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The Scientist, Fall 2013

San Jose State University, College of Science

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THE SCIENTIST

Science in Our World and Beyond



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STEM Education in the News!

\$622,316 STEM SCHOLARSHIP FUNDING AWARDED

From the office of U.S. Representative Zoe Lofgren, 19th Congressional Dist. CA. Washington, DC — Rep. Zoe Lofgren (D-San Jose) announced today that San José State University (SJSU) has been awarded a substantial grant totaling \$622,316 by the National Science Foundation (NSF) benefitting students pursuing degrees in the Science, Technology, Engineering and Mathematics (STEM) fields. Rep. Lofgren noted the grant will be distributed over a four-year period as scholarships to help motivated, deserving students continue towards advanced degrees and careers in STEM fields.

"The race is on to lead the world in 21st Century innovation, and the strength of our economy depends on the ingenuity these kinds of students can offer," said Rep. Lofgren. "These scholarships, averaging \$8,700 each year, will help 45-60 students at SJSU pursue their dreams of higher education in critically needed STEM fields. Investing in education is an investment in our future success. I will continue to work to lower barriers and bring a good college education within reach for all students and their families."

The scholarships will be awarded to students in the **Colleges of Science and Engineering** based on their academic performance, documented financial need and their commitment to a career as a scientist. In addition to scholarship funding, students will also get access to research opportunities to advance their studies and work experience. They will serve as role models for future STEM majors, gaining teaching experience through various tutoring programs.

— Duncan Neasham for U.S. Representative Zoe Lofgren, 8/1/13

INTEL PROVIDES \$75,000 FOR SJSU STEM PROGRAMS

Intel is the first major donor to the Girls STEM Network and Youth STEM Network programs under the direction of **Dr. Virginia Lehmkuhl-Dakhwe** of the Jay Pinson STEM Education initiative within the College of Science. In addition, Intel also supports SJSU's Science and Engineering in Action program.

For more information, go to the article in [SJSU Today](#), dated September 23, 2013. Go to page 9 for more on the Jay Pinson STEM Education program.

College of Science *Dean's Blog*

OUR REMARKABLE MARC, LSAMP AND RISE STUDENTS COMPETITION



J. Michael Parrish, Dean

One of the greatest opportunities open to students in the College of Science is the chance to become involved in research at the undergraduate level. Many students who choose to work in the labs of one of the college's world-class professors end up as authors on papers published in top peer reviewed journals, and many give presentations at local, national, and international meetings. Today I will highlight just a few recent accomplishments of our research students.

Each year, a group of students from SJSU attend the International meeting of the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS). At the fall 2013 meeting, held in San Antonio, Biology student **Jodie Wu** won an outstanding poster award, and physics graduate student **Patricio Piedra** received an outstanding oral presentation award.

At the fall **ABRCMS** Meeting (Annual Biomedical Research Conference for Minority Students), 27 SJSU students presented, and six of them were selected by judges for awards. They are **Beatriz Camacho** (Chemistry), **David Carrillo** (Biological Sciences), **Marc Gancayco** (Chemistry), **Vanessa Jimenez** (Biological Sciences), **Cindy Martinez** (Psychology) and **Jacob Schekman** (Chemistry). All of these students are participants in one of the college's three programs aimed at supporting students from underserved backgrounds - MARC (Minority Access to Research Careers), RISE (Research Initiative for Scientific Enhancement), and [LSAMP](#) (Louis Stokes Alliance for Minority Participation). Another MARC student, **Diana Romero**, working in the lab of SJSU microbiologist **Cleber Ouverney**, received a prestigious undergraduate capstone award from the American Society of Microbiologists. For the last three years, SJSU has led the CSU system in the number of awardees (6-7 each year) of NSF predoctoral fellowships, which fully support a student's graduate studies at the research university of their choice.

This proud record of student success would not have been possible without the herculean efforts of a dedicated core of faculty, including **Karen Singmaster** (Director of SJSU's RISE and LSAMP programs and **Herb Silber** (former MARC director) from Chemistry and **Leslee Parr** (current MARC Director) from Biology have built these programs over the years, and have, along with other faculty who mentor MARC and RISE research students, have created a supportive environment for students from underserved backgrounds interested in pursuing biomedical research as undergraduates leading into postgraduate study.

