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We wish you enjoyment with each turned page as you browse The Scientist, a College of Science newsletter published each semester.
If you have a suggestion for a newsworthy article, email the editor, Cher Jones at cjones@science.sjsu.edu. Thank you for your continued interest in the College of Science at SJSU.
The Editor

MESSAGE FROM THE DEAN

Dr. J. Michael Parrish



The impact of human activities on the climate, the earth's biodiversity, and the quality of human life is well documented. With growing global populations, climatic changes, and diminishing resources, the quality of life in the future will be dependent on the wise use of the planet and its riches. Last spring, the Academic Senate established a Sustainability Task Force made up of faculty, administrators, students, and staff from throughout the university to examine SJSU's policies, educational, and research activities related to environmental sustainability. I was fortunate to serve on this committee, and we just presented a report to the Senate, which is available online at:

<http://www.sjsu.edu/senate/stffr.pdf>.

Sustainability is one of President Whitmore's top priorities, and the university is currently searching for a full-time faculty in residence from among our existing tenured/tenure-track faculty to oversee sustainability efforts for the university. Because environmental change is such a far reaching topic, it provides great opportunities for students to engage in interdisciplinary learning. Two team-taught general education courses, Global Climate Change (COMM/ENVS/GEOL/HUM/METR 168/168W) and Climate Solutions (APSC/BUS/EDUC/ENG/GLST/HA/SCI/UNVS 109) offer students the opportunity to learn about these topics from a variety of academic perspectives. We are also seeing new interdisciplinary programs such as the recently approved minor in Climate Change of-

ferred by the departments of Meteorology (College of Science) and Environmental Studies (College of Social Sciences).

Another recommendation of the task force involves the establishment of an interdisciplinary organized teaching and research unit around the topic of sustainability which will be submitted for approval next year. With technological, scientific, and policy positions expanding in areas related to environmental sustainability, we are excited that the university is providing opportunities for state of the art training in these fields.

*J. Michael Parrish
Dean
College of Science*

HILL AND FITTING SCHOLARSHIPS' AWARDEES

BETTEJEAN HILL SCHOLARSHIP



Joyce Avery

Joyce Avery is pursuing a second career as a high school chemistry teacher after many years as an environmental engineer at Hewlett-Packard Company.

Teaching has been a long standing goal of her and Joyce is thrilled to have the opportunity to achieve this dream. She looks forward to sharing her love of science with her students, as well as the opportunity to foster their development as critical thinkers and observers of the world around them.

Congratulations Joyce!

Information on the **Bettejean Scholarship**:

Description

This \$3,000.00 scholarship award goes to an outstanding student pursuing a secondary math teaching credential and a \$3,000.00 scholarship is awarded to an outstanding student pursuing a secondary science teaching credential. Scholarships are awarded in the fall semester.

Specific Requirements. Nominees must:

- Attend SJSU full-time.
- Pursue a teaching credential in math or science in the College of Science with a GPA of 3.0 or higher.

FREDERICK FITTING SCHOLARSHIP

Michael Lum was awarded the Frederick Fitting Scholarship this past fall. Michael hopes to continue his academic (and scientific) success in the fall with his acceptance of a position in the PhD program in Astronomy at the University of Hawai'i."

Congratulations Michael!

Information on the **Frederick Fitting Scholarship**:

Description

The intent of the donor is to support the "College of Science students who have completed substantial course work in at least two disciplines within the college, one of which is Mathematics."

Specific Requirements. Nominees must:

- Be full-time, matriculated students (entire academic year).
- Have a GPA of at least 2.50 or higher.
- Have completed 80 total units (at least 24 units completed at SJSU) by the start of Fall semester.
- Have completed at least 2 semesters of calculus and 3 semesters of another science (can include computer science).

DEPARTMENT OF BIOLOGICAL SCIENCES

Dr. Susan Lambrecht ~ 2009 SJSU Research Foundation Early Career Investigator Awardee

Dr. Susan Lambrecht is one of two recipients who have been chosen to receive this award for 2009.

The SJSU Research Foundation Early Career Investigator Award recognizes tenure-track SJSU faculty who have excelled in areas of research, scholarship or creative activity as evidenced by their success in securing funds for their research, peer-reviewed publications and other scholarly and creative activities at an early or beginning point in their career at SJSU.

