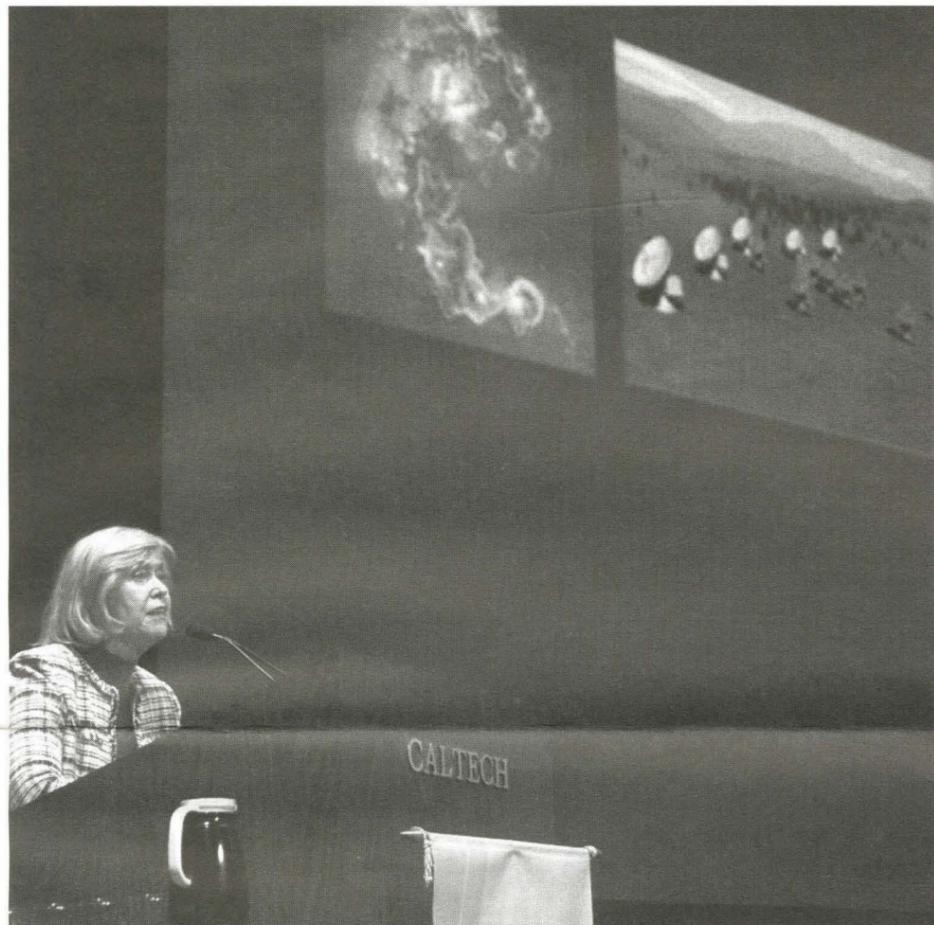


Caltech 336

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

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A billion, and beyond



Anneila Sargent, the Rosen Professor of Astronomy and director of the Owens Valley Radio Observatory and the Combined Array for Research in Millimeter-Wave Astronomy (CARMA), speaks at Caltech's campaign milestone celebration. Projected behind her is a rendering of what CARMA will look like once it is situated at Cedar Flat, California. Funding for the project's relocation is made possible by contributions to the campaign.

Having passed the billion dollar mark in the "There's Only One. Caltech" campaign, the Institute brought together members of the Caltech/JPL community in Beckman Auditorium to share the exciting news.

Wally Weisman, the chairman of the Campaign Leadership Committee, announced that Caltech had reached the impressive milestone of \$1 billion half-way through the five-year effort.

As good as that news is, he added that the job isn't quite finished: there is still the matter of nearly \$400 million to go. "There's nothing to it," Weisman quipped. "We'll get it done one way or another."

As of the beginning of the year, Caltech had raised an impressive \$1,011,364,978 in donations and pledges. Of this amount, about \$70 million will fund undergraduate financial aid and fellowships for graduate students and postdoctoral scholars. The campaign will also support named professorships, fund research efforts, and replenish Caltech's endowment.

Some \$200 million will fund several construction projects, including the Cahill Center for Astronomy and Astrophysics, the Information Sciences Building, a new chemistry building, and a new campus center. The historic South Houses, which have provided students with housing for seven decades, will also be renovated.

Caltech president David Baltimore said that a \$20 million gift from alum Warren Schlinger, BS '44, MS '46, PhD '49, and his

wife, Katharine, had helped the campaign pass the billion dollar mark. Warren earned his degrees in chemical engineering, and Baltimore noted that Katharine had worked in the chemical engineering division.

Among Caltech's many supporters, Gordon Moore and the Gordon and Betty Moore Foundation received special recognition for their unprecedented and continuing generosity. Weisman noted that Moore and the foundation helped launch the campaign with two gifts totaling \$600 million. The gifts have been used to fund many projects, including a new cryoelectron microscope, the purchase of imaging magnets, the Tectonics Observatory, the Thirty-Meter Telescope, and the Combined Array for Research in Millimeter-Wave Astronomy (CARMA).

"We are encouraged to dream, and dream big," noted Anneila Sargent, the Rosen Professor of Astronomy and director of the Owens Valley Radio Observatory and CARMA.

"I am not a donor, I am an investor," said alum Carl Larson, BS '52, a member of the campaign committee and chairman of the Summer Undergraduate Research Fellowships campaign. As an investor in Caltech, he enjoys dividends such as seminars and events, dinners at the Athenaeum, and rapport with students and researchers. "Caltech is the place we know, Caltech is the place we trust, Caltech is the place we enjoy," he said.

CARMA gets a boost at Caltech

Caltech recently announced a \$2.5 million award from the Gordon and Betty Moore Foundation to support the Combined Array for Research in Millimeter-Wave Astronomy (CARMA).

CARMA will become a frontline instrument for innovative research into the formation of galaxies, stars, planets, and the origins of life. At the increased level of instrumental sensitivity envisaged, CARMA will allow researchers to "see" almost to the edge of the universe, a few billion years after the Big Bang, and also to search comets, planet-forming disks, and the interstellar medium for chemical clues regarding the formation of complex organic molecules from which life may originate.

