2015

The Scientist, 2015

San Jose State University, College of Science

SJSU SAN JOSÉ STATE UNIVERSITY

COLLEGE OF SCIENCE

THE SCIENTIST

2015

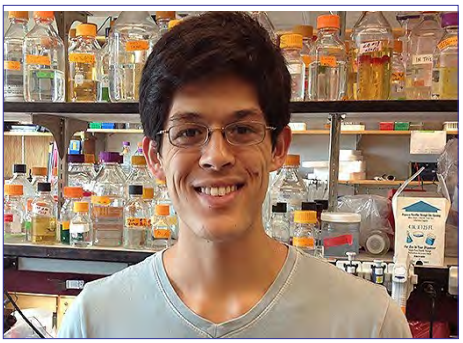
Science in Our World and Beyond

In this issue —

Exploration and Discovery Thrives at the College of Science!

SJSU's 2015 Top Outstanding Graduates

BOTH ARE FROM THE COLLEGE OF SCIENCE!



Gancayco at MIT where he researched the nuclear pore complex (NPC) using x-ray crystallography. (Photo: Kevin

The two Outstanding Graduating Seniors for 2015 are **Marc Gancayco** and **Tristan Pulliam**. They have been recognized for their leadership roles on and off campus, contributions to the community, and personal contributions as undergraduates.

Marc Gancayco has earned his degree in chemistry with a biochemistry concentration. He graduates with a 3.845 GPA. Other awards are fellowships from the University of Illinois, Urbana-Champaign (UIUC) Graduate College and the National Science Foundation Graduate Research Fellowship Program. Gancayco will pursue a doctorate in chemical biology at UIUC. "I hope my research training will help me increase scientific literacy in our society", Gancayco stated. More about Marc's accomplishments on page 4.

Tristan Pulliam (Photo: Jared Gochuico)

Tristan Pulliam will graduate with a bachelor's degree in biological science with a concentration in systems physiology.

Pulliam has earned a 3.883 GPA and has been awarded five scholarships. He is most proud of being a science mentor and teacher. "It has brought me a great sense of joy to see the smiles on students' faces upon understanding difficult concepts." His "love for academics and helping those in need will surely endure beyond graduation," stated Pulliam. He is applying for medical school and plans to focus on endocrinology, as he is interested in the role that hormones play in body tissues. "There is always time to change your habits and become the person you want to be. I'm not special. I just happened to find my passion in life, and I've met hundreds of amazing SJSU students who have faced far more adversity, yet have the grit to attend classes every day and earn their degrees," Pulliam stated.

Gancayco and Pulliam was recognized at Commencement on May 23, 2015.

—Washington Square
Fall Winter 2014

College of Science *Dean's Message*

J. Michael Parrish, Dean

Fall 2015 is a time of change for the College of Science. We are excited to welcome twelve new faculty members to the college. **Luke Miller** (biostatistics) and **Benjamin Carter** (plant biology) will be joining the Department of Biological Sciences, and **Abe Wolcott** (physical chemistry) will be joining the Chemistry Department. **Katrina Potika** will be joining the Department of Computer Science, as will **Len Wesley**, who is coming to us from the College of Engineering to develop a professional master's degree in bioinformatics. Four faculty are joining the department of Mathematics and Statistics: **Marion Campisi**, **Dashiel Fryer**, **Matthew Johnston** and **Jordan Schettler**. The Department of Meteorology and Climate Science is welcoming physical meteorologist **Minghui Diao**, and **Thomas Connolly** will be joining Moss Landing Marine Labs as a physical oceanographer. Last but not least, physics education specialist **Benedikt Harrer** will augment the Department of Physics and Astronomy's growing ranks in that subdiscipline. Two additional faculty members, vertebrate biologist **Brigitte McDonald** and geochronologist **Kim Blisniuk**, joined MLML and the Department of Geology, respectively, in January 2015.

This summer, Chemistry professor **Marc d'Alarcao** joins the College leadership team as Interim Associate Dean for Research. Dr. d'Alarcao has been very involved in promoting research at SJSU through work with the SJSU Research Foundation and the Academic Senate, as well as through his efforts in the Department of Chemistry and the College of Science. In addition to mentoring faculty and students in obtaining external research support, Marc will be tracking CoS research funding and activity, as well as coordinating space efforts within the college.