Dr. Susan Lambrecht joined the Department of Biological Sciences in 2003 and since then has provided leadership in the area of plant biology, with her research activities focused on plant adaptation and plant communities. Her productive research program and curricular innovation activities are supported through external funding from Li-Cor Biosciences, and she was also named one of three co-Principal Investigators on the \$1.3 million Howard Hughes Medical Institute grant awarded to SJSU in 2008.

Dr. Lambrecht's work is frequently presented at local and international meetings, and in peer-reviewed professional journals, with three additional manuscripts currently submitted and in-review. Co-authors on seven of those manuscripts are her SJSU research students. Dr. Lambrecht is a reviewer for 11 professional research journals and reviews grant proposals for the National Science Foundation.

The SJSU Research Foundation has established two Early Career Investigator Awards in order to encourage participation beyond those colleges where large numbers of faculty have traditionally participated. One award goes to a faculty member in the Colleges of Science and Engineering and another for a faculty member from all other colleges. Each awardee will receive a cash award of \$1,000 to be used at their discretion.

Department of Biological Sciences to Launch New Core Courses

By Dr. Michael Sneary

For the past several decades the introductory sequence of courses in biology consisted of 3 semesters. Plant Biology, Animal Biology and Cell Biology constituted the initial exposure for students to their major. In general terms these courses presented the traditional topics in a traditional lecture/lab format.

In 2008 Dr. Julio Soto, as principal investigator and Drs. Susan Lambrecht and Cleber Ouverney as co-principal investigators were awarded a Howard Hughes Medical Institute grant for \$1.3 million to completely rethink the core sequence. This Fall, the new two-semester core will be launched.

Over the past academic year Drs. Soto, Lambrecht and Leslee Parr have changed the content emphasis and pedagogy of the core. Their efforts will deepen our students understanding and appreciation for the underlying principals of the discipline, ecology and evolution, and provide them with more intensive hands-on experiences in the lab and field. In addition, the new core will include discussion sessions in which students interact with their colleagues and instructors to further explore the issues raised in the experiments they undertake.

Drs. Lambrecht and Parr will teach the first semester this fall and Drs. Parr and Soto will teach the second semester in the spring of 2010. Current students will be serviced by the old core as it is phased out over the next three semesters.

In the coming academic year the faculty will be engaged in a discussion concerning how these changes will affect the content and pedagogy of upper division majors' courses. There are plans to submit a new funding proposal to support these efforts.

DEPARTMENT OF CHEMISTRY

Dr. Gilles Muller

Dr. Gilles Muller has established a vigorous research program (including the construction of a sophisticated laser laboratory), involved mostly undergraduate students in his research (currently consisted of ten undergraduate students majoring in Chemistry, Biochemistry, Biology, Chemical Engineering, and Computer Engineering), secured external funding from the National Institute of Health (MBRS/SCORE, Minority Biomedical Research Support/Support of Continuous Research Excellence) and Research Corporation (Cottrell College Science Award), and published sixteen articles (including fourteen undergraduate research students and one graduate student as co-authors) in prestigious peer-reviewed journals since joining the Chemistry Department in the Fall 2004. The primary goal of his research involves the use of circularly polarized luminescence (CPL), a spectroscopic technique aimed at obtaining chiral structural information of selected systems in their excited state. These works are intended to demonstrate that CPL spectroscopy is an attractive complementary method to the presently available methods for projects aimed at probing specific chiral structural changes and/or for recognition of chiral biological molecules such as circular dichroism.

Dr. Muller is rapidly becoming one of the world's leading experts in circularly polarized luminescence of lanthanide complexes. He has fostered on-going research collaborations through numerous visitations of research groups at universities and research centers around the world. He has given seven invited lectures, some at the national or international level. He has also had twenty-two students give presentations at national, regional and local professional conferences. Dr. Muller was recently the recipient of one of the highly competitive Henry Dreyfus Teacher-Scholar awards for his accomplishments in scholarly research with undergraduates, as well as compelling commitment to teaching. He was also awarded the SJSU Research Founda-

tion's prestigious Early Career Investigator Award for 2007, and the 2007 and 2008 SJSU and SJSU Research Foundation Award of Merit, to distinguish faculty who serve as mentors to undergraduate research students. His record in teaching is also laudable. A clear picture has emerged of a professor who is much admired by our students, not only for his clear lectures, but for his mentorship and his ability to continuously challenge students to think for themselves.