CARMA is a collaboration between Caltech and the University of California at Berkeley, the University of Illinois, and the University of Maryland. It will merge the six 10.4-millimeter antenna telescopes of Caltech's Owens Valley Radio Observatory (OVRO) array with the nine 6.1-millimeter antenna telescopes of the Berkeley-Illinois-Maryland Association (BIMA) array.

Altogether, CARMA will sit on a high-elevation 7,200-foot site at Cedar Flat near Big Pine, California. First light is anticipated for this fall, and full operation is expected in 2006.

The Moore Foundation grant will be used for relocation of the 15 antennas; construction of a control center; provision of antenna pads and associated infrastructure; design and construction of a telescope transporter; development of

see CARMA, page 6

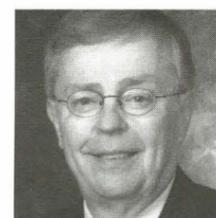
Students discover the joys of cooking

Caltech offers students a variety of courses such as organic chemistry and combustion fundamentals, but for many, their experience with baking, broiling, and braising is limited. A cooking course offered this term may get students as comfortable in the kitchen as they are in the laboratory.

Standing one evening at tables with an assortment of liquids, bowls of powders, and gleaming implements arrayed before them, groups of Caltech undergraduates set about making biscuits.

In the living room, the dough that one team had just mixed came out fluffy and plump. But rolled out too flat with a rolling pin, the team members were told, the biscuits would bake quickly and harden. No problem, said Kyle Bradley, a senior in geology: why not just stack them, one on top of another?

see Cooking, page 6



Kresa to chair Board of Trustees

After serving for more than a decade as a member of Caltech's Board of Trustees, this month Kent Kresa, chairman emeritus of Northrop Grumman Corporation, assumes the role of chairman. Kresa succeeds Ben Rosen, who has served as chairman of the board since 2001.

"I have enjoyed my association with Caltech over the last 10 years," says Kresa. "The next decade will be an exciting one for Caltech, and I am delighted to do my part."

Kresa was chairman of the board and chief executive officer of Northrop Grumman from 1990 to 2003. He served as that company's president from 1987 to 2001. Prior to joining Northrop, Kresa served with the Defense Advanced Research Projects Agency in the Department of Defense, and from 1961 to 1968 was associated with the MIT Lincoln Laboratory.

Kresa serves on numerous corporate and institutional boards, including Avery Dennison Corporation, Fluor Corporation, General Motors Corporation, and several nonprofit organizations and universities.

see Kresa, page 6

Author chronicles "lost" grandchildren

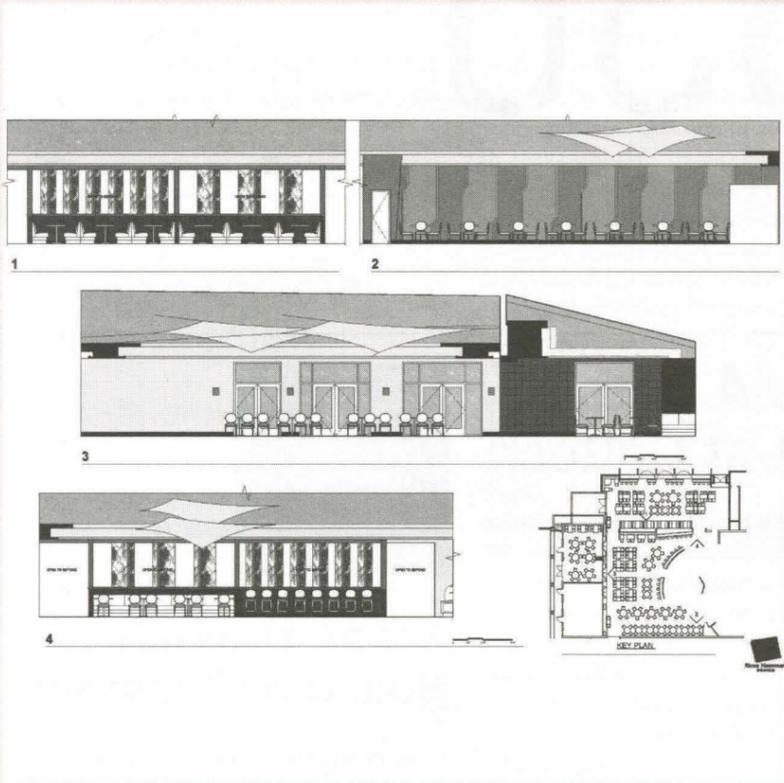
Speaking at the Women's History Month keynote lunch Wednesday, March 2, author and biologist Rita Arditti will recount the long fight of a group of women who challenged the "dirty war" conducted by the dictatorship that ruled Argentina from 1976 to 1983.

Arditti, author of *Searching for Life: The Grandmothers of the Plaza de Mayo and the Disappeared Children of Argentina*, traces the plight of the generation whose adult children had been imprisoned, tortured, and killed under detention, and the efforts of women to locate their missing grandchildren. Acting as detectives and human-rights advocates, they helped identify and recover 57 of an estimated 500 such children born in detention centers and given away to live with other families. Their work also led to the creation of Argentina's National Genetic Data Bank.

During her research, the author interviewed dozens of Argentinean women,

see Arditti, page 6

NewsBriefs



If you haven't noticed yet, work to expand Chandler Dining Hall has begun. The plans pictured above, by Pasadena architects Tyler & Gonzalez, call for a larger dining area that will feature a reconfigured floor plan and an expanded serving area, elements that will contribute to a more pleasurable dining experience. The dining hall will be closed toward the end of March for approximately eight weeks and will reopen in June.

Personals

Welcome to Caltech

January

Louise Bell, administrative assistant, physics, mathematics and astronomy; **Azize Bilgin-Pehlivanoglu**, postdoctoral scholar in environmental science; **Cindy Cheng**, research technician associate, biology; **Andrei Deev**, postdoctoral scholar in chemistry; **Anna Gail**, research assistant, biology; **Melissa Hernandez**, environmental, health, and safety technician, Safety Office; **Tomomi Kano**, project assistant, biology; **Sarah McArthur**, research assistant, geological and planetary sciences; **Jason Perillo**, assistant animal laboratory technician, biology; **Jennifer Sylvestre**, administrative assistant, Dining Services; **Phoebe Tzou**, postdoctoral scholar in biology; **Kelli Vega-Bronson**, assistant director, Alumni Fund, Development and Alumni Relations.