We are also seeing some badly needed facilities improvements in the college. As I type this, new seating is being installed in three of our large-enrollment classrooms: Science 164, Science 258, and Duncan 135. We are also seeing a number of improvements in other teaching rooms in Science, Duncan, and MacQuarrie, including installation of new furniture, new blinds, and/or new technology in 36 CoS classrooms and labs. In 2014-2015, we convened a college space committee comprising representatives from all of the CoS main campus departments which has been prioritizing space needs and engaging in some long range planning for College of Science facilities. This has been a very active and effective committee which is looking at college space needs holistically, and has already resulted in some swaps between units that will allow us to use our existing space more efficiently while positioning us for new teaching and research spaces for the future.

The college's third major strategic initiative involves student success, focusing on ways we can improve retention and graduation rates among all of our students, with a particular emphasis on students from underserved populations. One initiative we hope to explore this year is the creation of a science and mathematics learning community within the SJSU residence halls.

— J. Michael Parrish, PhD
Dean, College of Science
August 5, 2015

RESEARCHERS CRACK AWAY AT THE BENEFITS OF WALNUTS

Ahn Pham (front) and John Kim conducted walnut research under Biologist Dr. Brandon White and Chemist Dr. Roy Okuda at SJSU. (Photo: Dillon Adams)

As graduate students, student researchers **Zackery Bevens** ('14 Biology), **Anthony Bortolazzo** ('14 Biology), **Danny Ha** ('14 Biology), **John Kim** ('12 Chemistry), **Vy Le** ('14 biology), and **Ahn Pham** ('12 Biology), conducted walnut research at SJSU. Today, these students are achieving great success.

These students received hands-on training from Professors **Brandon White** and **Roy Okuda** as part of their educational experience at SJSU. Working in the lab has helped these students go on to working in biotech, doctoral programs, and pharmacy school.

Walnuts are part of a Mediterranean diet and have been shown to reduce heart disease and are potentially able to fight cancer. Yet as much as science has revealed about the health benefits of walnuts, which components of walnuts are responsible for these effects have remained a mystery.

Researchers at SJSU in collaboration with scientists at North Carolina State University's Plants for Human Health Institute, have now identified compounds that show anti-cancer effects in human breast cancer cell models.

The research study, "Cytotoxic Effects of Ellagitannins Isolated from Walnuts in Human Cancer Cells," was published online in September, 2014 (Vol 66, Issue 8) in the scientific journal, *Cancer and Nutrition*.

A team of undergraduate students at SJSU in the biology lab of Dr. White and the chemistry lab of Dr. Okuda conducted the study of characterizing the effects of the compounds on various breast cancer cells. Mary Grace, a senior researcher in Mary Ann Lila's lab at the Plants for Human Health Institute, provided purified compounds that were used in this study.

"Not only is this research beneficial to human health, it has also given students at SJSU an opportunity to work in the cancer biology field," stated Professor White.

Today, Pham is working in the biotechnology industry. Kim is in a doctoral program at the University of Southern California.

— Pat Lopes Harris
SJSU Today
12/19/14

SJSU MARC Scholars

Accomplishments of our Amazing students!

As stated on the front page, **Marc Gancayco** (Chemistry, mentor-Dr. Eggers) has been named as one of the 2015 Outstanding Graduating Senior Award recipients*. Marc has accepted an offer to pursue his PhD in Chemical Biology at the University of Illinois at Urbana-Champaign (UIUC). (He also received competing offers from Columbia and Cornell Universities). UIUC has awarded Marc a Graduate College Distinguished Fellowship and a Chemistry-Biology Interface Training Program (CBI-TP) Fellowship. In addition, Marc was awarded the extremely competitive NSF GRFP Fellowship. In combination these awards will fully cover his expenses and will provide him with a comfortable stipend for the duration of his Doctoral training.

* We proudly note that this is the second year in a row that a SJSU MARC student Fellow has received one of the two SJSU Outstanding Graduating Senior Awards. Last year, **Terri McBride** (Biology, mentor-Dr. Soto), received this honor and shared the Commencement stage with President Qayouomi and other dignitaries. Terri has just accepted a prestigious MD/PhD MSTP Training position at the University of Minnesota (she also received three other competing offers).