The MARC program was recently renewed for another two years, but with a 54% cut in funding relative to the previous cycle. The announcement of these cuts last summer spurred our faculty and students to civic action. A letter-writing campaign to our representatives got the attention of **Congressman Mike Honda**, a long-time supporter of STEM education. Honda arranged to visit with our MARC students and faculty in September, and a scheduled 30 minute visit stretched to two hours as students and faculty involved in the program shared their successes and aspirations for research careers with the congressman. SJSU has shown that investment in these programs results in dramatic successes in moving students from underserved backgrounds into success as undergraduate researchers, as research students in top graduate programs, and onwards towards careers as [STEM](#) leaders of tomorrow. If government funding for these programs continues to decrease, we will need to increasingly look towards corporate and community partners to continue our efforts to help our bright, talented students to reach their full potential.

J. Michael Parrish, PhD

Physics and Astronomy *in the News!*

STUDENT AND FACULTY RESEARCH

Undergraduate students **Greta Cukrov** and **Beth Johnson** were selected for the [CAMPARE](#) astronomy research program. Cukrov searched for potentially hazardous Earth-crossing asteroids at Jet Propulsion Laboratory, while Johnson discovered new meteor showers at the SETI Institute. Both presented their results at the January 2014 [American Astronomical Society meeting](#) in Washington D.C.

Professor **Patrick Hamill** continues to mentor students in atmospheric physics research. His students, **Araceli Lopez-Garibay** and **Patricio Piedra**, presented their results at the Fall 2013 [SACNAS](#) (Society for the Advancement of Chicanos and Native Americans) meeting in San Antonio, Texas. Piedra received the 2013 SACNAS Student Presentation Award for his work, "Aerosol Discrimination Through the Polarization of Scattered Light."

Assistant Professor [Cassandra Paul](#) and Secondary Education Chair **Mark Felton** were awarded \$250,000 by the National Science Foundation to develop an online application that provides STEM faculty with quantitative data on how they allocate their teaching time towards activities that are known to promote positive student learning outcomes. The Student Participation Observing Tool (SPOT) will focus on capturing the types of active learning behaviors engaged in by the students and instructors. The goal of the project is to provide STEM faculty with the information they need to make decisions about how they spend their time in the classroom, so that SJSU students can enjoy a superior classroom experience. SPOT is based on the [Real-time Instructor Observing Tool \(RIOT\)](#) originally developed by the [PER group at UC Davis](#), and 'appified' by SJSU physics graduate student **Andrew Reid**. Paul and Felton will be joined by postdoctoral researcher Dr. **Katrina Roseler** in the spring. To find out more about this project, or to volunteer your classroom for a SPOT observation, please contact [Dr. Cassandra Paul](#).



Assistant Professor **Aaron Romanowsky** was part of a team that discovered [the densest known galaxy in the Universe](#), using data from NASA's Hubble and Chandra space observatories and the Keck 10-meter telescope on the island of Hawaii. The galaxy, M60-UCD1 is only 200 light years across but is about 30 million times as luminous as the Sun, making it 25,000 times more crowded with stars than a normal dwarf galaxy of its size. Besides its intriguing rarity, the ultra-compact dwarf may provide important clues about the physics of star formation and the history of galaxy assembly. The search is now underway for additional galaxies of this type, led by SJSU physics undergraduate **Richard Vo**, using data from the Sloan Digital Sky Survey.



Dr. Alejandro Garcia

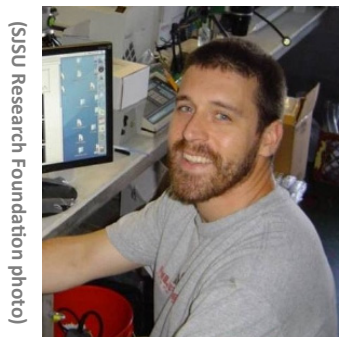
Professor **Alejandro Garcia** gave a presentation on bubble science at [DreamWorks](#) studio in LA. Garcia continues his work as a physics consultant, working most recently on "Mr. Peabody and Sherman", which is in theaters March 7th. Garcia also currently stars as [The Green Ninja](#).

Professor **Brian Holmes** finished a textbook for his Physics of Music course and gave three invited lectures on the physics of brass instruments, most notably for last Summer's International Horn Symposium in Memphis. While at the Symposium, his *Three Hunting Songs* were performed by soprano Nina Nelsen and the Quadre Horn Quartet.

— Dr. Michael Kaufman
Chair, Dept of Physics and Astronomy

27th CSU Student Research Winners

TWO HONORED AT CSU STUDENT RESEARCH COMPETITION



(SJSU Research Foundation photo)

Brian Maurer, graduate student at Moss Landing Marine Laboratories won first place in the Biological and Agricultural Sciences category at the 27th Annual California State University

Student Research Competition at Cal Poly in Pomona held May 10-11, 2013.