Deaths

Valerie Mandeville, a former library assistant in the Division of Physics, Mathematics and Astronomy, died on January 4; she was 80. She had worked at Caltech from 1985 until her retirement in 1991.

Honors and awards

Paul Asimow, assistant professor of geology and geochemistry, has been selected by the American Geophysical Union to receive a 2005 James B. Macelwane Medal. Given to as many as three recipients annually, the medal "recognizes significant contributions to the geophysical sciences by an outstanding young scientist." Asimow received his bachelor's degree from Harvard in 1991 and his PhD from Caltech in 1997, and he joined Caltech's faculty in 1999.

Andrew Blain, assistant professor of astronomy, has been awarded the Newton Lacy Pierce Prize in Astronomy by the American Astronomical Society. The annual prize is awarded to a young astronomer "for outstanding achievement, over the past five years, in observational astronomical research based on measurements of radiation from an astronomical object." The citation acknowledges Blain's outstanding contributions to submillimeter and far-infrared astronomy and reads in part: "His work has shown that a dominant fraction of the star formation in the universe occurred in dust-enshrouded galaxies, not detected in optical surveys, thus transforming the prevailing view of galaxy formation." Blain earned all his degrees at the University of Cambridge, receiving his PhD in 1995. He joined Caltech's faculty in 2001.

John Preskill, MacArthur Professor of Theoretical Physics, has been invited to give the 2005 Rouse Ball Lecture; his topic will be "Quantum Information." An eminent mathematician is invited each May to the University of Cambridge to deliver a Rouse Ball Lecture on a topic relating to mathematics or theoretical physics. Preskill received his bachelor's degree from Princeton in 1975 and his PhD from Harvard in 1980. He came to Caltech in 1983 as an associate professor, becoming professor in 1990 and MacArthur Professor in 2002.

YESS seeks instructors

Looking for a summer job that will polish your teaching skills while you inspire the scientists of the future? You *can* do both. The Young Engineering and Science Scholars program is seeking motivated instructors for its upcoming summer session.

Places are still open for Caltech graduate students and postdocs who have a knack for demonstrating the analytical and experimental skills necessary to succeed in a research career. The program needs talented instructors with specialties in biology, chemistry, physics, and engineering.

"It's a wonderful opportunity to work with some of the country's most amazingly gifted students, while at the same time attaining and honing priceless teaching skills and experience," says Milton Mitchell Jr., the program's coordinator.

Beginning on June 26, some 10 YESS instructors will teach high school sophomores and juniors the rigors of scientific exploration as well as the joys that come with discovery. Over the course of a month, the class curriculum will include lectures and laboratory exposure, research, project work, and field trips.

Curriculum development begins in late March, and the instructors are compensated with a \$2,500 stipend, Mitchell adds.

To apply for a teaching position, contact Mitchell at ext. 6207 or send an e-mail to yess@caltech.edu. Applications will be accepted through February 18. The YESS office is located in the Center for Student Services.



Walter Mosley

Mystery writer to deliver Michelin

The morning air still smelled of smoke. Wood ash mainly but there was also the acrid stench of burnt plastic and paint. And even though I knew it couldn't be true, I thought I caught a whiff of putrid flesh from under the rubble across the street.

For mystery lovers, such prose would have to draw you in and make you want to read on. The words are Walter Mosley's, the book is *Little Scarlet: An Easy Rawlins Mystery*, and private investigator Rawlins is the recurring character that has helped make Mosley "a literary artist as well as a master of mystery," according to *The New York Times Book Review*.

On Friday, March 4, at 8 p.m., Mosley will be the featured speaker for the annual Michelin Distinguished Visitors Lecture Series. The event is free (no tickets or reservations are required) and will take place in Beckman Auditorium.

As a writer, Mosley is best known for his series of mysteries that feature his character Rawlins, an African American. His career was given a big boost in 1992, when president-elect Bill Clinton named Mosley his favorite writer. *Little Scarlet*, published in June 2004, was a *New York Times* bestseller.

Mosley, a Los Angeles native who now lives in New York's Greenwich Village, had his first Rawlins novel, *Devil in a Blue Dress*, made into a film starring Denzel Washington. His novels depict the black experience of ordinary men: "Fully formed, complex black men have been absent from much of contemporary literature," he has said. His characters deal with what it means to be black and male in America while building a life of purpose and fulfillment.

In addition to his mystery writing, Mosley has written three other novels, two works of science fiction, and two nonfiction books. One of these, *Chain Gang: Shaking Off the Dead Hand of History*, published in 1992, explores a range of issues that includes race, culture, and global politics.

This month, Mosley will be awarded the Lifetime Achievement Award at the 21st Annual Celebration of Black Writing Festival in Philadelphia. Later in the year, he will release his first book for young adult readers, titled *47*, which will blend history, science fiction, and adventure.

The Michelin Distinguished Visitors Lecture Series was established in 1992 by New York designer Bonnie Cashin in memory of her uncle, James Michelin, a consulting engineer, who had always hoped to attend Caltech. Previous speakers in this series have included architectural critic Vincent Scully, artist David Hockney, playwright Tom Stoppard, architect Frank Gehry, film director Oliver Stone, opera singer Beverly Sills, poet Seamus Heaney, and authors Michael Crichton and Herman Wouk. The purpose of these lectures is to promote creative interaction between the arts and sciences.

Daffodil days return

Few things signal the return of spring better than a bouquet of fresh daffodils. The bright yellow blooms celebrate the end of winter and the beginning of the season of renewal. In that spirit, the American Cancer Society is sponsoring its annual Daffodil Days flower sale on campus.

A fund-raiser for the American Cancer Society, the Daffodil Days campaign raises money for cancer research, educational programs, advocacy, and services for cancer patients and their families.

From January 28 until February 24, you may order daffodils, which will be delivered on campus in mid-March, directly to you or to a recipient of your choice.

Bouquets and arrangements are offered for as little as \$10, and up to \$100 for the Hope and Friendship Package, which includes four bouquets in a cobalt blue vase. To order your flowers, call Catherine May at ext. 6502 or Susie Clark at ext. 1745 for the location of a campus representative in your division or building. Catherine and Susie are also available to take orders.