Margarita Rangel (Biology, mentor– Dr. Ouverney) Graduating senior and President's Scholar has accepted an offer to pursue her PhD at New York University.

Michelle (Soriano) Allen (Biology, mentor-Dr. Parr, 2008) graduated this May with her MD/PhD from UC Irvine. She has been accepted into a 5-year categorical residency program at UCLA Pediatric Neurology that lead to double-boarding in Pediatrics and Neurology with special qualification in child neurology. UCI is honoring Michelle with a distinction in research award. Dr. Parr attended the award ceremony and her graduation.

Continuing MARC Fellows' Achievements

Jessica Ballin (Psychology, mentor–Dr. Van Selst) a Dean's Scholar, spent summer 2015 participating in the University of Michigan Summer Research Opportunity Program (SROP).

Frank Contreras (Materials and Chemical Engineering, mentor-Dr. Eggers) did research on biologically relevant interstellar chemistry at NASA Ames in summer 2015.

Vanessa Jimenez (Biology, mentor-Dr. VanHoven) will continue work on the SAX-2/Roundabout project, which focuses on the process of axon outgrowth termination in the genetic model organism *C. elegans*. Vanessa did research in a collaborating lab at UC San Francisco last summer. She is preparing to apply to MD/PhD programs this fall.

Alexia Perryman (Chemistry, mentor-Dr. Rascón) is a Dean's Scholar and worked this summer to further her research progress on the proteasea from mosquitos responsible for spreading yellow fever, chikingunya, and Dengue viruses. Alexia spent last summer (2014) at the University of Utah doing research as part of Graduate Preparation Institute (GPI).

Rebecca Sandoval (Psychology, mentor-Dr. Van Selst) will participate in the University of Illinois Urbana Champaign, Student Research Opportunity (SORP).

Kyle Soder (Biomedical Engineering, mentor-Dr. Eroqbogbo) spent summer 2015 refining the hand-held biomedical imaging platform that he has developed in the SJSU Nanotechnology in Biomedical Applications Engineering lab. By summer's end he and his research partner are scheduled to conduct human clinical trials with the device in the clinic of Dr. Stuart Williams. After hearing Kyle's research presentation, Dr. Williams approached Kyle requesting an opportunity to test the device to visualize and calculate blood flow throughout the palms of total hand transplantation patients immediately after surgery.

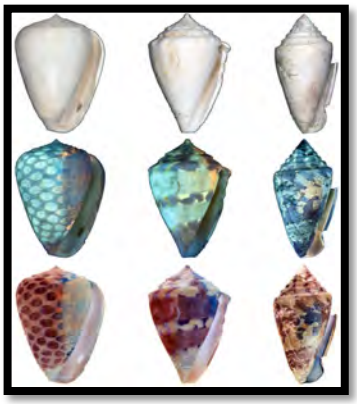
Taneisha Woodard (Psychology, mentor-Drs. Chancellor & Freeland) conducted her summer 2015 research at UC San Diego as part of the UCSD STARS program.

Congratulations to these outstanding young scholars and scientists and their mentors!

—Leslee A. Parr, PhD
Director, SJSU MARC U*STAR
Department of Biological Sciences

Biological Sciences *in the News*

Ancient Seashell Coloration Patterns Revealed; Prof. Hendricks Named Paleontology Society Distinguished Lecturer 2016-17



Jonathan Hendricks' area of interest is paleontology, the study of ancient organisms, how they lived, and their evolutionary histories. The fossil record is used to explore the biological and environmental factors and connections responsible for macro-evolutionary changes and extinction.

The cone snails in the picture reveals the original coloration pattern the shell had when the snail was alive. The 4.8 to 6.6 million year old fossil cone shells appear white and without a pattern. The UV light causes residual pigments in the shell to fluoresce.

One important component of the current research project is the creation of "Digital Atlases" that will be useful to both professional and avocational paleontologists for identifying fossils and studying how the geographical distribution of species change over time.

Dr. Hendricks' main focus is on the Neogene fossil record of cone snails in the Dominican Republic. He was able to view and document the coloration patterns of 28 different cone shell species from the northern Dominican Republic, 13 of which appear to be new species. In his research, Dr. Hendricks compared these against the modern Caribbean cone snail shells and found that many fossils showed similar patterns, indicating lineages that survived for millions of years. The one exception in this study was the newly described species *Conus carlottae*. This species has a shell covered by large polka dots, a pattern that is apparently extinct among modern cone snails.