Brian's research titled *Optimization of a Technique to Measure Bulk Viable Biomass, Based on the Hydrolysis of Fluorescein Diacetate (FDA) by Ubiquitous Enzymes* with faculty mentor, Professor Nicholas Welschmeyer optimized a technique that measures the rate of extracellular fluorescein production and the product of FDA cleavage by *esterase mes* present in all living cells, to quantify the bulk living biomass of heterogeneous aquatic assemblages.



(SJSU Research Foundation photo)

Daniel Nguyen, a Chemistry major took second place among the undergraduates in the same category. **Daniel Nguyen's** research titled *Highly Efficient Light-*

Driven P450 Biocatalysts with faculty mentor Assistant Professor Lionel Cheruzel developed an efficient biocatalyst able to selectively hydroxylate substrate C-H bonds with the highest activity and turnover numbers among all of the current alternative approaches.

Congratulations to Brian and Daniel!

SJSU Award Winners at ABRCMS Conference

ANNUAL BIOMEDICAL RESEARCH CONFERENCE FOR MINORITY STUDENTS



Of the 27 SJSU students attending the conference, six received awards. More information on student programs [here](#).

Twenty-seven San José State University students attended the 2013 Annual Biomedical Research Conference for Minority Students (ABRCMS) in Nashville and did an exceptional job of representing SJSU by presenting their scientific research. The students are funded by RISE, MARC and LSAMP programs. These are federal grants secured by faculty in the College of Science to support underrepresented STEM students interested in continuing to doctoral studies in biomedical fields. The students were accompanied by **Dr. Leslee Parr** (MARC Program Director), **Dr. Cleber Ouverney** (RISE Coordinator), **Dr. Herb Silber** (RISE Coordinator and past MARC Program Director) and **Dr. Karen Singmaster** (RISE and LSAMP Program Director).

Six students were selected by judges for awards. They are **Beatriz Camacho** (Chemistry, RISE), **David Carrillo** (Biological Sciences, RISE), **Marc Gancayco** (Chemistry, LSAMP), **Vanessa Jimenez** (Biological Sciences, MARC), **Cindy Martinez** (Psychology, MARC) and **Jacob Schekman** (Chemistry, MARC). Congratulations to all twenty-seven students! Go Spartans!

— Dr. Leslee Parr

Moss Landing Marine Labs *in the News!*

MLML SELECTS DIRECTOR



Dr. James Harvey in the MLML Vertebrate Ecology Lab where he conducts research on marine turtles, birds and mammals.

After a national search, **James Harvey** was named director of Moss Landing Marine Laboratories. Harvey was selected for the position by a search committee comprised of CSU administration, MLML faculty members and members of the Monterey Bay scientific community.

Established in 1966, Moss Landing Marine Laboratories is the marine lab and graduate program in marine science for a consortium of seven California State University campuses, with overall management provided by SJSU. Today, MLML has eight full-time faculty and nearly 100 graduate students enrolled in the program, with resources including a marine research library, 13 research vessels from 12 to 135 feet in length and a fully-equipped diving program. Harvey will oversee the MLML education and research programs, and serve as a member of the Executive Committee of MLML's Governing Board on consortium campuses.

"I am humbled by the trust that others have placed in me and excited by the opportunity to serve MLML, San José State University, the consortium and the CSU," said Harvey. "This is a special place and I am honored to become its director."

Harvey has been at MLML since 1974 beginning as a graduate student studying turtles, birds, and mammals. Click [here](#) for more about MLML.

PT SUR COMPLETES 17,000 MILE TRIP

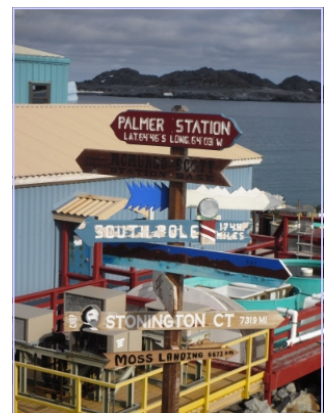


A FIRST FOR A NATIONAL SCIENCE FOUNDATION VESSEL OF R/V POINT SUR'S "REGIONAL CLASS" SIZE TRAVELLING TO ANTARTICA

The 495-ton Research Vessel *Point Sur* cruised into her home port of Moss Landing Harbor on May 2, returning from a research voyage to the Antarctic Peninsula. The National Science Foundation vessel operated by Moss Landing Marine Laboratories has been gone for more than five months, supporting research in the Southern and Pacific Oceans during a trip that was unprecedented by an NSF vessel of her size.