Dr. Muller has also built a substantial record of service to our Chemistry Department, College of Science and to San José State University as a whole. He serves as the College of Science representative on the Graduate Studies and Research Committee for the SJSU Academic Senate, and was also the 2007-08 Chair of this committee.

Dr. Darryl Eggers

Dr. Daryl Eggers was invited to speak at the *USA-Mexico Workshop in Biological Chemistry: Multidisciplinary Approaches to Protein Folding* to be held at the Cinvestav Zacatenco campus in Mexico City from March 25-27, 2009.

The website presented a Scope of the Workshop: "Protein folding and misfolding plays an important role in the pathogenesis of several diseases that affect human beings; hence, the relevance to understand this fundamental phenomenon of protein structure." This meeting was designed to bring together young scientists from both North and South America.

For more information, go to <http://www.cinvestav.mx/proteinfolding.html>.

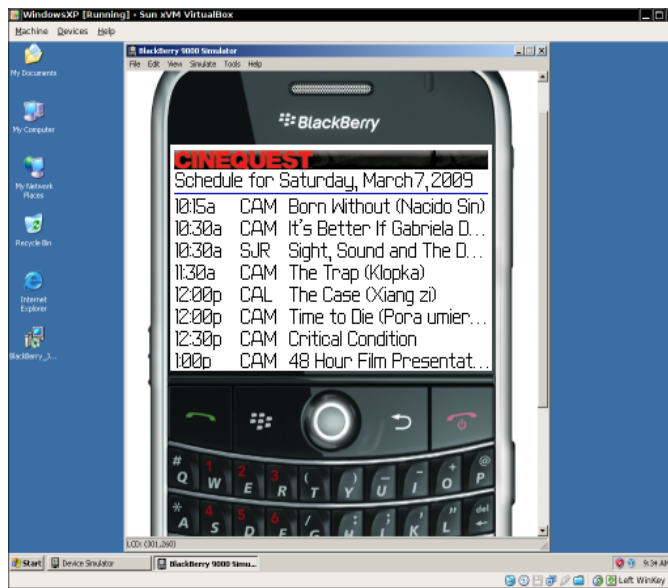
Dr. Eggers has also accepted an invitation to serve on a National Science Foundation (NSF) review panel, but won't know until February if they actually need him. The panel is a special joint CHE-MCB group with the responsibility of reviewing proposals at the chemistry-biology interface (perfect match for Dr. Eggers!). The rotating Program Officer is Wilfredo Colon.

DEPARTMENT OF COMPUTER SCIENCE

SJSU CS Department Develops Cinequest's Mobile Festival Catalog

By
Cay S. Horstmann

In the Fall of 2008, Cinequest, the group that organizes the annual San Jose film festival, approached the CS department, asking for help with their mobile initiative. We jumped at the chance, and my software engineering students worked hard designing and prototyping a BlackBerry application for festival attendees. Our job was to put the festival catalog into the palms of the moviegoers so they didn't have to browse the paper version, which is not only uncool but may also be out of date.



We were wondering why the BlackBerry when everyone outside the beltway knows that the iPhone is the cool device. With the BlackBerry, anyone can develop and deploy applications. (At the time, Apple had very rigid ideas who can access development information, and which applications are allowed on their phone. They loosened up a bit since then.) Also, the Black-

Berry runs Java, which the students already knew. And RIM, the maker of the device was very generous in donating phones to the department.

It was the perfect project for a software engineering class. We had a real customer and a real deadline, but the scope was limited to a few weeks of design, implementation, and testing. Of course, there was great resume value for the students, and SJSU got some free PR.

How did it work out? Pretty well in the end. The application was successfully deployed during the Spring 2009 festival. In fact, it worked better than the iPhone version that was completed by a commercial vendor and had “stability issues”. We got free passes to the festival (thanks, Cinequest!), and I loved checking the schedule on the BlackBerry instead of flipping back and forth on the paper schedule.

The key to success was to spend the first four weeks of the course not on BlackBerry programming but on development tools: Eclipse, version control, issue tracking, unit testing, build automation. When the going got tough later in the course, we were able to build, test, and deploy the latest version of the app in a matter of minutes. This was a big change for many of the students—their prior experience was to exchange files on USB sticks and do point-and-click testing. One of the students, who brought up a knotty issue during an office hour and watched me search the issue tracker, spontaneously remarked: “I just realize, without these tools we'd never be able to do it”. Indeed.