His research is focused on a wide variety of subjects, ranging from Cenozoic snails to Cambrian anthropods from Utah similar to those found in the famous Burgess Shale. This work is grounded in the study of morphology of fossil invertebrates and their living relatives for the purposes of species delimitation phylogenetic reconstructions, and the study of macroevolution in response to paleo-environmental change.

This current research of digitizing fossils to enable new syntheses in biogeography led to information associated with fossil specimens in museum collections in order to better understand how the geographic distributions of ancient organisms were impacted by factors such as climate change.

Dr. Jonathan Hendricks

— Jonathan Hendricks, PhD
and Eureka Alert
as adapted by PLOS ONE
April 1, 2015

Biological Sciences *in the News!*

High-Tech Egg Loggers

Dr. Shaffer holding an egg logger containing micro-electronics are made on a 3-D printer. (Photo: Muhamed Causevic)

Did you know some wild birds turn their eggs 50 to 60 times a day during nesting season? Or in some species, the temperature of an egg inside a nest drops about 2.5 degrees from day to night?

Those are just some of the findings Associate Professor of Biological Sciences Scott Shaffer discovered during recent studies with his news high-tech egg loggers. "The egg loggers open up a lot of new territory to explore what the birds are doing," said Professor **Scott Shaffer**, a wildlife biologist. The egg loggers look like real eggs but they are far from it. The eggs are plastic and made on a 3-D printer. Inside are micro-electronics similar to those used in smart devices such as tablets and cell phones.

An accelerometer and magnetometer measure motion and angle changes in three dimensions and a thermistor monitors temperature. Each sensor takes a reading every second and gives researchers more definite estimates to calculate three-dimensional movements and create 3-D animations of movement patterns, something not available until now. Egg turning is critical for embryonic development in most bird species. The information provided by the egg loggers could help researchers learn how to improve hatching rates of artificially incubated eggs.

In addition, researchers are seeking to better understand how man-made disturbances affect hatching success, and even learn how birds laden with certain contaminates like mercury influence hormone levels. Shaffer and his team developed advanced egg loggers and placed them in the nests of five different-size bird species in geographic locations ranging from the tropics to Antarctica.

The research was funded in part by the California State University Program for Education and Research in Biotechnology (CSUPERB).

— Robin McElhatton
SJSU Today
February 9, 2015

Computer Science *in the News!*

Winners of ProdOps SRE Team Hackathon at SJSU

1st Place Winners: Akshay Baheti, Karan Khare, Nirav K Patel, and Rohan Bhanderi

On February 28, 2015 the Yahoo Service Reliability Engineering (SRE) team partnered with the SJSU Computer Science Department to host a Yahoo sponsored Hackathon on the SJSU campus. At 8am the students began to slowly roll into the 2nd floor of the MQH building to sign-in for the day's event and await the challenge that lay ahead of them. An hour and a half later, 78 students, eight Yahoo judges, and SJSU faculty members were gathered in a hallway discussing the day's schedule and the Hackathon's topic - host alert correlation and host self-healing. Then the real fun began.

Students quickly formed teams - some made up of friends and well-known classmates while others being impromptu get-togethers of students that didn't even know each other. Regardless, the teams then quickly split into four dedicated rooms and began brainstorming how they would attack the challenge they had received minutes earlier. After an hour of brainstorming, each team chose a representative to pitch their idea to the room and the Yahoo judge that was present. With some feedback gathered for each team from their respective judge, the teams were now given approximately four hours to develop their ideas before the presentations began. In that time, teams put together workflows, flowcharts, code in a variety of languages, squeezed in 10 minutes to eat the lunch provided at their desks (nobody ate away from their computer), and did whatever they could to attack the challenge.

At 3pm, the presentations began. The Yahoo judges went room to room and listened to each team's five minute presentations on what they had accomplished throughout the day. The spirit of the hackathon - innovation and collaboration - could really be seen in these presentations, regardless of whether the members of each team knew each other before the day or not. Even though the operations-driven topic was new to most students, they did extremely well in what they developed in the limited time they had. Many of the teams had good takes on the alert correlation portion of the challenge with some even attacking how the self-healing portion of the challenge would be done. Many teams also took time to develop quality web interfaces to group and display the alerts they were given. This really shows the caliber of the SJSU CS students that were present at the event.