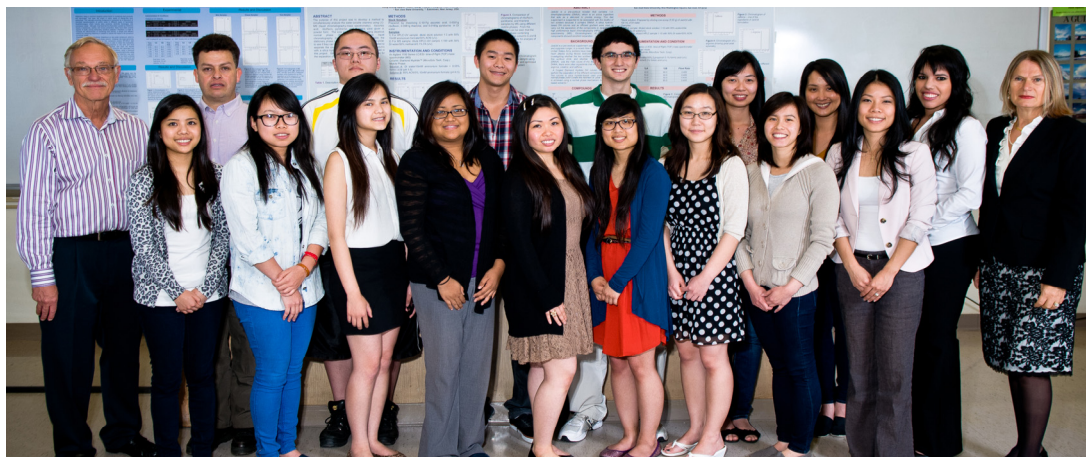
The 135-foot R/V *Point Sur* departed Moss Landing on November 29, 2012 on a trip that took her more than 17,000 miles and is one that is more commonly made by vessels that are 200 or 300 feet in length. The *Point Sur*, as she is affectionately known by the MLML community, was chosen by NSF for this mission because of her cost-effective, flexible size and her prior achievements working in the Aleutian Island Chain and Bering Sea in Alaska.

Varying groups of scientists from the University of South Carolina and the University of Alabama joined the *Point Sur* to further their research in geology studying ice sheets and penguin colonies, respectively. MLML Director **Jim Harvey** stated, "It takes an incredible amount of planning, teamwork and expertise to accomplish this extraordinary voyage." Read the entire [article](#) or visit [MLML](#) at www.mlml.calstate.edu.



Chemistry *in the News!*

DR. JOE PESEK AND HIS RESEARCH GROUP



From left: Professor Joseph Pesek, Caesar Munera, Colby Tse, Andy Dang, Andrew Jimena, Loan Nguyen, My-Tops Ly, Ally Hasbun, Professor Maria Matyska-Pesek, Vy Phan, Rosie Le, Amy Myeonghui Kim, Alana Nguyen, Hong Nguyen, Cherisa Ablao, Monita Sieng, Tong Huyen and Emily Vuong. Absent: Andrea C.

In May 2012, Dr. Joseph Pesek celebrated publication of his 200th manuscript entitled *The influence of the organic modifier in hydro-organic mobile phase on separation selectivity of steroid hormones separation using cholesterol-bonded stationary*

phases, S. Bocian, J. Soukup, M.T. Matyska, J.J. Pesek, P. Jandera, B. Buszewski, J. Chromatogr. A, 1245 (2012) 90-97. Since then, five manuscripts were published or accepted for publication. Dr. Pesek has a very productive group of graduate and undergraduate research students (above) and is very proud of their accomplishments.

— Dr. Joseph Pesek

SJSU RECEIVES \$250,000 FROM KECK FOUNDATION

The W.M. Keck Foundation has made a \$250,000 gift to San José State University to develop laboratory exercises more similar to what students will find in the workplace while introducing new technology into the curriculum.



Professor of Analytical Chemistry, **Joseph Pesek** will serve as principal investigator, working with Professors Claire Komives of Material and Chemical Engineering, Brandon White of Biological Sciences and Steven Lee of Justice Studies.

Faculty and student researchers will develop applications for aqueous normal-phase chromatography, a method of analyzing samples developed at San José State University. Protocols for these applications will become the basis for lab exercises to be tested as classwork for SJSU students. This project will provide undergraduate research opportunities and benefit the next generation of college students.

