Clair Patterson.

New Positions

Thomas Palfrey, professor of economics and political science, became executive officer for the social sciences on March 1.



Diane Sharp became director of investment administration in the Caltech Treasurer's Office on March 15. She will oversee the investment administration of Caltech's investment assets, which have grown to \$2.2 billion, and include a \$1.4 billion endowment portfolio; she will also be responsible for the Treasurer's Office information management systems and all Treasurer's Office operations. Sharp holds a bachelor's degree in finance from the University of Nebraska and an MBA in finance from Georgia State University, and she comes to Caltech from Emory University, where she served as manager of endowment administration.

Deaths

Alex Flores, a groundskeeper with Physical Plant, died March 25; he was 48. He had worked at Caltech since 1987.

Nelson Nash to judge art

Denise Nelson Nash, director of Caltech's Office of Public Events, has been selected as one of six judges for the 27th District in the annual Congressional Arts Competition for high school students. Nash's extensive experience in the arts community also includes stints as executive director of Pasadena's Cultural Planning Division and as director of the Plaza de la Raza School of Performing and Visual Arts, as well as volunteering with numerous programs in the San Gabriel Valley. She holds an MFA from the University of Michigan.

"The goal of the Congressional Arts Competition is to encourage and recognize the rich artistic talents of young Americans," said Congressman Adam Schiff, who is calling for entries from each of the district's 25 high schools. The judging will take place at the Congressional District Spring Arts Festival, at the Alex Theater in Glendale, on May 7.

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Because of the nature of undergraduate life, with its required courses and heavy workload, most students must wait for the summer break to join an ongoing lab experiment. Although they can also dedicate a few hours to it every week during the school term, their accomplishments on a longitudinal study, although important, are limited.

"The students' research may not be immediately publishable in a mainstream journal because of its restricted scope," Srinivasan said. "CURJ can act as a conduit for undergrads to show their work and its scientific context. Our journal is there to highlight the best work that undergrads are producing with a style that is engaging to the casual reader."

Before he started, Srinivasan did some research—forensics, as he called it—into the research journals produced by students at other colleges, including Harvard's *Journal of Undergraduate Sciences*, MIT's *Undergraduate Research Journal*, and the online *Journal of Young Investigators*. He decided that accessible writing and production values would make CURJ stand out.

"We've placed a great emphasis on production quality," he said. Art Center College of Design student Aniko Hullner Grau, whose work as art director represents her senior thesis, developed the distinctive CURJ logo, design, and layout. The pages are eye-catching and professional, a far cry from the unfortunate term-paper look and clumsy design of many student publications, and some professional ones.

Above all, Srinivasan emphasized that the journal would have a broad appeal that extends beyond the research community and students. The selected articles will emphasize good writing and attractive design. In fact, the journal will most resemble an art magazine. The CURJ staff will also launch a Web version of the journal, which can be viewed at www.curj.caltech.edu/.

Although the first issue's printing is on a limited scale—the first run totals under 4,000 copies—free copies will be distributed throughout Caltech and JPL, as well as UCLA, MIT and other universities that encourage undergraduate research. As is true with *Science* and *Nature*, publication in CURJ will be a feather in the author's cap.

"It's a bonus if you publish as an undergrad. It shows that you have research potential," Srinivasan said. "However, the main idea is not to further careers but to cultivate a culture of research."

The CURJ staff comprises about 16 undergraduates from Caltech and Art Center, who worked in teams in charge of content and of online and print publication. Several nonstudents served as advisors, including Carolyn Merkel and Ryan Tischler of the student-faculty programs office; Gillian Pierce, the coordinator of Caltech's undergraduate science writing requirement; and Steve Madden, the graphics advisor at Art Center.

Srinivasan added that many people contributed to the creation of CURJ. Content editors Mike Russo and Robb Rutledge led the creation of the journal's written style, and online editors Jonathan Dama, Dylan Simon, and Robert Christy engineered the online publication.

Caltech to showcase British artists

Jill Perry

Caltech's Outdoor Art Space will present an evening of film, video, and sculpture by Artlab, an alternative art program at Imperial College of Science, Technology, and Medicine in London, on Saturday, April 14.

The outdoor screening will feature the work of 20 British artists brought together by Charlotte Cullinan and Jeanine Richards, London-based filmmakers and artists who operate Artlab. Cullinan and Richards will also build a "cinema sculpture" at the Outdoor Art Space and show a film that they made in Los Angeles last year as part of the exhibition.