After 16 presentations, each different in their own way, the Yahoo judges deliberated and then presented the 1st, 2nd, and 3rd place teams with gift bags filled with Yahoo goodies. Hopefully the 1st place team is enjoying their purple (Yahoo's favorite color) Roku's.

Everyone came together on a Saturday to have fun, develop ideas and code, meet and work with some new people, and really forge a new relationship between Yahoo and SJSU. None of it could have been accomplished without **Debra Caires** from the CS department and all her hard work and effort. A big thank you to her, the Yahoo judges, and all the students for making this event a great success.

Yahoo judges: Fahad Alam, Alan Atienza, Robert Freiberger, Ylan Iacobovici, Isaac Lau, John Pace, Willy Pao, and Chris Wayne

— Ylan Iacobovici
YAHOO!
Sr. Supervisor, Service Reliability Engineering
Sunnyvale, CA

Meteorology & Climate Science *in the News!*

Green Ninja Project—Pedaling for the Planet

L-R: ***Paul Schmitt****,* ***Kelly Chang*** *(Green Ninja Staff),* ***Gaby De La Cruz Tello*** *(Metr student),* ***Eugene Cordero*** *(Prof of Metr),* ***Clare Cordero*** *(Lecturer in Gen Engr),* ***Ramya Shenoy*** *(Comp Sci student),* ***Leah Tremblay*** *(Bus Alumni),* ***Huong Cheng*** *(Animation & Illustration student).*
Photo: Green Ninja Project

After months of training and fundraising, the Green Ninja bike team set off on a 320 mile ride from Eureka in Northern California to San Francisco on May 17. The team arrived in San Francisco on May 21.

The eight member team will ride the coastline to raise awareness about climate change and support environmental non-profit organizations like the Green Nina Project—an SJSU environmental outreach program that teaches middle school students about climate change and inspires them to take action. This team consists of a diverse group of SJSU students, alumni, faculty and staff members. They are **Paul Schmitt**, **Kelly Chang**, **Gaby De La Cruz Tello**, **Eugene Cordero**, **Clare Codero**, **Ramya Shenoy**, **Leah Temblay**, and **Huong Cheng.** Some are avid cyclists while others are beginners.

The Green Ninja Project is the brainchild of Professor **Eugene Cordero**, a climate scientist in the Department of Meteorology and Climate Science. For more information, go to greenninja.org.

Team Captain **Kelly Chang** ('13 Biological Science) loves getting active outside and hopes to inspire others to get outdoors. She had been contacting local businesses to partner with and support the team. Good Karma Bikes has graciously donated a bike that will be raffled off in an upcoming silent auction. **Huong Cheng** ('15 Animation/Illustration) learned to ride a bike just one month prior to the Climate Ride. "I want this to inspire my friends and family to take on challenges in life with a can-do attitude. I know once I finish this ride, I will not be afraid of any obstacle I come across," Cheng said.

—Robin McElhatton
SJSU Today
May 14, 2015

Update: The funds raised from this event so far: $25,196, a great accomplishment indeed! Congratulations to all. cj

Physics and Astronomy *in the News!*

Distant "Hungry Twin" Shows How Galaxies Grow

Inset shows a small cluster of stars embedded in the center of a disrupted galaxy. (Image by R. Jay Gabany)

The Umbrella Galaxy takes its name from a mysterious feature seen on the left here, that is now found to be debris from a tiny galaxy, only a 50th its size, shredded apart by gravity. The image is a combination of data from the 0.5-meter BlackBird Remote Observatory Telescope and Suprime-Cam on the 9-meter Subaru Telescope. The inset shows a small cluster of stars embedded in the stream, which marks the center of the disrupted galaxy.

Mauna Kea, Hawaii — Scientists studying a 'twin' of the Milky Way have used the W.M. Keck Observatory and Subaru Observatory to accurately model how it is swallowing another, smaller galaxy, according to newly published research co-authored by San José State University Assistant Professor **Aaron Romanowsky** of the department of Physics and Astronomy .