The Keck Foundation supports pioneering discoveries in science, engineering and medical research.

— Pat Lopes Harris
SJSU Today 10/1/13

Biotechnology Graduates *in the News!*

SPARTANS ADVANCED TO SILICON VALLEY STARTUP CUP FINALS



The BioReady team is comprised of five biotech grads: Kira Dionis-Petersen, Dien Vo, Gavin McCann, Scott Marzano and Sheri-Michele Bachelor (photo courtesy of Scott

A team of five alumni of the Master's in Biotechnology Program (MBT) at San José State University created **BioReady** that automates the procurement and inventory management process for labs.

The team placed first at the 2013 Silicon Valley Business Plan Competition organized by the Lucas College and Graduate School of Business at SJSU. BioReady was one of three teams from San José State that qualified for the final round of the Silicon Valley StartUp

Cup Business Model Competition. StartUp Cup is an international initiative sponsored locally by Focus Business Bank, Meriwest Credit Union and West Valley College.

"My classmate **Gavin McCann** and I came up with this idea for a project in a marketing management course at SJSU," **Scott Marzano** recalled. "We were required to develop a marketing plan for a service company and wanted to try and solve an important problem in biotechnology research."

The SJSU teams — **BioReady**, **AFK Gamer Lounge** (video game LAN center and gamer bar) and **Cranium Shield** (x-ray protection for the head) — made their pitches to judges October 30, 2013. From a pool of seven finalists, judges named the first, second and third place winners on November 21st. SJSU's **Cranium Shield** was the third place winner. The contest offers no cash prizes, but that's beside the point for BioReady. StartUp Cup and the SJSU business plan competition provide intense feedback and mentoring resources more valuable than cash alone.

All five grads are gainfully employed at Agilent Technologies, Thermo Fisher Scientific, Life Technologies and Stanford University.

Congratulations to all!

— Pat Lopes Harris
SJSU Today 10/1/13

Computer Science Mobile Development Class



This group used presentation from the five largest tech organizations in the mobile field: Microsoft, Facebook, Google, Samsung and Mozilla for their **Cinequest Film Festival** project.

The group of students completely rewrote the mobile software in four platforms: Android, iOS, Windows Phone and HTML5. The group used the incubator classroom's three screens to simultaneously project the apps from the three teams during project reviews and looked for any inconsistencies.

None of this would have been possible without the hard work of **Dr. Chris Pollett** who designed the course. Thank you Dr. Pollett!

— Dr. Cay Horstmann

Meteorology and Climate Science *in the News!*

GRANTS RECEIVED FOR URBAN CLIMATE RESEARCH



Assistant Professor **Menglin Jin** received an NSF Research Experiences for Undergraduates Award (REU) totaling \$9,500 to be used beginning the summer of 2013. The recipient will be a female senior student within the Meteorology and Climate Science department. She will be supported to work on cutting-edge research related to urban climate systems.

Dr. Jin also has received a new NASA research grant for \$115,000 to work on urban aerosol effects on snowfall. In this project, Dr. Jin's team will collaborate with the top scientists in NASA, the University of Georgia and the University of Utah. The most advanced satellite remote sensing approach and climate models will be used to explore a new understanding of human impacts on snowfall.

— Dr. Menglin Jin

MOBILE LAB FOR CHASING FIRES AND SAVING LIVES

This past summer firefighters struggled to contain the Rim Fire near Yosemite. **Dr. Craig Clements** and his students were on scene collecting data that could one day save lives.

Craig Clements, as Associate Professor with the Department of Meteorology and Climate Science studies conditions inside and around blazes, seeking to learn how the fire and atmosphere interact with the goal of predicting how fast and far the blaze will burn.



Mobile lab at the Rim Fire near Yosemite in August. (Photo from Dr. Craig Clements).

With funding from the National Science Foundation, Clements developed a mobile atmospheric profiling system. This truck pulls a compact trailer loaded with the latest tech tools including lidar and sodar, using light and sound waves to track winds.

The team went to the Dodge Ridge ski resort for access to the Rim Fire area on August 23, 2013. Dr. Clements said “My students went to scan the downwind plume from below at Crane Flat lookout near Highway 120 within Yosemite Park” and obtained valuable data to process. Shortly afterwards, his team “planned a deployment with NASA who will be flying the plume with an aircraft to collect air chemistry data.”

Dr. Craig Clements is one of the only scientists in the world studying wildfire-atmosphere interactions. You can follow the team's activities via the [SJSU Fire Lab's](https://twitter.com/FireWeatherLab) Twitter account (<https://twitter.com/FireWeatherLab>).