In the CS department, we are learning from this experience. We are looking at curriculum changes—such as covering development tools in earlier classes—so that students are ready to do interesting work in the capstone software engineering course. And we are looking forward to collaborating with other partners in the future. If you have a task that is suitable for a student project, please contact me or Dr. Louden (louden@cs.sjsu.edu), the CS Department Chair.

NEWS FROM PHYSICS AND ASTRONOMY

Associate Professor **Natalie Batalha** was on hand March 6 when the Kepler telescope was launched from Cape Canaveral.



Kepler Launch

Batalha is a Co-Investigator on this 4-year NASA mission designed to search for Earth-sized planets orbiting other stars.

Several of Batalha's current and former students who work on the project were also in attendance. Batalha and co-workers have been busy since launch: the telescope's dust cover was removed in early April and the first images were downloaded soon thereafter. Testing of the telescope continues, and science operations will commence in May. To see Kepler's first light image and to learn more about the search for Earth-like planets, visit http://www.nasa.gov/mission_pages/kepler/main/index.html.

Assistant Professor **Monika Kress** visited UCLA's Department of Earth and Space Sciences on February 5-6, to give a talk on her research in astrobiology ("Evolution of Organic Compounds in Protoplanetary Disks"). As one of the charter members of NASA's Astrobiology Institute, UCLA has a long tradition of research in astrobiology. Dr. Kress' talk was attended by geologists interested in the formation of the Earth and other habitable planets, and also by UCLA astronomers, who conduct observations of planet-forming disks around sun-like stars.

Professor **Brian Holmes** gave talks on the physics of music at Cal State San Marcos, at Shasta College,

and for a fund-raiser of Vivace Youth Chorus of San Jose. Later this Spring his music will be performed by Cantabile Youth Chorus, Musae Women's Chorus, the Choral Project, Peninsula Girls Chorus, and the chorus of Crittenden Middle School of Mountain View. He will travel to Boston for a concert by Cantilena women's chorus. They will perform four of his pieces; he will play horn on two of these, including a premier. During the 2009-2010 season, he will be composer in residence of the San Francisco Choral Artists, conducted by Magen Solomon.



Maxwell Telescope, Mauna Kea

Professor **Michael Kaufman** spent 6 nights in March at the James Clerk Maxwell Telescope (<http://www.jach.hawaii.edu/JCMT/>), a 15-meter radio telescope located on the 14,000 foot summit of Mauna Kea, Hawaii. Kaufman and collaborators were searching for oxygen atoms in a galaxy 13 billion light years away, atoms formed in the cores of the very first stars. Observing such a distant object provides a glimpse at the chemical history of the early Universe. Kaufman and colleagues discovered carbon atoms in the same galaxy in 2005; the discovery of carbon led Kaufman to predict that oxygen could be detected in this galaxy. Analysis is underway with a publication planned for this summer.

DEPARTMENT OF MATHEMATICS

Mathematical Genealogy

By Brad Jackson
Math Department Chair

Ever been interested in looking up your ancestors? If you have a mathematics PhD your mathematical ancestors can be found at the site of the mathematics genealogy project (<http://genealogy.math.ndsu.nodak.edu/index.php>).

For example Bradley Jackson received a Mathematics PhD in 1977 from the University of Maryland under the supervision of James Arthur Schafer (1965 University of Chicago) so Dr. Schafer is my direct ancestor in the mathematical sense. His advisor was Saunders Mac Lane (1934 University of Gottingen),



whose advisor was Herman Weyl (1908 Universität Gottingen), whose advisor was David Hilbert (1885 Universität Königsberg). Two other faculty members in the Math Department are also descendants of David Hilbert, 1) Dan Goldston (1981 UC Berkeley) whose advisor was Russell Lehman (1954 Stanford University), whose advisor was Hans Lewy (1925 Universität Gottingen), whose advisor was Richard Courant (1910 Universität Gottingen), whose advisor was David Hilbert and 2) Marilyn Blockus (1977 Johns Hopkins University), whose advisor was Sholom S. Rosen (1972 Northwestern University), whose advisor was Mark E Mahowald (1955 U. of Minnesota – Minneapolis), whose advisor was Bernard Russell Gelbaum (1948 Princeton University), whose advisor was

Salomon Bochner (1921 Universität Berlin), whose advisor was Erhard Schmidt (1905 Universität Gottingen), whose advisor was David Hilbert.