This is important because our whole concept about what galaxies are and how they grow has not been fully verified," Romanowsky said. "We think they are constantly swallowing up smaller galaxies as part of a cosmic food chain, all pulled together by a mysterious form of invisible dark matter. We sometimes get a glimpse of the hidden vista being lit up when a galaxy is torn apart. That's what occurred here."

The work, led by Caroline Foster of the Australian Astronomical Observatory, has used the Umbrella (NGC 4651) galaxy to reveal insights in galactic behavior.

The Umbrella lies 62 million light-years away in the northern constellation of Coma Berenices. Its faint parasol is composed of a stellar stream, thought to be the remnants of a smaller galaxy being pulled apart by the large galaxy's intense gravitational field. The Umbrella will eventually absorb this small galaxy completely.

"Being able to study streams this far away means that we can reconstruct the assembly histories of many more galaxies," Romanowsky said. "We can also map out the orbits of the stellar streams to test the pull of gravity for exotic effects, much like the moon going around the Earth but without having to wait 300 million years for the orbit to complete."

— Pat Lopes Harris
SJSU Today
June 30, 2014

Jay Pinson STEM Education Program

Students Giving Back to the Community

Students of the 157SL class

SJSU's 157SL, Community Engagement and Service Learning class gives SJSU students the opportunity to give back to their community. This class strives to connect SJSU students to local nonprofit organizations to give students an opportunity to learn about their community and use their time and skills to give back.

Dr. Virginia Lehmkuhl-Dakhwe, Director of the Jay Pinson STEM Education Program in the College of Science, and professor for 157SL said, "I firmly believe that you can learn a great deal by doing and conducting genuine projects in a real world setting where you also have the opportunity to reflect on those experiences in an academic setting."

The SJSU students pictured above volunteered their time at a local elementary school to assist teachers in the classroom and tutor 2nd and 3rd graders in an after-school program. Another group of students worked with a STEM program that focuses on educating students in science, technology, engineering and mathematics. Other students volunteered their time at Sacred Heart, where they provided food and clothing to the homeless.

"Largely, it's overwhelmingly positive feedback and comments about their experience, they often feel overwhelmed at the beginning with the commitment of 48 hours and the many components to the program, but with that they step out of their comfort zone and embrace something new. They come back really a changed person by the end of the semester," Dr. Lehmkuhl-Dakhwe said.

— Rachael Odell
Office of the Provost Newsletter
May 2015

Jay Pinson STEM Education *in the News!*

CyberGirls Silicon Valley Summit—The Art of Cybersecurity

Participants work on a poster during a team-building exercise. (Photo: Patrick Tehan)

Hacking is big these days. So is cyberwarfare! About 50 middle school girls from across Silicon Valley show off their cybersecurity skills at the first ever CyberGirlz Silicon Valley Summit held on May 2, 2015 at San José State University. The 7th and 8th grade girls learned cryptography, networking, forensics, web exploitation and basic programming skills in their afterschool programs. Some participants will be offered follow-up training at Facebook and other venues this summer.

What's not big is the percentage of women working in the field of cybersecurity. **Virginia Lehmkuhl-Dakhwe**, organizer of this event states only 10 per cent work in this field. "The field of cybersecurity is expected to grow tenfold over the next 10 years," said Lehmkuhl-Dakhwe, director of San José State's Jay Pinson STEM Education Program, as teams from various schools set up their exhibits and prepared for the summit. "I want that workforce to reflect the diversity of this area, which means 50 percent men and 50 percent women. Right now, it's mostly men and mostly Caucasian."

The initiative, which targets girls in 7th and 8th grades, encourages them to "involve themselves in the field of Computer Science as well as Cybersecurity." A collaborative effort launched in January, the program offers after-school courses in which 150 girls are taught computer coding by university students and industry professionals, along with lessons in encoding and decoding messages online. The hope is that with this first taste, some of the girls will pursue scientific and engineering courses in college and eventually become cyber sleuths and possibly help save the world.