The show, entitled *Crylawn*, will open at 6 p.m. with a reception followed by the film screening. The sculpture, which will remain on view until June 17, will feature a large, double-decker "800," indicating a perfect SAT score. According to Cullinan and Richards, "The SAT is the educational sieve everyone in America passes through and is judged by." Over the past few years, the two artists have made a series of temporary structures throughout Europe that function as cinemas, and the sculpture at the Outdoor Art Space will also function as a screening area.

Besides Cullinan and Richards, artists whose films and videos will be shown include Edwina Ashton, Runa Islam, Ellen Cantor, Fabienne Audeoud, Sarah Staton, Emma Donaldson, Leigh McCarthy, Jessica Voorsanger, Peter Lewis, Janette Parris, Louis Nixon, Kevin Francis Gray, and the artist known as Bob and Roberta Smith, as well as collaborations by Frances Owen and Paul Romans, Jo Soughan and Simon Pendleton, and Jo Soughan and Georgie Hopton.

The Outdoor Art Space is located behind the campus recycling center on South Holliston Avenue between San Pasqual Street and Del Mar Boulevard.

Bioforum, from page 1

natural history and etiology of childhood neurological disorders, and has recently centered her research on analytic epidemiology and the biomarkers of cerebral palsy and autism.

The BioForum is a yearly forum for discussion of issues in biology of major public interest. Initiated in 1995, the BioForum has shed light on such topics as AIDS, Alzheimer's disease, stem cell research, and mental illness. This year's event will take place on Friday, April 20, at 8 p.m. in Beckman Auditorium.

In addition, the Mettler Autism Symposium will be held the following day from 9 a.m. to 6 p.m., in Beckman Institute auditorium. Generously sponsored by Caltech trustee Ruben Mettler, the symposium will comprise sessions by the previous day's panelists, plus additional speakers Patricia Rodier of the University of Rochester; Susan McConnell, Stanford; Karl Herrup, Case Western Reserve University; Ian Lipkin, UC Irvine; and Paul Patterson, Caltech professor of biology. A complete schedule can be found online at http://atcaltech.caltech.edu/calendar/item.tcl?calendar_id=15301.

Both events are free and open to the public; no tickets or reservations are required, but early arrival is suggested. For more information on the BioForum, call 395-4652 or 1 (888) 2CALTECH, e-mail events@caltech.edu, or visit the Caltech Public Events Web site at www.events.caltech.edu. Individuals with a disability can call 395-4688 (voice) or 395-3700 (TDD). For more information on the symposium, contact Floreen Rooks at 395-8428 or rooks@caltech.edu.

April 9–15, 2001

Events in roman type are open to the public
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Monday, April 9

Aeronautics Seminar
101 Guggenheim Laboratory, Lees-Kubota Lecture Hall, 1 p.m.—“UAVs: An Aerospace Barometer for the Information Revolution,” Dr. Michael Francis, Lockheed Martin Corporation.

Norman Davidson Lecture
Baxter Lecture Hall, 4 p.m.—“Shaping the Genome: RNA Splicing and RNA Interference,” Phillip A. Sharp, institute professor and founding director of the McGovern Institute for Brain Research, MIT. Refreshments, 3:45 p.m.

Geological and Planetary Sciences Seminar
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Meteorite Density and Asteroid Structure,” Brother Guy Consolmagno, Vatican Observatory, Italy, and Steward Observatory, University of Arizona. Refreshments, 151 Arms, 3:45 p.m.

Applied and Computational Mathematics Colloquium
306 Firestone, 4:15 p.m.—“Macroscopic Equations for Population Dynamics from Microscopic Models of Individual Behavior: The Bacterial Example,” Hans Othmer, professor of mathematics, University of Minnesota, Twin Cities. Refreshments, 204 Firestone, 3:45 p.m.

Astronomy Tea Talk
106 Robinson, 4:15 p.m.—Topic to be announced. Douglas Finkbeiner, department of astronomy, UC Berkeley.

Tuesday, April 10

Caltech Library System Presents
Sherman Fairchild Library, multimedia conference room, noon to 1 p.m.—“Quick Review: Accessing Full Text Journals and New Online Databases.” Learn how to access full text journals via SFX and new databases to enhance your research. No reservations required. Information: <http://library.caltech.edu/learning/default.htm>.

Ulric B. and Evelyn L. Bray Seminar
25 Baxter, 4 p.m.—“Corporate Board Composition, Protocols, and Voting Behavior: Experimental Evidence,” Ann Gillete, Federal Reserve Bank of Atlanta. Refreshments.