Further information, is available at www.cancer.org/docroot/COM/content/div_CA/COM_5_1x_Daffodil_Days_-_California.asp?sitearea.

February 14–20, 2005

M T W T F S S

Monday, February 14

Geological and Planetary Sciences Seminar

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Giant Planetary Collisions and the Origin of the Earth and Moon,” Robin Canup, assistant director, department of space studies, Southwest Research Institute.

High Energy Physics Seminar

469 Lauritsen, 4 p.m.—“Stability and the Null Energy Condition,” Roman Buniy, University of Oregon.

Applied Mathematics Colloquium

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 4:15 p.m.—“Tsunami Prediction System Based on an Innovative Global Ocean-Bottom-Pressure Wave Model,” Y. Tony Song, Science Division, JPL.

Tuesday, February 15

Quick Review for Electronic Theses

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

Institute for Quantum Information Seminar

74 Jorgensen, 3 p.m.—“Capacity Theorems for Quantum Multiple Access Channels,” Jon Yard, department of electrical engineering, Stanford University.

Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—“Hierarchical Cosmology and the Local Group,” Professor James Bullock, physics and astronomy department, UC Irvine. Refreshments, 3:30 p.m.

High Energy Physics Seminar

248 Lauritsen, 4 p.m.—“The CMS ECAL: A Tool to Find the Higgs,” Adolf Bornheim, senior postdoctoral scholar in physics, Caltech, and the European Organization for Nuclear Research (CERN).

Leonidas Alaoglu Memorial Lecture

151 Sloan, 4:15 p.m.—“Oppenheim Conjecture,” Gregory Margulis, professor of mathematics, Yale University.

Caltech Y Social Activism Speaker Series

Treasure Room, Dabney Hall, 8 p.m.—“Blood for Profit: Holding Transnational Companies Responsible,” Ka Hsaw Wa, founder, EarthRights International.

Wednesday, February 16

Environmental Science and Engineering Seminar

142 Keck, 3:40 to 5 p.m.—“Cirrus Clouds/Aerosols: Remote Sensing and Climatic Implication,” Kuo-Nan Liou, Distinguished Professor and Director IRRS (Institute of Radiation and Remote Sensing), department of atmospheric and oceanic sciences, UCLA.

Astronomy Colloquium

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—“Features in the Large-Scale Distribution of Galaxies: A Further Probe,” Richard Ellis, Steele Family Professor of Astronomy; director, Caltech Optical Observatories, Caltech.

Information Science and Technology Seminar

74 Jorgensen, 4 p.m.—“Energy Conservation and Snell’s Law in Adaptive Filtering,” Professor Ali Sayed, electrical engineering department, UCLA.

John D. Roberts Lecture

22 Gates Annex, 4 p.m.—“From Physical Organic Chemistry to Biomedical Research,” Professor Dieter Seebach, Laboratory for Organic Chemistry, Swiss Federal Institute of Technology (ETH), Zurich. Refreshments.

Social and Information Sciences Laboratory Seminar Series (SISL)/Theory Workshop

25 Baxter, 4 p.m.—“Learning in Games and Feedback Control,” Jeff Shamma, professor of mechanical and aerospace engineering, UCLA.

Thursday, February 17

Caltech Library System Presents: Cambridge Structural Database Workshop

Sherman Fairchild Library, multimedia conference room, 2 to 3:30 p.m.—Learn advanced techniques for searching the Cambridge Structural Database. Attendees are encouraged to suggest specific search and structure questions. Registration: <http://oliphant.library.caltech.edu/forms/cls-classes>.

High Energy Theory Seminar

469 Lauritsen, 2 p.m.—Topic to be announced. Mina Aganagic, assistant professor, particle physics, UC Berkeley.

Bioengineering Seminar Series

142 Keck, 4 p.m.—“Discovery of System Design Principles and Construction of Gene Circuits,” Michael Savageau, Distinguished Professor, biomedical engineering and microbiology graduate group, UC Davis.

General Biology Seminar

119 Kerckhoff, 4 p.m.—“Fish & Chips: Genes, Brains, and Social Behavior in African Cichlid Fishes,” Dr. Hans Hoffman, Bauer Center for Genomics Research, Harvard University.

Geology Club Seminar

151 Arms, Buwalda Room, 4 p.m.—“Untangling the Links amongst Community Interactions, Biomineralization, and Metal Sequestration in Acid Mine Drainage Biofilms,” Lesley Warren, associate professor, school of geography and geology, McMaster University.

Organic Chemistry Seminar

151 Crellin, 4 p.m.—“Organic Synthesis: Still Central!”, Professor Dieter Seebach, Laboratory for Organic Chemistry, Swiss Federal Institute of Technology (ETH), Zurich.

Physics Research Conference

201 E. Bridge, 4 p.m.—“Fundamental Limits on Control of Open Quantum Systems with Applications to Biomolecular NMR Spectroscopy,” Navin Khaneja, assistant professor of electrical engineering, Harvard University. Refreshments, 114 E. Bridge, 3:45 p.m.

Social Cognition/Neuroscience Series

25 Baxter, 4 p.m.—Topic to be announced. Matthew Lieberman, assistant professor, department of psychology, UCLA.

Friday, February 18

High Energy Theory Seminar

469 Lauritsen, 11 a.m.—“Cosmology and the S-Matrix,” Raphael Bousso, assistant professor of particle physics, UC Berkeley and Lawrence Berkeley National Laboratory.

Mathematics of Information Seminar

239 Moore, 3 to 4:30 p.m.—Topic to be announced. Michael Langberg, postdoctoral scholar in computer science, Caltech.

General Biology Seminar

119 Kerckhoff, 4 p.m.—Topic to be announced. Professor J. Rudolf Jaenisch, Whitehead Institute, MIT.

Inorganic-Organometallics Seminar

151 Crellin, 4 p.m.—“Multi-Scale Modeling of Small Scale Materials Phenomena: Applications in Materials Science and Biology,” Markus Buehler, postdoctoral scholar in chemistry, Caltech.

Kellogg Seminar

Lauritsen Library, 4 p.m.—“Evidence for the Pentaquark: A New Type of Quark-Matter,” Professor Kenneth Hicks, department of physics and astronomy, Ohio University.