Destiny Gonzalez and Lexy Ammann work on a problem with help from instructor David Macias. (Photo: Patrick Tehan)

"We started with basic cryptography where the girls learned to compose and then encode messages using online tools," said **Philip Ye**, a graduate of UC Santa Cruz whose participation in AmeriCorps led him to share his skills with CyberGirlz. "We taught them how to traverse the Internet using Google to find vulnerabilities and then find software patches to fix them." During her training, 12-year old **Cassie Pinkney**, a seventh-grader at John Muir Middle School, and her fellow students learned to make their own video games "which was very exciting. If you make a video game," she said, "you can then learn how to protect it from hackers, which is great training for me to one day do the same thing on a larger scale." CyberGirlz, she said, presented "a good opportunity for my future and possible pursuing a tech career. We live in a very tech-savvy era and not knowing about tech isolates you." She said growing up in a "male-dominated world" has taught her: "If we can get more girls into tech that will improve gender inequality on a larger scale."

This event was sponsored by SJSU's Jay Pinson STEM Education Program, the CSU STEM Vista Program, Cal Poly Pomona Center for Information Assurance, CyberWatch West, and Facebook.

—Patrick May
San Jose Mercury News
May 2, 2015

Grants Awarded

Prof. Scott Hamilton Receives National Science Foundation Grant

Juvenile Rockfish

Dr. **Scott Hamilton** has been awarded the multi-year $330,000 National Science Foundation grant to investigate the responses of juvenile rockfish to a marine environment that contains elevated levels of carbon dioxide and reduced levels of oxygen. How well the rockfish adapt will provide key information for fisheries and fishery managers.

This research, incorporating both field and laboratory studies, builds on Hamilton's previous scientific investigations of temperate marine fishes.

— Pat Lopes Harris
SJSU Today

SJSU Awarded $4.6M NASA Research Grant to Establish CAARE Center

Dr. Sen Chiao

Professor **Sen Chiao** of the Department of Meteorology and Climate Science is the principal investigator on a $4.6M grant from NASA through their MIRO Program thus creating a 'Center for Applied Atmospheric Research Education' (CAARE) at SJSU. The MIRO program targets research at minority serving institutions such as SJSU.

For more information, go to:
http://www.nasa.gov/press-release/nana-awards-research-grants-for-minority-serving-institutions

— J. Michael Parrish
Dean, College of Science
May 4, 2015

Prof. Jonathan Hendricks Awarded 2016-17 Distinguished Lecturer

Dr. Jonathan Hendricks

In May, **Dr. Hendricks** was recognized as a **2016-17 Distinguished Lecturer by the Paleontological Society**. In his role, Dr. Hendricks will be available to represent the Society and SJSU as an invited lecturer at institutions around the country. The award recognized not only his scholarship, but his ability to present paleontological concepts effectively to general audiences.

— J. Michael Parrish
Dean, College of Science
May 13, 2015

Faculty Awards and Recognition

Julio Soto Receives the White House Research Mentor Award — the Nation's Highest Award for Mentoring

Dr. Julio Soto (Photo: Christina Olivas)

Julio Soto, Professor of Biological Sciences was one of fourteen faculty members recognized by the White Hour for his research mentor efforts. The Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring is issued and administered by the National Science Foundation. Dr. Julio Soto is the only CSU faculty member recognized for this honor.

"These educators are helping to cultivate America's future scientists, engineers, and mathematicians," President Obama said. "They open new worlds to their students, and give them the encouragement they need to learn, discover and innovate. That's transforming those students' futures, and our nation's future, too." Mentors play a vital role for many students and early career scientist on both a personal and professional level. Without these mentors, students might lack the support and example they need to pursue successful careers in science, technology, engineering and mathematics (STEM).

Among Dr. Soto's many accomplishments in the Biological Sciences department are his authorship of the Howard Hughes Medical Institute award that the department received in 2008 that facilitated an update of their core curriculum and his ongoing participation in the NSF-sponsored RUMBA program, which has provided summer research experiences for students for many years. RUMBA is Research by Undergraduates Using Molecular Biology Applications. "As a member of an under-represented minority group, I am committed to making the unlimited intellectual possibilities of modern biology accessible to all students," stated Dr. Soto.