David Hilbert's advisor was C L Ferdinand Lindemann (1873 Universität Erlangen-Nurnberg), whose advisor was C Felix Klein (1868 Universität Bonn). Six other Math department professors are descendants of C Felix Klein including 1) Roger Alperin (1973 Rice University), whose advisor was Stephen Gersten (1965 Cambridge), whose advisor was John Stallings, Jr. (1959 Princeton), whose advisor was Ralph Fox (1939 Princeton), whose advisor was Solomon Lefschetz (1911 Clark University), whose advisor was William Story (1875 Universität Leipzig), whose advisor was C Felix Klein, 2) Kenneth Kellum (1971 U. Alabama – Tuscaloosa), whose advisor was Burt Garrett (1968 U. Texas), whose advisor was Hubert Wall (1929 U. Wisconsin), whose advisor was Edward Van Vleck ((1893 Universität Gottingen), whose advisor was C Felix Klein, 3) Richard Kubelka (1980 Stanford), whose advisor was Gregory Brumfiel (1967 MIT), whose advisor was Franklin Peterson (1955 Princeton), whose advisor was Norman Steenrod (1936 Princeton), whose advisor was Solomon Lefschetz, whose advisor was William Story, whose advisor was C Felix Klein, 4) Samih Obaid (1977 Penn State), whose advisor was Donald Rung (1961 Notre Dame), whose advisor was Wladimir Seidel (1930 Universität München), whose advisor was Constantin Caratheodory (1904 Universität Gottingen), whose advisor was Herman Minkowski (1885 Universität Königsberg), whose advisor was C L Ferdinand Lindemann, whose advisor was C Felix Klein, 5) Wasin So (1991 UC Santa Barbara), whose advisor was Robert Thompson (1960 Caltech), whose advisor was Olga Taussky-Todd (1930 Universität Wien), whose advisor was Phillip Furtwangler (1896 Universität Gottingen), whose advisor was C Felix Klein, and 6) Linda Valdes (1990 UC Santa Cruz), whose advisor was

(Continued on page 8)

DEPARTMENT OF MATHEMATICS

Mathematical Genealogy

(Continued from page 7)

Gerhard Ringel (1951 Universität Bonn), whose advisor was Emmanuel Sperner (1928 Universität Hamburg), whose advisor was Otto Schreier (1926 Universität Wien), whose advisor was Phillip Furtwangler, whose advisor was C Felix Klein.

C Felix Klein had two advisors 1) Julius Plucker (1823 Universität Marburg), whose advisor was Christian Gerling (1812 Universität Göttingen), whose advisor was Carl Gauss (1799 Universität Helmstedt), and 2) Rudolf Lipschitz (1853 Universität Berlin), whose advisor was Gustav Dirichlet (1827 Universität Bonn), whose advisor was Simeon Poisson (1800 Ecole Polytechnique), whose advisor was Joseph Lagrange, whose advisor was Leonhard Euler (1726 Universität Basel). Four other Math Department faculty members Maurice Stanley (1984 UC Berkeley), Jane Day (1964 University of Florida), Hidefumi Katsuura (1984 University of Delaware), and Jared Maruskin (2008 University of Michigan) are also descendants of Poisson and Euler.

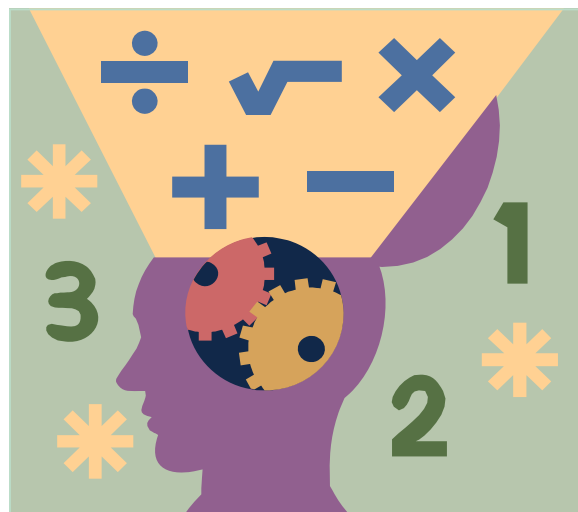
Some of the earliest known ancestors of the Math Department faculty include Leonhard Euler (1726), whose advisor was Johann Bernoulli (1694 Universität Basel), whose advisor was Nikolas Eglinger (1661 Universität Basel), ... , Johannes Argyropoulos (1444 Università de Padova), whose advisor was Bassilios Bessarion (1436 Mystras), whose advisor was Georgios Gemistos Plethon (1393). It could also be noted that one of Johannes Argyropoulos' more famous students was Leonardo da Vinci (1471 Università di Firenze).