RF and Microwave Seminar

080 Moore, 4 p.m.—Topic to be announced. Professor Gabriel Rebeiz, Jacobs School of Engineering, UC San Diego.

German Language Film Series

Baxter Lecture Hall, 7:30 p.m.—*The Inheritors* (Austria, 1998), directed by Stefan Ruzowitzky. English subtitles.

Sunday, February 20

Skeptics Society Lecture

Baxter Lecture Hall, 2 p.m.—“Parallel Worlds: The Science of Creation, Black Holes, Superstrings, and Higher Dimensions,” Dr. Michio Kaku, professor of theoretical physics, Graduate Center, City University of New York. Donation is \$8 for nonmembers and non-Caltech students. Free to the Caltech/JPL community. Tickets and information: 794-3119 or <http://www.skeptic.com>. Book signing to follow the lecture.

February 21–27, 2005

M T W T F S S

Monday, February 21

Presidents' Day holiday

High Energy Physics Seminar

469 Lauritsen, 4 p.m.—"Exploring Penguins: Gluonic Loop Diagrams at Babar," Professor Aaron Roodman, Stanford Linear Accelerator Center.

Inorganic-Electrochemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Silicon Is Not the Same as Carbon," Lisa Rosenberg, assistant professor, department of chemistry, University of Victoria, British Columbia.

Tuesday, February 22

Chemical Physics Seminar

147 Noyes, Sturdivant Lecture Hall, 2 p.m.—"Trapped Nanoparticles: New Ways to Study Interstellar Dust," Professor Dieter Gerlich, Institute for Physics, Technical University, Chemnitz, Germany.

Institute for Quantum Information Seminar

74 Jorgensen, 3 p.m.—Topic to be announced. Professor Ignacio Cirac, Max Planck Institute for Quantum Optics.

Carnegie Observatories Colloquium Series

William T. Golden Auditorium, 813 Santa Barbara Street, 3:30 to 5 p.m.—Topic to be announced. Steven Majewski, associate professor, department of astronomy, University of Virginia. Refreshments, 3:30 p.m.

Ulric B. and Evelyn L. Bray Seminar

25 Baxter, 4 p.m.—"Trust and the City: Measuring Social Capital with a Field Experiment," Armin Falk, professor of economics, University of Bonn.

James Michelin Seminar Series

Beckman Institute auditorium, 4 p.m.—"Universities and Their Spaces: The Special History of the Campus as a 'Place' for Learning," Sheldon Rothblatt, professor of history and director of the Center for Studies in Higher Education, UC Berkeley.

Wednesday, February 23

General Biology Seminar

100 Broad Center, 2 p.m.—"Signaling Strategies in Bacterial Chemotaxis," Professor John (Sandy) Stansfield Parkinson, biology department, University of Utah.

Astronomy Colloquium

155 Arms, Robert Sharp Lecture Hall, 4 p.m.—"Deep Spitzer Observations of the Distant Universe from the Great Observatories Origins Deep Survey," Mark Dickinson, National Optical Astronomy Observatory (NOAO).

Information Science and Technology Seminar

74 Jorgensen, 4 p.m.—"Language Modeling by Random Forests," Professor Frederick Jelinek, Center for Language and Speech Processing, Johns Hopkins University.

Neurobiology Seminar

100 Broad Center, 4 p.m.—"The Interaction of Emotion and Cognition: Insights from Studies of the Human Amygdala," Professor Elizabeth Phelps, department of psychology, New York University.

Organic Chemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Stereoselective Methods for the Synthesis of Contiguous Stereocenters," Professor Tomislav Rovis, department of chemistry, Colorado State University.

Earnest C. Watson Lecture Series

Beckman Auditorium, 8 p.m.—"The Sense of Smell: A Window into the Brain and Memory," Gilles Laurent, Hanson Professor of Biology and Computation and Neural Systems, Caltech. Admission is free.

Thursday, February 24

Caltech Library System Presents: Web of Knowledge

Sherman Fairchild Library, multimedia conference room, 2 to 3:30 p.m.—The Web of Knowledge offers the extensive Web of Science database for science, engineering, humanities, and social science, plus Journal Citation Reports. This session will cover linking to full-text articles, navigating, exporting records, conducting searches, and more. Information: <http://library.caltech.edu/learning/default.htm>.

Biochemistry Seminar

147 Noyes, Sturdivant Lecture Hall, 4 p.m.—"Molecular Mechanisms of RNA-Controlled Gene Expression," Jennifer Doudna, professor of biochemistry and molecular biology, UC Berkeley.

Chemical Engineering Seminar

106 Spalding Lab, Hartley Memorial Seminar Room, 4 p.m.—"Biomolecular Engineering of Genetic Switches, Therapeutic Proteins, and Biological Catalysts," Professor Huimin Zhao, department of chemical and biomolecular engineering, chemistry and bioengineering, University of Illinois, Urbana-Champaign. Refreshments, 113 Spalding Lab, 3:30 p.m.

Geology Club Seminar

151 Arms, Buwalda Room, 4 p.m.—"One Ring to Rule Them All: Evidence for a Genome Fusion Origin of Eukaryotes," Professor Jim Lake, department of molecular, cell and developmental biology, UCLA.

Von Karman Lecture Series

JPL, von Karman Auditorium, 7 p.m.—"Capturing the 'Lord of the Rings,'" Julie Webster, Cassini spacecraft operations office manager, JPL.

Friday, February 25

High Energy Theory Seminar

469 Lauritsen, 11 a.m.—Topic to be announced. Professor Eva Silverstein, Stanford Linear Accelerator Center.

Fluid Mechanics Seminar

101 Guggenheim Lab, Lees-Kubota Lecture Hall, 3 p.m.—"Characterization of Ionic Winds from Flames and Corona Discharges," Professor Derek Dunn-Rankin, Henry Samueli School of Engineering, UC Irvine.

Mathematics of Information Seminar

239 Moore, 3 to 4:30 p.m.—Topic to be announced. Chaitanya Swamy, postdoctoral scholar, Center for the Mathematics of Information, Caltech.

Kellogg Seminar

Lauritsen Library, 4 p.m.—"Resonant Relaxation in Electroweak Baryogenesis," Dr. Michael Ramsey-Musolf, senior research associate in physics, Caltech.