— Pat Lopes Harris
SJSU Today, 8/27/13

Computer Science *in the News!*

HACKERS BEWARE!



Students in cybersecurity class of Assistant Professor **Tom Austin**

SJSU is building the future workforce in cybersecurity. In the Student Union this past summer, more than 75 students spent a week building skills, networking with tech leaders and battling to win a capture-the-flag competition at the 2013 Western Regional Cyber Security Boot Camp.

Nine new faculty members joined 20 veteran instructors to teach more than 40 courses in **cybersecurity** and the related field of **big data**. Their expertise covers a wide range of fields from computer science to psychology and are working together on research and new certificate and degree programs.

Professors are also connecting with industry, federal agencies and national laboratories on internships, research and a road map for addressing emerging issues in security and data science. The result is a focus on training SJSU students to attack the problem from every conceivable angle.

All this work is positioning SJSU for future certification as a **National Center of Academic excellence for Information Assurance**.

— Pat Lopes Harris
SJSU News, 9/3/13

Jay Pinson STEM Education Center

INTEL MAKES \$25,000 GIFT TO GIRLS STEM NETWORK



STEM Director Dr. Virginia Lehmkuhl-Dakhwe

Intel has made a generous lead gift to the STEM program aimed at introducing middle-school girls to cybersecurity. “We are extremely grateful for Intel’s partnership and willingness to support this program,” said **Dr. Virginia Lehmkuhl-Dakhwe**, Director of the Jay Pinson STEM education program within the College of Science.

The initiative, “Girls STEM Network: Cybersecurity,” or GSN:Cyber, will help middle-school girls learn how to protect the online environments of their families and communities. At the same time, the program will enhance the girls’ knowledge of STEM (science, technology, engineering and mathematics) subjects.

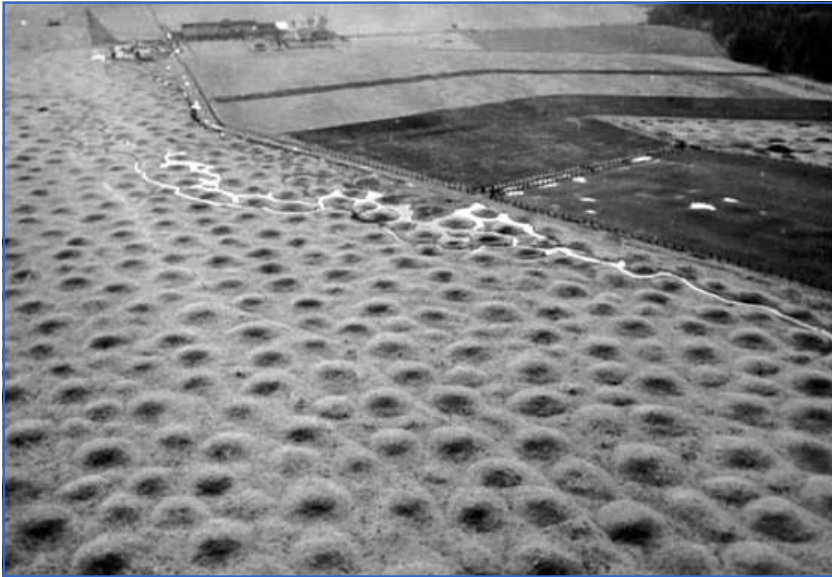
SJSU will provide training and support for our students and community organization leaders, who will in turn help participating girls develop a deeper understanding of the risks of cyberspace. The experience will also encourage girls to consider careers in computer science and cybersecurity.

GSN:Cyber will leverage the expertise of SJSU faculty and staff members, campus infrastructure and strategic partnerships with industry and community organizations serving girls and women. The program will operate at SJSU and in after-school programs, reaching 180 girls and 18 SJSU student instructors in its first year of operation.

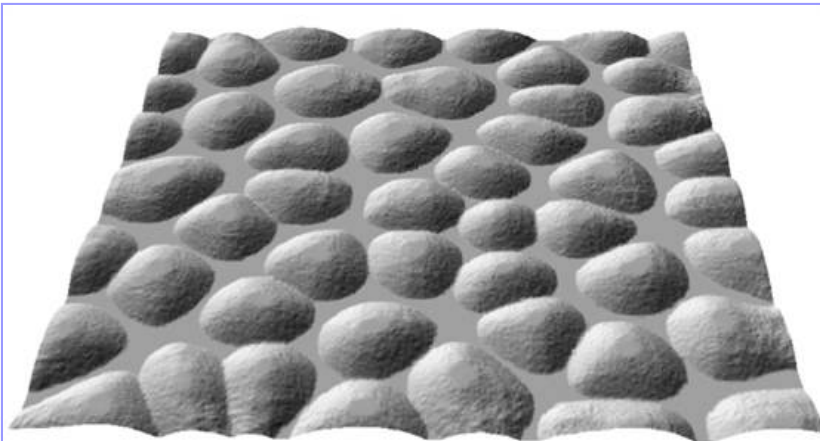
— Pat Lopes Harris
SJSU News, 5/21/13

Geology in the News!