Transforming Course Design in Developmental Math – Phase II

By Susan McClory

Susan McClory has continued her work with the Chancellor's Office initiative for Transforming Course Design (TCD) in Developmental Math. She received Chancellor's Office funding for a two-week intersession program that allowed students who had failed their fall developmental math class to complete the class requirements using the web based product, ALEKS. Through this program, 14 students were able to complete or move forward in their developmental math requirement.

As part of the TCD project, a film crew from the CSU Center for Distributed Learning spent three days on campus during the first week of March. They filmed Math 6A lectures and activity sections and also interviewed Ms. McClory, lecture instructors, TAs and students. The film will be used in a video case study of best practices in developmental math in the CSU.



DEPARTMENT OF MATHEMATICS

2008-2009 Year in Review

By Dr. Brad Jackson

In Fall 2008, two new applied mathematicians joined the Mathematics Department. Dr. Jared Maruskin received his PhD in Applied and Interdisciplinary Mathematics from the University of Michigan in Spring 2008. His research is in dynamical systems with applications to the tracking of space debris. Dr. Plamen Koev received his PhD from the University of California, Berkeley in 2002. He spent five years at Massachusetts' Institute of Technology and one year at North Carolina State University before coming to San Jose State. His research is in Numerical Analysis and Computational Mathematics.

Dr. Linda Valdes will be retiring after Spring 2009. She first came to the Mathematics Department in Fall 1990. Because of the California budget crisis we weren't allowed to hire anyone this year. But next year we are expecting about 4 retirements so hopefully we will be given permission to hire several new faculty members. There were a lot of people in the Mathematics Department taking a sabbatical this year, Roger Alperin (Fall and Spring), Joanne Becker (Fall and Spring), Wasin So (Fall), Barbara Pence (Spring), as well as Dimitar Grantcharov who was on leave to spend a year at the University of Texas Arlington, and Ferdinand Rivera who was on leave to spend a year at the National Science Foundation.

We also hired one new office staff person to replace Thien-Huong Palmer who retired in Spring 2008. Renee Paris came to us from the office of International and Extended Studies. She and Debbie Cortez had worked together in that office for several years so it was a reunion of sorts here in the Math office. Wonder Woman and Supergirl together again can only mean good news for the Math Department.

In the Fall semester several Math Department faculty and students attended a BAD Math Day conference to listen to talks about Discrete Math and meet with other researchers

in discrete mathematics from around the Bay Area. The Math Department also had a fall party at Marilyn Blockus' house in Cupertino. She got to show us her new redwood trees planted in memory of Dave Blockus. Several emeritus faculty attended the party including Dmitri Thoro, John Mitchem, Ken Bradshaw, Fred Stern, Marjorie Fitting, Edgar Simons, Don Weddington, and Eloise Hamann. The annual Problem of the Week competition was also held during the fall semester. Zach Baharav won the \$50 first prize in the graduate division, Phuong Ho won the \$50 first prize in the undergraduate division, and Sahana Vasudevan won the \$50 first prize in the San Jose Math Circle division. At the end of the Fall semester the Department held its first ever Fall graduation ceremony for the students.

In the spring semester the Math Department held its annual Pi Day celebration on Friday, March 13 (one day early). Math Department faculty, staff, and students together with guests from the College of Science dined on pizza, salad, and pie. Students also participated in the annual pi repeating contest.

The 31st annual San Jose State Expanding Your Horizon's conference was held on the Pi day, Saturday March 14. The conference is designed to encourage the interest of middle school girls in math and science and was organized by Bem Cayco and Julie Sliva from the Mathematics Department along with many other volunteers.