William Bennett Munro Memorial Seminar

Treasure Room, Dabney Hall, 4 p.m.—"The Real Reason Genes Are at the Center of Attention in Biological Research," Professor Ken Waters, department of philosophy, University of Minnesota-Twin Cities.

RF and Microwave Seminar

080 Moore, 4 p.m.—Topic to be announced. Richard Lai, Northrop Grumman Corporation.

Von Karman Lecture Series

Pasadena City College, 1570 E. Colorado, the Vosloh Forum (south of Colorado on Bonnie), 7 p.m.—"Capturing the 'Lord of the Rings,'" Julie Webster, Cassini spacecraft operations office manager, JPL.

CampusEvents

Tuesday, February 15

Credit Union Annual Meeting

Beckman Auditorium, 5 to 6:30 p.m.—The credit union annual meeting will begin with refreshments at 5 p.m. The meeting will begin promptly at 5:30. Prizes will be given at the end of the meeting.

Women's Basketball

vs. Whittier College, 7:30 p.m.

Frank Capra Film Series: *Soylent Green*

Beckman Auditorium, 8 to 10 p.m.—A screening of *Soylent Green* (1973), directed by Richard Fleischer, will be followed by a panel discussion featuring producer Walter Seltzer and Vivian Sobchak, associate dean of UCLA's School of Theater, Film and Television. Admission is free.

Wednesday, February 16

Men's Basketball

vs. Whittier College, 7:30 p.m.

Beginning Ballet Classes

Braun Gym, multipurpose room, 8 p.m.—An eight-week series of ballet lessons taught by a Caltech dancer. Classes began on January 12.

Thursday, February 17

Beginning Ballroom Team Class: Standard Dances

Winnett lounge, 8 p.m.—The beginning ballroom team classes concentrate on the waltz, tango, foxtrot, quickstep, and Viennese waltz dances. No partner is necessary. The cost is \$25 for Caltech students and \$40 for nonstudents. Classes began on January 13.

Beginning/Intermediate Jazz Classes

Braun Gym, multipurpose room, 9 p.m.—Learn jazz dance from Colette in this eight-week series. Lessons began on January 20.

Beginning Ballroom Team Class: Latin Dances

Winnett lounge, 9:30 p.m.—The beginning Latin classes concentrate on the technique for five dances: rumba, samba, cha-cha, jive, and paso doble. No partner is necessary. The cost is \$25 for Caltech students and \$40 for nonstudents. Classes began on January 13.

Friday, February 18

Video Series: *Eyes on the Prize* (Part V)

Center for Student Services, noon—Join us for the fifth of six videos to be shown on Fridays through the end of February (Black History Month). *Eyes on the Prize* has been called the most comprehensive television documentary on the American Civil Rights Movement. Relive the pain, the protest, the sacrifice, and the triumph of the grass roots struggle for racial equality. Lunch is provided. RSVP (required): isp@caltech.edu.

Men's Tennis

at University of Redlands, 2 p.m.

Women's Tennis

vs. University of Redlands, 2 p.m.

Baseball

at Occidental College, 2:30 p.m.

Women's Basketball

at Occidental College, 7:30 p.m.

Measure for Measure

Ramo Auditorium, 8 p.m.—Theater Arts at Caltech (TACIT) presents Shakespeare's dark comedy. Performances are Fridays, Saturdays, and Sundays from February 18 through March 5. (See Public Events contact information on this page.)

Saturday, February 19

Men's Tennis

at Whittier College, 9:30 a.m.

Women's Tennis

vs. Whittier College, 9:30 a.m.

Track and Field

Pomona-Pitzer All Comers meet, at Pomona-Pitzer, 10:30 a.m.

Belly Dance Class

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 others.

Caltech Ice Skating Night

Pasadena Ice Skating Center, 310 East Green Street, 6:30 to 7:45 p.m.—Come join the Caltech Ice Skating Club for ice skating and hot chocolate. No charge for admission, skate rentals, or the hot chocolate. Visit the club's website at <http://its.caltech.edu/~skating>.

Men's Basketball

at Occidental College, 7:30 p.m.

Measure for Measure

Ramo Auditorium, 8 p.m.—Theater Arts at Caltech (TACIT) presents Shakespeare's dark comedy. Performances are Fridays, Saturdays, and Sundays through March 5. (See Public Events contact information on this page.)

Sunday, February 20

Baseball

at University of Redlands, noon.

Measure for Measure

Ramo Auditorium, 2 p.m.—Theater Arts at Caltech (TACIT) presents Shakespeare's dark comedy. Performances are Fridays, Saturdays, and Sundays through March 5. (See Public Events contact information on this page.)

Intermediate Ballroom Team Class: Standard Dances

Winnett lounge, 2 p.m.—The intermediate class concentrates on the waltz, tango, foxtrot, quickstep, and Viennese waltz dances. No partner is necessary. The cost is \$25 for Caltech students and \$40 for nonstudents. Classes began on January 9.

Intermediate Ballroom Team Class: Latin Dances

Winnett lounge, 3 p.m.—The intermediate team Latin dance classes concentrate on the rumba, samba, cha-cha, jive, and paso doble dances. No partner is necessary. The cost is \$25 for Caltech students and \$40 for nonstudents. Classes began on January 9.

Amnesty International Book Discussion Group

Vroman's Bookstore, 695 E. Colorado Boulevard, second floor, 6:30 p.m.—This month's book is *Midnight's Children*, by Salman Rushdie. All are welcome. Sponsored by Caltech/Pasadena AI Group 22. Visit Group 22 at www.its.caltech.edu/~aigp22.

Monday, February 21

Presidents' Day holiday

Credit Union Closure

All branches of the Caltech Employees Federal Credit Union will be closed in observance of the Presidents' Day holiday.

Women's Basketball

at University of Redlands, 5 p.m.

Men's Basketball

at University of Redlands, 7:30 p.m.

Wednesday, February 23

JPL/Caltech Toastmasters Club Meeting

Building 167 conference room, JPL, 5 p.m.—Enhance your speaking skills without stage fright. The JPL-Caltech Toastmasters Club meets every second and fourth Wednesday of the month. Information: Dirk Runge, (818) 393-0465 or www.jpicaltechtostmasters.com.