Carnegie Observatories Colloquium
William T. Golden Auditorium, 813 Santa Barbara Street, 4 p.m.—“MODS: A Multi-Object Double Spectrograph for the Large Binocular Telescope,” Richard Pogge, associate professor, department of astronomy, Ohio State University. Information: 577-1122.

Chemical Physics Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Organic Radicals, Reactive Intermediates, and Transition States: Spectroscopy on the Reaction Coordinate,” W. Carl Lineberger, professor of chemistry and biochemistry, University of Colorado, Boulder.

General Biology Seminar
119 Kerckhoff, 4 p.m.—“Functional Genomics in Neuroscience, the Search for Novel Transmitters,” Professor Olivier Civelli, department of pharmacology, UC Irvine.

Wednesday, April 11

Biolunch Seminar
24 Beckman Labs, noon—“First Steps Toward Calcium Imaging In Vivo in the Locust Antennal Lobe,” S. Sarah Farivar, graduate student in biology, Caltech; and “In Vivo Analysis of Ubiquitin-Dependent Degradation of Sic1,” Nazli Ghaboosi, graduate student in biology, Caltech.

Caltech Library System Presents
Sherman Fairchild Library, multimedia conference room, noon to 1 p.m.—“Quick Review: Accessing Full Text Journals and New Online Databases.” Learn how to access full text journals via SFX and new databases to enhance your research. No reservations required. Information: <http://library.caltech.edu/learning/default.htm>.

Mathematical Physics Seminar
351 Sloan, noon—“Inverse Elasticity,” James Ralston, professor of mathematics, UCLA. Information: www.math.caltech.edu/events/mathphys.html.

Astronomy Colloquium
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Starbursts and Their Winds: The Big Picture,” Professor Timothy M. Heckman, department of physics and astronomy, Johns Hopkins University.

Geology Club Seminar
151 Arms, Buwalda Room, 4 p.m.—“Alternating Contraction and Extension Recorded in North Himalayan Gneiss Domes: Implications for the Tectonic Evolution of Southern Tibet,” Jeff Lee, associate professor, department of geological sciences, Central Washington University. Information: www.gps.caltech.edu/seminars/geoclub/geoclub.html.

Neurobiology Seminar
24 Beckman Labs, 4 p.m.—“Functional Diversity among Pyramidal Cells in a Watermaze Memory Task,” Edvard Moser, professor of biological psychology, Norwegian University of Science and Technology, Trondheim, Norway; and “The Contribution of Area CA3 to Spatial Memory Processes in the Hippocampus,” May-Britt Moser, associate professor of biological psychology, Norwegian University of Science and Technology, Trondheim, Norway.

Earnest C. Watson Lecture Series
Beckman Auditorium, 8 p.m.—“Understanding the World, One Molecule at a Time,” Stephen Quake, associate professor of applied physics, Caltech. Information: 395-4652, 1 (888) 2CALTECH, or events@caltech.edu. Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD).

Thursday, April 12

Caltech Library System Presents
Sherman Fairchild Library, multimedia conference room, noon to 1 p.m.—“Quick Review: Accessing Full Text Journals and New Online Databases.” Learn how to access full text journals via SFX and new databases to enhance your research. No reservations required. Information: <http://library.caltech.edu/learning/default.htm>.

Biochemistry Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Folding Mechanisms of RNA,” Sarah A. Woodson, professor of biophysics, Johns Hopkins University.

Olin Seminar
25 Baxter, 4 p.m.—“Torts and Authority: An Economic Analysis of Medical Malpractice,” Jennifer Arlen, visiting professor of law, Caltech. Refreshments.

Physics Research Conference
201 E. Bridge, 4 p.m.—“Focusing in the Hard X-ray Band: A New View of the High-Energy Universe,” Fiona Harrison, assistant professor of physics and astronomy, Caltech. Refreshments, 110 East Bridge, 3:45 p.m.

Friday, April 13

Caltech Library System Presents
Sherman Fairchild Library, multimedia conference room, noon to 1 p.m.—“Quick Review: Accessing Full Text Journals and New Online Databases.” Learn how to access full text journals via SFX and new databases to enhance your research. No reservations required. Information: <http://library.caltech.edu/learning/default.htm>.

Fluid Mechanics Film Series
306 Firestone, 1 p.m.—“Waves in Fluids,” prepared by Professor Arthur Bryson, Harvard University.