The department faculty also helped to organize and supervise several other outreach events including the 46th Math Field Day on March 21, 2009 which hosts teams from local high schools who are interested in mathematical problem solving. Dr. Cayco and several students also attended the undergraduate mathematics

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DEPARTMENT OF MATHEMATICS

2008-2009 Year in Review

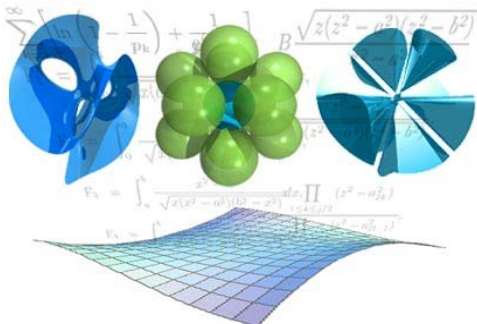
(Continued from page 9)

conference at Sonoma State on April 4, 2009. Evidently Dr. Cayco has agreed to organize the undergraduate mathematics conference in Spring 2010, which will be held at San Jose State.

Tim Hsu was the coordinator of the Mathematics Department colloquium this year. In addition to many fine talks by mathematicians, on April 8 US Representative Jerry McNerny gave a talk in WSQ 109 before a crowd of 70 or so people. Dr. McNerny is the only US congressman with a mathematics PhD.

On Sunday May 3, the annual Math Department party/picnic will be held at 1:30. All Math Dept faculty, staff, and emeritus faculty are invited. The party will be preceded by a walk through Neary Lagoon on the “real” Santa Cruz Boardwalk.

On “Dead” Day, Thursday May 14, the Math Department will hold its annual CAMCOS Reports Day. This spring we have one CAMCOS project supervised by Slobodan Simic and sponsored by Dr. Jeffrey Scargle from NASA Ames. On this same day the Math Department will hold its annual graduation and awards ceremony.



DEPARTMENT OF METEOROLOGY NEWS

By Dr. Alison Bridger

This has been “The year of the curriculum” in the Meteorology department! We have decided to broaden our footprint to better encompass the “climate” side of what we do. Climate is defined as the 30-year average of weather, so it’s only natural that we should be interested in both. To start with, we have requested permission to change our name to the *Department of Meteorology and Climate Science*. We hope to get the thumbs-up soon!



Second, we hope within a year or two to offer a new BS in *Climate Science*. We have spent time this year planning a roadmap for the new major, designing new classes for the new major (e.g., on the *Global Carbon Cycle* and on *Global Climate Modeling*), and getting these classes approved by various campus curriculum committees. The first class to be taken by these new majors is also a new GE class, and will be taught in Fall 2009 for the first time. The class is entitled *Global Warming: Science and Solutions*, and will be taught by Professor Eugene Cordero. The final step in getting the new major “on the books” will be to request and gain approval from the Chancellor’s Office in Long Beach.

Meanwhile, we have also developed a new minor in *Climate Change Strategies*. This is a joint effort between us and the Environmental Studies (ENVS) department at SJSU. ENVS students taking the minor will gain hands-on experience in scientific methods of gathering and analyzing data (weather data, wind energy data etc.), while METR students will gain knowledge of a variety of energy issues (e.g., solar energy theory).

NEWS FROM GEOLOGY

BAESI, Chevron, and Teachers

By Dr. Richard Sedlock

The Bay Area Earth Science Institute (BAESI) has received a \$55,000 gift from the Chevron Corporation to provide professional development to pre-college teachers in the 2009-2010 academic year. Housed within the College of Science and co-directed by Geology professors Ellen Metzger and Richard Sedlock, BAESI is the region's only program entirely devoted to earth science education for teachers of grades 4-12. BAESI's overarching goals are to increase the scientific literacy of pre-college teachers and their students, and to attract more high-school graduates to college programs and careers in fields related to Earth and environmental science.

The BAESI-Chevron program focuses on the impacts of and human impacts on climate change, freshwater supplies and quality, and energy resources. The program provides three types of professional development opportunities to teachers, who can pursue those that best fit their individual needs. (1) Sedlock, Metzger, and Chevron scientists will lead eight weekend workshops and field trips on related topics that also work as stand-alone learning experiences. (2) BAESI will produce a series of 25 Web-based instructional modules (podcasts) that can be downloaded and viewed by any teachers, any time. (3) BAESI will construct an online library that complements the workshop series and instructional modules, including downloadable presentations from workshops and links to external sources of relevant content, curricula, and classroom activities.

The Chevron funding complements BAESI workshops and online modules funded by other sources. Teachers not only have fun learning geo-

science, but also can earn SJSU academic credits needed for their districts. Know a teacher who might be interested? Suggest they visit us at www.baesi.org.

THE SCIENTIST

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Note: Past newsletters are located on our website.