Women's Basketball

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

Beginning Ballet Classes

Braun Gym, multipurpose room, 8 p.m.—An eight-week series of ballet lessons taught by a Caltech dancer. Classes began on January 12.

Thursday, February 24

Reinventing Yourself

Brown Gym classroom, 8:30 a.m. to 12:30 p.m.—This class for supervisors and nonsupervisors will teach ways to redirect thinking, overcome negative behavior, and acquire skills necessary to achieve success. Registration: 395-8055 or diane.williams@caltech.edu.

Caltech Architectural Tour

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

Health and Wellness Series: Body Beautiful

Caltech Women's Center, noon—Diane Gudermuth, an integrative body therapist, will help participants evaluate their body image and will share techniques on how they can have a loving attitude toward their bodies.

Amnesty International Monthly Meeting

Caltech Y lounge, 7:30 p.m.—Caltech/Pasadena AI Group 22 holds its monthly meeting to discuss current activities and plans. All are welcome. Refreshments. Information: (818) 354-4461 or lkamp@lively.jpl.nasa.gov. Visit our website at www.its.caltech.edu/~aigp22.

Men's Basketball

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

Beginning Ballroom Team Class: Standard Dances

Winnett lounge, 8 p.m.—The beginning ballroom team classes concentrate on the waltz, tango, foxtrot, quickstep, and Viennese waltz dances. No partner is necessary. The cost is \$25 for Caltech students and \$40 for nonstudents. Classes began on January 13.

Beginning/Intermediate Jazz Classes

Braun Gym, multipurpose room, 9 p.m.—Learn jazz dance from Colette in this eight-week series. Lessons began on January 20.

Beginning Ballroom Team Class: Latin Dances

Winnett lounge, 9:30 p.m.—The beginning Latin classes concentrate on the technique for five dances: rumba, samba, cha-cha, jive, and paso doble. No partner is necessary. The cost is \$25 for Caltech students and \$40 for nonstudents. Classes began on January 13.

Friday, February 25

Video Series: *Eyes on the Prize* (Part VI)

Center for Student Services, noon to 1:30 p.m.—Join us for the final video to be shown as a part of our MLK Commemoration Week and Black History Month celebrations. *Eyes on the Prize* has been called the most comprehensive television documentary on the American Civil Rights Movement. Relive the pain, the protest, the sacrifice, and the triumph of the grass roots struggle for racial equality. Lunch is provided. RSVP (required): isp@caltech.edu.

Measure for Measure

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Imago Theatre: *Biglittlithings*

Beckman Auditorium, 8 p.m.—In *Biglittlithings*, Imago Theatre brings to life insomniac hippos, hitchhiking rabbits, impatient mice, spies in dresses, multi-chromatic superheroes, and transforming aliens. (See Public Events contact information on this page.)

Saturday, February 26

Women's Water Polo

Chapman Tourney, at Chapman University, 8 a.m.

Men's Tennis

vs. Pomona-Pitzer, Tennis Courts, 9:30 a.m.

Women's Tennis

at Pomona-Pitzer College, 9:30 a.m.

Baseball

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

Belly Dance Class

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 others.

Space—Boldly Go: A CineMuse High-Definition Film

Beckman Auditorium, 2 p.m.—Sam Neill goes in search of the technologies that may one day take future generations to the stars. A postscreening discussion will be led by Michelle Thaller, Infrared Processing and Analysis Center (IPAC). IPAC is NASA's multimission center for long-wavelength astrophysics, based at Caltech. This event is suitable for ages 6 and older.

Measure for Measure

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Sunday, February 27

Women's Water Polo

Chapman Tourney, at Chapman University, 8 a.m.

Measure for Measure

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Intermediate Ballroom Team Class: Standard Dances

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Intermediate Ballroom Team Class: Latin Dances

Winnett lounge, 3 p.m.—The intermediate team Latin dance classes concentrate on the rumba, samba, cha-cha, jive, and paso doble dances. No partner is necessary. The cost is \$25 for Caltech students and \$40 for nonstudents. Classes began on January 9.

Coleman Chamber Concert

Beckman Auditorium, 3:30 p.m.—The Cavani String Quartet, with cellist Alisa Weilerstein, will perform a Schubertiade, exploring the musical life of the lyrical composer Franz Schubert. (See Public Events contact information on this page.)

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.

CIT Knitters Group Meeting

256 Mudd Laboratory, South, noon—All level of knitters and related handcrafters are welcome. We make items for others and ourselves. Information: 395-6905.

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

Baby Furniture and Household Equipment

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 and JPL communities. Open on Thursdays only. No appointment is necessary. Information: 584-9773 or furnpool@caltech.edu.

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: www.its.caltech.edu/~citchess.

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.

Arditti, from page 1

many of whom not only lost sons and daughters branded as political subversives, but came to learn that their grandchildren had been secretly given to families deemed "patriotic" and "worthy" by the government. Against the political backdrop, the book uses family testimony to tell this story of courage and tenaciousness.

An RSVP to wcenter@studaff.caltech.edu is required to attend the event, to be held noon to 1 p.m. at the Athenaeum.

Memory and the sense of smell

Smell is often called the sense tied most closely to human memory, profoundly influencing people's ability to recall past events and experiences. Yet, along with its cousin, taste, smell is probably the least well understood of our senses. However, recent molecular discoveries have yielded new understanding about the beautifully ordered anatomy of the olfactory circuits.

Working among scientists at the field's forefront is neurobiologist Gilles Laurent, Hanson Professor of Biology and Computation and Neural Systems, who will summarize some of these recent advances in his talk "The Sense of Smell: A Window into the Brain and Memory." Part of the Ernest C. Watson Lecture Series, the talk will take place Wednesday, February 23, at 8 p.m. in Beckman Auditorium.

Laurent's lab studies the neuronal mechanisms that underlie coding, perception, and behavior. Researchers study the questions of how odors are represented, learned, and recognized by the brain using insects that include fruit flies, locusts, and honeybees, as well as zebra fish, whose brains are remarkably efficient and small. Because the general designs of olfactory circuits are remarkably similar across species, Laurent's research may ultimately apply to more complex systems such as the human brain.

Caltech has offered the Watson Lecture Series since 1922, when it was conceived by the late Caltech physicist Ernest Watson as a way to explain science to the local community. Seating for this free public event is on a first-come, first-served basis, beginning at 7:30 p.m.