Fluid Mechanics Seminar
101 Guggenheim Laboratory, Lees-Kubota Lecture Hall, 3 p.m.—“Boundary Layer Resolved Measurements of Unsteady Separation,” Manooch Koochesfahani, professor of mechanical engineering, Michigan State University. Information: www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html.

Galileo Meets Venus Seminar Series
24 Beckman Labs, 4 p.m.—Topic to be announced. Professor David Freedberg, department of art history and archaeology, Columbia University. Presented in collaboration with the Art Center College of Design. Information: http://hss.caltech.edu/~steve/galileo_meets_venus.htm.

Inorganic-Organometallics Seminar
151 Crellin, 4 p.m.—“Role of Ligand Substitution in Metalloprotein Folding,” Jennifer Lee, graduate student in chemistry, Caltech.

Science, Ethics, and Public Policy Seminar
25 Baxter, 4 p.m.—“Freedom in the Digital Environment: Property, Commons, and the Institutional Ecology of Information,” Dr. Yochai Benkler, professor of law and director of the Information Law Institute, New York University. Refreshments. Information: www.hss.caltech.edu/ses/SEPP.html.

April 16–22, 2001

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Monday, April 16

Aeronautics Seminar
101 Guggenheim Laboratory, Lees-Kubota Lecture Hall, 1 p.m.—Topic to be announced. Ken Nealson, faculty associate in geobiology and environmental engineering science.

Geological and Planetary Sciences Seminar
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Cryohydrovolcanism and the Recent Appearance of Liquid Water on Mars,” Eric Gaidos, research associate, Caltech. Refreshments, 151 Arms, 3:45 p.m.

Applied and Computational Mathematics Colloquium
306 Firestone, 4:15 p.m.—“Exponential Asymptotics and Linear and Nonlinear Eigenvalue Problems,” S. J. Chapman, Moore Distinguished Scholar, Caltech. Refreshments, 204 Firestone, 3:45 p.m.

Tuesday, April 17

Caltech Library System Presents
Sherman Fairchild Library, multimedia conference room, noon to 1:30 p.m.—“A Quick Review of Information Resources for HSS Staff.” Review the content and use of subscription databases for humanities and social sciences. Registration: <http://library.caltech.edu/learning/form.htm>.

Ulric B. and Evelyn L. Bray Seminar
25 Baxter, 4 p.m.—“Optimal Asset Location and Allocation with Taxable and Tax-Deferred Investing,” Chester S. Spatt, Mellon Bank Professor of Finance, and director, Center for Financial Markets, Graduate School of Industrial Administration, Carnegie Mellon University. Refreshments.

Carnegie Observatories Colloquium
William T. Golden Auditorium, 813 Santa Barbara Street, 4 p.m.—“Detection of Brown Dwarfs and Dust Disks about Nearby Stars with NICMOS and Keck AO,” Eric Becklin, professor of astronomy, UCLA. Information: 577-1122.

Chemical Physics Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Adding Quantum Effects to Classical Molecular Dynamics Simulations via the Semiclassical Initial Value Representation,” William H. Miller, professor of theoretical chemistry, UC Berkeley.

Molecular, Cellular, and Developmental Biology Seminar
119 Kerckhoff, 4 p.m.—“Mass Spectrometry and Proteomics: New Approaches to Identifying Protein in Mixtures,” John Yates, associate professor of cell biology, Scripps Research Institute.

Wednesday, April 18

Mathematical Physics Seminar
351 Sloan, noon—“On the Quantization of Functional Analysis,” Edward Effros, professor of mathematics, UCLA.

Astronomy Colloquium
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Consequences of Massive Star Feedback in Star-Forming Galaxies,” Dr. Sally Oey, assistant astronomer, Lowell Observatory.

Molecular Mechanisms of Disease Seminar
24 Beckman Labs, 4 p.m.—“Kinase Inhibitor Therapy for Cancer,” Charles Sawyers, associate professor, department of hematology and oncology, School of Medicine, UCLA.

Organic Chemistry Seminar
147 Noyes, Sturdivant Lecture Hall, 4 p.m.—“Reengineering DNA Structures and Functions,” Professor Eric T. Kool, department of chemistry, Stanford University.

Thursday, April 19

Physics Research Conference
201 E. Bridge, 4 p.m.—“Imaging Coherent Electron Flow,” Professor Robert Westervelt, Division of Engineering and Applied Sciences, Harvard University. Refreshments, 110 East Bridge, 3:45 p.m.