MIMA MOUNDS MYSTERY SOLVED



Mima mounds found in California's Central Valley.
Photo courtesy of Manny Gabet.



Computer Model of Mima Mounds.
Photo courtesy of Manny Gabet.

In October 2013, **Dr. Manny Gabet** published his research in the journal *Geomorphology* showing a new computer model depicting the unique soil conditions of Mima mounds. He tested the model's predictions for mound spacing and height against the 30-year old gopher piles and the results were amazing.

The mounds are created when over a period of 500-700 years, generations of pocket gophers push the soil upward forming a living place above water level when it rains. A mound can grow to be 8 feet high by 30 feet wide. The size of the mature Mima mound illustrates the territorial range of a single gopher, Gabet discovered.

"The problem with figuring out how Mima mounds form is that nobody has actually seen one form, which suggests that the processes that formed them are either no longer active or just very, very slow," Gabet said.

"The advantage of using a computer model is you can speed up time. What's really cool about this is scaled by body size, these are the largest structures built by any mammal not including humans," Gabet told LiveScience's OurAmazingPlanet. "In terms of effort, it would be like a single person building the pyramids."

Another piece of Gabet's computer model shows a shallow buried layer that was impenetrable to water preventing rainwater

from quickly draining and water collects in the upper soil level where pocket gophers live.

Continued on page 9

Geology *in the News!*

Continued from page 8

MIMA MOUNDS MYSTERY SOLVED



Washington State's Mima blocks in western Washington
Aerial Photo courtesy of Washington State DNR

Mima mounds can be found at Washington's Mima Mounds Natural Area Preserve and many places in the West and the Plains.

On abandoned farmland in California's Central Valley, near the Carrizo Plain, Gabet has discovered budding Mima mounds, he said. Temporary vernal pools appear between Mima mounds during winter rains, creating a rare type of grassy wetland and habitat for endangered species such as fairy shrimp.

In these mounds, gophers pile up soil to stay high and dry above wet ground. "If you live underground like these gophers do, then saturated soils is a fatal condition," Gabet said. These mysterious hills are found on every continent except

Antartica, far from the range of pocket gophers. "This suggest other burrowing mammals have evolved this same type of adaptive behavior on other continents," Gabet said.

— Becky Oskin, LiveScience

The original [article](#) can be found on LiveScience's OurAmazingPlanet.

NBC News.com

Field Studies in Natural History *in the News!*

NEW DIRECTOR ANNOUNCED



The Field Studies in Natural History program is pleased to announce that **Stanley Vaughn** ('94 & '10) will serve as the director for this venerable program. Field Studies in Natural History has provided guided academic experiences in the greater outdoors for nearly 5000 students and community members for over 80 years. Stan will be spearheading the annual Spring Break program to Death Valley National Park from March 24-28, 2014. Participation is open to all. For more information, please see <http://www.sjsu-fsnh.org/> or contact Stan at stanley.vaughn@sjsu.edu.

— Dr. Elizabeth McGee
Dept of Biological Sciences

Faculty Recognition

DR. BRADLEY STONE — CHEMISTRY DEPARTMENT



During the 2012-2013 Academic Year, Professor **Bradley Stone** returned to the faculty, after serving the Department for 9 years as Chair. Dr. Stone was awarded a sabbatical leave during the Spring 2013 semester, during which he spent time at the ETH (Swiss Federal Institute of Technology) in Zürich, Switzerland, working in the research group of Professor Andrew de Mello. This work consisted of performing computational fluid dynamical calculations on microfluidic devices, studying droplet flow and merger. His graduate student, Katrina Donovan, has been carrying out these calculations back in San José, which will be the basis for her M.S. Chemistry thesis.