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

Kresa, from page 1

He is a member of the National Academy of Engineering; a past chairman of the board of governors of the Aerospace Industries Association; and an honorary fellow, and also a past president, of the American Institute of Aeronautics and Astronautics. He is a senior advisor for the Carlyle Group.

Kresa's prestigious awards for leadership include the International von Kármán Wings Award; the Caltech Management Association's Excellence in Management Award; the California Manufacturers and Technology Association Award for Manufacturer of the Century; the California Museum of Science and Industry and the California Museum Foundation Award for the California Industrialist of the Year; the Howard Hughes Memorial Award for contributions to the advancement of aviation and space technology; selection by *Business Week* magazine as one of the nation's top 25 managers for 2001; and *Aviation Week* magazine's 2002 Laurel Citation for achievements in aeronautics/propulsion.

Kresa is a graduate of MIT, where he received a BS in 1959, an MS in 1961, and an EAA in 1966, all in aeronautics and astronautics.

CARMA, from page 1

state-of-the-art electronics and software; and other enhancements to ensure the successful integration into a single system for optimal performance.

The relocation to Cedar Flat will allow for atmospheric transparency that is a factor of two greater than at the existing OVRO Observatory. With the improved atmospheric conditions, more telescopes, and updated electronics, the new facility will have 10 times the sensitivity and imaging speed of the current instruments.

"CARMA builds on the pioneering technical and scientific achievements of the OVRO and BIMA arrays over the last 20 years," says Anneila Sargent, Rosen Professor of Astronomy and director of OVRO and CARMA. "While CARMA will ensure our ability to undertake cutting-edge research, it will also serve a critical role as a university instrument. This new merged array will encourage the exploration of new technologies and techniques and will be a key component in training the next generation of United States millimeter-wave radio astronomers."

Sargent concludes, "If someone asks me these days, 'How's your karma?', I tell them, 'My CARMA is good!'"

Cooking, from page 1

In the kitchen, Team Dogbone, so called because of the bone-shaped biscuits they had popped into the oven earlier, had moved on to the apple fritter mix. Perhaps it was all that applesauce that made the batter turn out runny and thin. Flour was called for to thicken the mix.

The eight-week course takes place at the home of Tom Mannion, assistant vice president for campus life, and introduces students to kitchen skills and cooking principles. Students learn to use kitchen tools, develop a sense for seasonings, cook vegetables, grains, and legumes, make salads, and choose desserts.

"We truly try to provide a comprehensive, yet concise, overview of all the different types of foods," Mannion said.

The menu that night focused on Southern cooking, with the meal consisting of a green-bean casserole as the main dish, with baked cheese grits and biscuits with gravy on the side. Corn bread, apple fritters, and yams rounded out the meal.

This is the first time a vegetarian course has been offered, said cooking student Galen Loram, a senior in economics and a vegetarian for the last 12 years.

"I don't cook," he said. "I burn two out of every three frozen pizzas I make." He predicted that the class would greatly affect his diet.

Acting as instructor, coach, and culinary counselor, Mannion went from table to table, peppering his cooking instructions with kitchen tips.

On cast-iron skillets: "Your skillet should be seasoned with oil before you cook with it," he said. "And you never wash it with soap—only use water and a scouring pad."

On preparing greens: "If you're cooking greens, they need to boil for a long

time. Get them started first before you prepare your other dishes."

Mannion and six assistants, graduates of earlier classes, led the students on their culinary travels. Wearing smocks and dark striped pants, the helpers dashed in and out of the kitchen.

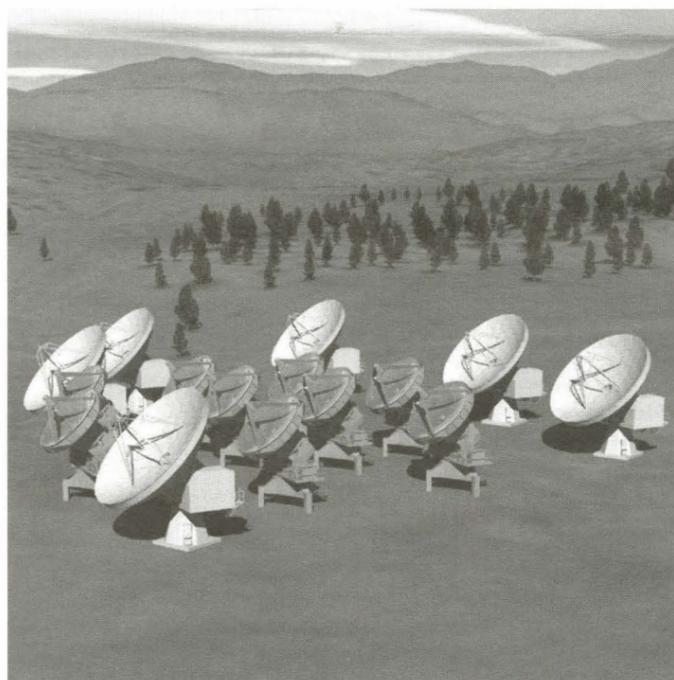
"This gives people a chance to see what it takes to cook something, because many of them may not have had the chance," said Tim Boyd, a junior studying electrical and computer engineering. Working as an assistant, he helped keep track of the food in the oven and rescued the fledgling cooks' creations.

By nine o'clock, Mannion began pulling the skillets out of the oven and placing them on the dining table. The students would sit down to a meal they made themselves, many of them tasting grits, okra, and greens for the first time.

"We want to show them that it can be fun and easy," Boyd said, referring to the class and campus events at which he prepares food. "It's a job, but I do it for the fun," he said. "It's the best of both worlds."

Caltech love tips

The Staff and Faculty Consultation Center invites the Caltech community to the **Chemistry of Love**, an afternoon treat of Valentine card-making and tips on how to get the most out of your romantic life, friendships, and family relationships. Feel free to drop in anytime on February 14, between 11:30 a.m. and 1:30 p.m., in Winnett lounge. Art supplies and desserts will be provided.



Simulation image created by Isaac Gary. www.ovro.caltech.edu.

A simulated aerial view of a cluster of CARMA's antenna telescopes. CARMA researchers will have the power of 15 such telescopes at their disposal.

Caltech 336

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

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