Robert W. Vaughan Lecture in Chemical Engineering
106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—“Active Control of Surfactants,” Professor Nicholas L. Abbott, University of Wisconsin–Madison. Refreshments, 113 Spalding Lab, 3:30 p.m. Information: www.cheme.caltech.edu/seminars/seminars.html.

Von Kármán Lecture Series
Von Kármán Auditorium, JPL, 7 p.m.—“Infrared Astronomy: More Than the Eyes Can See,” Dr. Michelle Thaller, astronomer, Space Infrared Telescope Facility, JPL. Admission is free. Information: www.jpl.nasa.gov/lecture/.

Friday, April 20

Fluid Mechanics Film Series
306 Firestone, 1 p.m.—“Aerodynamic Generation of Sound,” prepared by John E. Ffowcs Williams, professor of engineering, University of Cambridge, and the late Professor M. J. Lighthill.

Fluid Mechanics Seminar
101 Guggenheim Laboratory, Lees-Kubota Lecture Hall, 3 p.m.—“Formation and Near-Field Dynamics of a Wing-Tip Vortex,” Lavi Zuhai, graduate student, Graduate Aeronautical Laboratories, Caltech. Information: www.galcit.caltech.edu/Seminars/Fluids/CurrentFluids/index.html.

Institute for Quantum Information Seminar
102 Steele, 3:30 p.m.—“Chaos, Decoherence, Measurement, and the Quantum-Classical Transition,” Salman Habib, Los Alamos National Laboratory.

Inorganic-Organometallics Seminar
151 Crellin, 4 p.m.—“Synthesis and Study of *Ansa*-Niobocene Olefin Hydride Complexes,” Lily Ackerman, graduate student in chemistry, Caltech.

LIGO Science Seminar
155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Resonant Detection of GW-Waves Using Radiation Pressure Instabilities,” Malik Rakhmanov, postdoctoral scholar, University of Florida.

William Bennett Munro Memorial Seminar
Judy Library, 110 Baxter, 4 p.m.—“Evolutionary Modules: Conceptual Analyses and Empirical Hypotheses,” Robert Brandon, professor of philosophy and biology, department of philosophy, Duke University. Refreshments.

Von Kármán Lecture Series
Pasadena City College, 1570 E. Colorado, the Forum (south of Colorado on Bonnie), 7 p.m.—“Infrared Astronomy: More Than the Eyes Can See,” Dr. Michelle Thaller, astronomer, Space Infrared Telescope Facility, JPL. Admission is free. Information: www.jpl.nasa.gov/lecture/.

2001 Biology Forum
Beckman Auditorium, 8 p.m.—“Autism: Deciphering the Puzzle.” A panel of experts will examine this perplexing disorder and discuss advances and developments toward a cure. Admission is free. Cosponsored by San Gabriel Valley Newspaper Group. 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.

CampusEvents

Monday, April 9

Quality Productivity Leadership Forum
Ramo Auditorium, 8:30 to 11:30 a.m.—“Mercedes-Benz: Focusing on Business Excellence,” Bill Taylor, president and CEO of Mercedes-Benz U.S. International. Information: www.irc.caltech.edu/forums.htm. Registration and tickets: 395-3921 or qplf@caltech.edu.

Badminton
Brown Gymnasium, 9:30 a.m. to noon—Bring your own racket. Information: 355-6158.

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.

Ballroom Dance Club
Winnett lounge, 7:30 to 9:30 p.m.—American tango for beginners. Second of five weekly lessons taught by a professional instructor. No partner or experience is required. \$4 per class for Caltech undergraduates, \$6 for others. Refreshments. Information: 791-3103 or www.its.caltech.edu/~ballroom/index.html.

Ballroom Mini Dance Party
Winnett lounge, 9 to 11 p.m.—Open dancing; make requests or bring your own music. Refreshments. No admission charge and no partner needed. Information: 791-3103 or www.its.caltech.edu/~ballroom/index.html.

Tuesday, April 10

Baseball
at Pasadena City College, 2:30 p.m.

Wednesday, April 11

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

FOCAL Spring Luncheon
Athenaeum, Hall of Associates, 11:30 a.m.—The Friends of Caltech Libraries annual spring luncheon will feature author Nicholas Clapp, who will speak on the magic of myth. Fee: \$25 for FOCAL members, \$28 for nonmembers. Registration and information: 395-6411 or mcbride@library.caltech.edu.

Ballroom Dance Club
Winnett lounge, 7:30 to 9:30 p.m.—East Coast swing for beginners. Second of five weekly classes. No partner or experience is required. Free for Caltech freshmen, \$1 per class for others. Refreshments. Information: 791-3103 or www.its.caltech.edu/~ballroom/index.html.