—Dean Michael Parrish
And the National Science Foundation
March 27, 2015

Dr. Gilles Muller to Lead Research Seminars at Japan Universities

Professor **Gilles Muller** has been invited by the Japan Society for the Promotion of Science (JSPS) to visit several Japanese universities to participate in educational and scientific discussions, and to lead lectures and research seminars. Internationally recognized for his work in promoting excellence in research and for successful mentoring of high school, undergraduate, and graduate students, Dr. Muller is one of the few researchers in the world doing circularly polarized luminescence. During his month-long visit (June 1 to July 3), Dr. Muller will also share the mission of his research group which is to facilitate and increase undergraduate research as a teaching and mentoring tool at San José State University.

— SJSU Research Foundation
Office of Sponsored Programs Bulletin
May 2015.

Faculty and Staff

Faculty and Staff on the Move

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

Dr. Kimberly Blisniuk, Geology (2014)
Dr. Marion Campisi, Mathematics & Statistics
Dr. Benjamin Carter, Biological Sciences
Dr. Thomas Connolly, Moss Landing Marine Labs
Dr. Minghui Diao, Meteorology & Climate Science
Dr. Dashiell Fryer, Mathematics & Statistics
Dr. Benedikt Harrer, Physics & Astronomy
Dr. Matthew Johnston, Mathematics & Statistics
Dr. Birgette McDonald, Moss Landing Marine Labs
Dr. Luke Miller, Biological Sciences
Dr. Aikaterini Potika, Computer Science
Dr. Jordan Schettler, Mathematics & Statistics
Dr. Abraham Wolcott, Chemistry

Newly **promoted** faculty —

Dr. Shelley Cargill to Associate Professor, Biological Sciences
Dr. Susan Lambrecht, to Professor, Biological Sciences
Dr. Leslee Parr to Professor, Biological Sciences
Dr. Sabine Rech to Professor, Biological Sciences
Dr. Lionel Cheruzel to Associate Professor, Chemistry
Dr. Annalise Van Wyngarden, to Associate Professor, Chemistry
Dr. Teng-Sheng Moh to Professor, Computer Science
Dr. Steven Crunk to Professor, Mathematics & Statistics
Dr. Ivano Aiello to Professor, Moss Landing Marine Labs
Dr. Monika Kress to Professor, Physics & Astronomy

Transferred into CoS—

Dr. Leonard Wesley, Computer Science (from Computer Engr)

Newly **hired/promoted management**—

Dr. Ivan Aiello, Chair of MLML
Dr. Marc d'Alarcao, Interim Assoc Dean - Research
Dr. Sami Khuri, Chair of Computer Science
Dr. Jonathan Miller, Chair of Geology
Dr. Karen Singmaster, Interim Chair of Chemistry

Newly **hired staff** —

Jamie Alea, Academic Advisor, CoSAC
Rachel DeVera, Admin Supp Coord, CoSAC
Kathleen Donohue, Exec Asst to Director, MLML
Aklilu Kidane, Instr Support Tech, Chemistry
Lawren Lutrin, Academic Advisor, CoSAC
Nirali Patel, Admin Supp Coord, Science Education
Daphne Purisima, Admin Supp Coord, Chemistry
June Shinseki, Instr Supp Tech, Biological Sciences

Retired faculty and staff—

Dr. Joanne Becker, Mathematics & Statistics
Dr. John Boothby, Biological Sciences
Dr. Leslie Foster, Mathematics & Statistics
Dr. Daniel Holley, Biological Sciences
Dr. Kenneth Kellum, Mathematics & Statistics
Dr. Ed Schmeichel, Mathematics & Statistics
Dr. Jerry Smith, Biological Sciences
Jane Fusek, Moss Landing Marine Labs

Campus promotions—

Dr. Gilles Muller to Assoc Dean, Office of Research

Wishing all of you a happy future ~ Congratulations!

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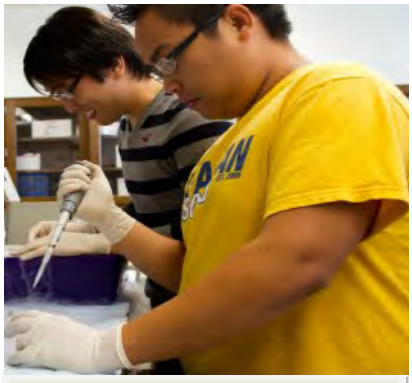

Walnuts fighting cancer? See page 3.

The Scientist

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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 for your support of our amazing college!