A joint publication recently appeared in the *Encyclopedia of Biophysics* on “Segmented Flow Microfluidics”. Dr. Stone was awarded the University’s Distinguished Service Award in 2013. He was nominated for this award based upon his service over the years as Department Chair, Chair of the University’s Council of Chairs and Directors, University Co-Director of the NASA Faculty Fellowship Program for NASA Ames Research Center and Dryden Flight Research Center, Jazz Music Director and Faculty Advisor for the campus radio station KSJS-FM, Chair of the Selection Committee for Fellows for SJSU’s Salzburg Program, amongst other activities. Dr. Stone was named one of the “Top 20 Professors in Science and Technology” in the State of California for 2013 by StateStats.org and OnlineCaliforniaSchools.com. He continues to do research during the summer in Zurich, and just returned from the Salzburg Global Seminar, where he served as a member of the faculty as a resource specialist this year.

— Dr. Gilles Muller
Chair, Dept of Chemistry

FACULTY AND STAFF ON THE MOVE

Newly hired tenure-track faculty as **Assistant Professor**—

- Dr. Alberto Rascon, Chemistry
- Dr. Thomas Austin, Computer Science
- Dr. Duc Thanh Tran, Computer Science
- Dr. Elizabeth Gross, Mathematics and Statistics

Newly hired or promoted **Management and Staff** —

- Dr. James Harvey, Director of Moss Landing Marine Labs (MLML)
- Brynn Hooton-Kaufman, Graduate Program Coordinator, MLML
- Rick Verlini, Ship’s Captain, MLML
- Dr. Virginia Lemkuhl-Dakhwe, STEM Education Center Director
- Dr. Bem Cayco, New Department Chair of Mathematics and Statistics

Retired Faculty —

Biological Sciences:

- Dr. Robert Fowler
- Dr. Steven White

Geology:

- Dr. Richard Sedlock

Physics and Astronomy:

- Dr. Joseph Becker
- Dr. Brian Holmes

2013 Distinguished Educator Award

DR. ELLEN METZGER RECEIVES THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS AWARD AS A DISTINGUISHED EDUCATOR



The Geology department is pleased to announce that Professor **Ellen Metzger** is the recipient of the 2013 Distinguished Educator Award of the Pacific Section of the American Association of Petroleum Geologists (AAPG) in “recognition of distinguished and outstanding contributions to geological education and counseling of students.”

Dr. Metzger has taught at San José State University since 1989, sharing her vast knowledge in the fields of mineralogy, metamorphic petrology and sustainability issues. She also serves as Co-Director of the Bay Area Earth Science Institute (BAESI), a professional development program dedicated to assisting Bay Area K-12 educators in developing their

knowledge and skills in teaching modern science to students.

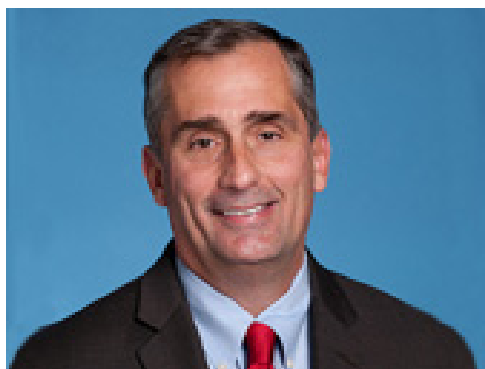
Dr. Metzger joins Professor Dave Andersen (2005) of SJSU’s Geology department in earning this award. San José State is one of only a few universities to have had two faculty members receive this recognition.

Congratulations Dr. Metzger!

— Geology Dept News
August 23, 2013

College of Science Alumni News

ALUMNUS APPOINTED INTEL CEO



Brian Krzanich graduated 30 years ago with a bachelor’s degree in Chemistry. He began his career at an Intel chip factory in New Mexico. He worked his way through the ranks to become the Chief Operating Officer in January 2012 and then CEO on May 16, 2013.

“I look at this world and see all kinds of devices connected to computers and people connected to it all the time,” Krzanich told the New York Times. “We can bring things to companies that others haven’t dreamed of.”

Analysts expect Krzanich to draw on traits that distinguish many SJSU graduates powering Silicon Valley, including practical skills and a can-do attitude. Krzanich will be “a good team player” as he makes plans to “move the company into new areas of growth,” according to [Reuters](#). Read more from [Intel](#).

— Pat Lopes Harris
SJSU Today



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MLML's R/V Point Sur returns after a 17,000 mile research expedition to Antarctica. See story on page 5.

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The College of Science would like the reader's feedback regarding this newsletter. Suggestions and comments can be directed to Cher Jones at cher.jones@sjsu.edu. Thank you in advance for your feedback. cj