Thursday, April 12

Caltech Y Friends Dinner
Location to be announced, 6:30 p.m.—For 35 years, Friends’ contributions have provided a financial core for the Y to enable students to learn how they can make a difference in the world. Fee: \$40. Reservations and information: 395-6163 or caltechy@caltech.edu. Visit the Friends’ Web page at www.y.caltech.edu/friends/.

Yuri’s Night—L.A. Party
Hollywood Palace, corner of Vine Street and Hollywood Boulevard, 9 p.m. to 2 a.m.—Celebrate the 40th anniversary of Yuri Gagarin’s historic trip into space with a night of dance and house music with a spacebound twist. Information: 395-6981, zane@yurisnight.net, or <http://la.yurisnight.net/>. Fee: \$10 until April 1, \$15 after April 4, \$20 at the door. Tickets: (800) 464-2275.

Friday, April 13

Caltech Easter Egg Hunt
Location to be announced, 8 a.m. to 5 p.m.—An Easter egg hunt for the children of the Caltech Community. If you are interested in helping, call 395-6163.

Badminton
Brown Gymnasium, 9:30 a.m. to noon—Bring your own racket. Information: 355-6158.

Folk Music Society Presents Priscilla Herdman
Dabney Lounge, 8 p.m.—Herdman finds outstanding, little-known songs and sings them in a wonderful soprano voice. Admission is \$12 for adults and \$4 for children and Caltech students. Tickets and information: 395-4652, 1 (888) 2CALTECH, or events@caltech.edu. Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at www.events.caltech.edu.

Saturday, April 14

Men’s and Women’s Track and Field
SCIAC four-way meet, at Occidental College, 11 a.m.

Ballet Dance Class
Braun Athletic Center, aerobics room, 1 to 4 p.m.—A free ballet class, sponsored by the Caltech Dance Troupe. Beginners: 1 to 2 p.m. Intermediate: 2 to 3 p.m. Advanced: 3 to 4 p.m. No special clothing or shoes are required for the beginners’ class. Open to all adult members of the Caltech community. Information: 395-2508 or troupe@caltech.edu.

New British Films at Caltech Art Space
Caltech Outdoor Art Space, 6 to 8 p.m.—An evening of film, video, and sculpture by Artlab, an alternative art program at Imperial College of Science, Technology, and Medicine in London. Information: 395-6803, 395-4248, mrogers@caltech.edu, or dustin@mop.caltech.edu.

Monday, April 16

Caltech Y International Week Events
Locations to be announced, through April 20—Speakers, movie nights, cultural programs, international sports day, noon events, and a food fair. Information: 395-6163. Visit the Caltech Y at www.y.caltech.edu/calendar/.

Badminton
Brown Gymnasium, 9:30 a.m. to noon—Bring your own racket. Information: 355-6158.

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.

Ballroom Dance Club
Winnett lounge, 7:30 to 9:30 p.m.—American tango for beginners. Third of five weekly lessons taught by a professional instructor. No partner or experience is required. \$4 per class for Caltech undergraduates, \$6 for others. Refreshments. Information: 791-3103 or www.its.caltech.edu/~ballroom/index.html.

Ballroom Mini Dance Party
Winnett lounge, 9 p.m. to 11 p.m.—Open dancing; make requests or bring your own music. Refreshments. No admission charge and no partner needed. Information: 791-3103 or www.its.caltech.edu/~ballroom/index.html.

Wednesday, April 18

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

Ballroom Dance Club
Winnett lounge, 7:30 to 9:30 p.m.—East Coast swing for beginners. Third of five weekly classes. No partner or experience is required. Free for Caltech freshmen, \$1 per class for others. Refreshments. Information: 791-3103 or www.its.caltech.edu/~ballroom/index.html.

Friday, April 20

Badminton
Brown Gymnasium, 9:30 a.m. to noon—Bring your own racket. Information: 355-6158.

10th Annual Earth Day Fair
Winnett quad, 11:30 a.m. to 1:30 p.m.—Exhibitors will include a number of environmentally aware groups and businesses. Singer Eleni Kelakos will perform from noon to 1 p.m. Food will be provided by the Caltech Vegetarian Club. Sponsored by the Environmental Task Force and the Caltech Y. Information: cetfers@its.caltech.edu.

Baseball
vs. Whittier College, 3 p.m.

2001 Biology Forum, “Autism: Deciphering the Puzzle”
Beckman Auditorium, 8 p.m.—A panel of experts will examine the perplexing disorder of autism and discuss advances and developments toward a cure. Admission is free. Cosponsored by San Gabriel Valley Newspaper Group. Information: 395-4652, 1 (888) 2CALTECH, or events@caltech.edu. Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at www.events.caltech.edu.

Saturday, April 21

Caltech Y Volunteer Project—Union Station
8 a.m. to 10 p.m.—Y volunteers will help prepare and serve meals for 60 homeless men, women, and children. Information: 395-6163 or www.y.caltech.edu/volunteer/.

Baseball
at Whittier College, 11 a.m., doubleheader.

Men’s and Women’s Track and Field Relays
at Mount SAC, 11 a.m.

Ballet Dance Class
Braun Athletic Center, aerobics room, 1 to 4 p.m.—A free ballet class, sponsored by the Caltech Dance Troupe. Beginners: 1 to 2 p.m. Intermediate: 2 to 3 p.m. Advanced: 3 to 4 p.m. No special clothing or shoes are required for the beginners’ class. Open to all adult members of the Caltech community. Information: 395-2508 or troupe@caltech.edu.

Jazz Festival
Dabney Gardens, 2 to 6 p.m.—The Caltech jazz bands, directed by William Bing, will host an afternoon of jazz music in a great garden setting. Admission is free, but seating is limited, so please arrive early. Refreshments.

SoVoSo World Jazz A Cappella
Beckman Auditorium, 8 p.m.—Originally assembled by renowned vocalist Bobby McFerrin, SoVoSo is a highly visual and imaginative a cappella ensemble that sings a compelling mix of jazz, gospel, rhythm and blues, world, pop, and improvisational music. Opening the show will be Caltech’s own a cappella groups Ecphonema, Out of Context, and Treble Makers. Tickets and information: 395-4652, 1 (888) 2CALTECH, or events@caltech.edu. Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at www.events.caltech.edu.

Sunday, April 22

Paco Lagerstrom Chamber Music Concert
Dabney Lounge, 3:30 p.m.—Kathleen McIntosh, harpsichord; Janice Tipton, flute; and Marlow Fisher, viola, will perform works by J. S., C. P. E., and W. F. Bach. Tickets and information: 395-4652, 1 (888) 2CALTECH, or events@caltech.edu. Individuals with a disability: 395-4688 (voice) or 395-3700 (TDD). Visit Public Events at www.events.caltech.edu.

A window on the Caltech of yore

"In 1941, a bottle of soda cost 5¢, the deluxe kitchen made use of such new miracle materials as linoleum, and a home-maker could please her finicky family with the quintessence of haute cuisine—the frankfurter. Europeans, meanwhile, had weightier issues on their minds as anxiety mounted concerning Hitler's plans to invade Britain. In March of that year, *Life* Magazine published a photographic essay on Caltech."

So begins the introduction to a new Caltech Archives Web page—a high-tech tribute to the Institute of 60 years ago that combines the original *Life* article and photos with additional commentary from today's standpoint. The idea for the site came from Caltech Board of Trustees chairman Ben Rosen '54, who donated a copy of the March 17, 1941, issue to the Archives, with enthusiastic support from President David Baltimore.

The essay paints an idyllic portrait of Caltech's cutting-edge research intersecting with its educational and student life components, juxtaposing images of atom smashers and wind tunnel experiments with students taking exams and sleeping on the Athenaeum's open-air porch. "Only towards the end," writes the Archives staff, "does the article foreshadow the coming transformation of this pacific, intellectual campus into a super-efficient war machine."

The Web page was written and edited by Archives staff members Judith Goodstein, university archivist; Shelley Erwin, associate archivist; and Kevin Knox, historian; and designed by Glenn Smith '96. It can be accessed on the Archives site at http://archives.caltech.edu/life_article/.



This photo's original *Life* caption noted, "Plain everyday poker provides exercise for Cal Tech wits and relaxation for brains. At times the intensity of undergraduate study is such that the faculty finds it necessary to intervene."

Yuri's Night, from page 1

faded from memory. Millennia from now, when our descendants inhabit many worlds, many islands in the vast black void, they will look back at Gagarin and know he was the first. Through skill, or luck, or chance of fate, he was the first of us to tread beyond our pale blue home.

April 12 has long been celebrated in Russia as a national holiday, Cosmonautics Day. This year, however, through the efforts of young space enthusiasts around the world, the celebration is spreading. The occasion will be marked on all seven continents, in more than 40 locations, some as remote as Burundi and Uzbekistan, and some as urban as Tokyo, London, and Los Angeles. The name of this celebration is Yuri's Night.

The festivities will take different forms, but the underlying themes are all the same. More than just a celebration of Gagarin, Yuri's Night is a statement of optimism about humanity's future in the universe. It is an attempt to bring space—space as a real place in which humanity's collective future lies—to the consciousness of a younger generation, the generation that could contain the first people to walk on Mars, the first space tourists and successful space entrepreneurs.

Members of the Caltech community have been instrumental in organizing this worldwide event. Biology graduate student Loretta Hidalgo is one of its two cofounders, and Cynthia Collins, also a biology graduate student, is managing press relations. In addition, undergraduates Nathan Brown and Chris Hirata, and Zane Crawford '98, a staff member in geological and planetary sciences, are all working on technical aspects of the event. The entire Caltech community is invited to join the flagship Los Angeles celebration, either in person or in spirit, on Thursday, April 12. The party, featuring space-themed dance music, takes place from 9 p.m. to 2 a.m. at the Hollywood Palace, 1735 Vine Street, Los Angeles (corner of Vine and Hollywood Boulevard).

Tickets are \$15 before 10 p.m. on the 12th and \$20 thereafter. Advance tickets are available online at <http://la.yurnight.net/nl/ticketsla.htm>, or by phone from StickyTickets at (800) 464-2275. Thanks to generous funding by the GSC, Caltech graduate students will receive free admission; tickets should be reserved at http://la.yurnight.net/nl/cit_grad.htm. The event is 18 and over—please be sure to bring an ID.

Yuri's Night is a nonprofit event, with all proceeds to benefit local and global youth outreach and education programs. For more information, see the global and Los Angeles Yuri's Night Web sites at <http://www.yurnight.net> and <http://la.yurnight.net>, or e-mail zane@yurnight.net.

Catching long-lost family with the 'Net

Research tool, communication vehicle, guide to life: the Internet has the power to connect us to the information we need, quickly and cheaply. It also has the power to reunite families.

That's the happy surprise that Justin Martin got when he conducted a Web search on his own name. The physician living in Saudi Arabia was surprised—"gobsmacked," as he put it—to find an extensive history of a branch of his family. The author was Christopher Earls Brennen, Caltech's vice president of student affairs.

"He managed to find a family history that I placed on the Web years ago," explained Brennen, who grew up in the County Londonderry town of Magherafelt, in Northern Ireland.

Intrigued by his find, Martin sent a query e-mail to the site's creator. With that, Brennen and Martin, cousins who had known each other for only a handful of days during their childhood, got to meet each other again as adults.

Since then, Brennen has contacted and had a reunion dinner with Martin's sister Caroline. In an ironic twist, she has lived and worked in the Los Angeles area for decades and had even visited Caltech in the course of her job as an executive assistant at the *Los Angeles Times*. Through her, Brennen learned about a number of relatives who are living in distant parts of the world.

"Part of our cultural heritage is to travel the world and to emigrate," Brennen said. Leave it to technology and serendipity to bring some lucky members of this far-flung family a little closer together.

Sloan, from page 1

ideas from two research perspectives, the theoretical and the experimental. Theorists use data from actual experiments to create detailed computer models of brain function or behavior. From this modeling, hypotheses are developed to make predictions. Then, a researcher can design an experiment to physically test the theory.

At Caltech, the cross-pollination of these two approaches has led to greater understanding of such processes as temporal coding, the firing rate of neurons over time; neural representations, how the brain combines information from the various senses; and the neural mechanisms that underlie the human visual system.

The center has also successfully trained, or is in the process of training, 36 postdoctoral and predoctoral students. These young scientists, who come from an array of fields that includes physics, mathematics, and engineering, are working with senior neurobiologists, conducting research and learning experimental methods. Currently, 70 percent of postdoctoral graduates have obtained faculty positions at various universities around the world.

The Sloan-Swartz Center for Theoretical Neurobiology is led by Richard Andersen, Caltech's Boswell Professor of Neuroscience. The center is one of five that were established in 1994, with the others at Brandeis University, New York University, the Salk Institute, and UC San Francisco. The Sloan Foundation was founded in 1934 by Alfred P. Sloan, Jr., who was chief executive officer of General Motors for 23 years. The foundation makes grants available for higher education and research in the fields of science, technology, economics, and public policy.

The jazz singer



Kjerstin Easton '00, graduate student in electrical engineering, lends her rhythmic talents at a recent Caltech jazz bands concert.