



# Spring 2018 Newsletter

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## Spring 2018 — Dean’s Message

Happy 2018 to our Science & Technology Community!

The School is off to a great start in 2018 with a lot happening in the departments, classrooms, and laboratories! We are busy with Spring courses and making plans for Commencement in May. The academic success of our students is notable with 463 Science and Technology majors making the Dean’s List for Fall 2017!

I am very pleased to share with you the Spring 2018 issue of our Science & Technology (SST) Newsletter, an issue I find compelling in its showcase of the range of engagement and achievement of School members. Our newsletter presents snapshots and portraits of SST students, faculty, and alumni at work. Among the things that impress me most about our School is how committed our community is to making a difference today and into the future.

Our new Provost, Lisa Vollendorf, and SSU Academic Senate Chair, Carmen Works (our Chemistry Department Chair!) are co-leading the campus through an inclusive strategic planning effort this semester. The *Share. Shape. Unite: Building our Future at SSU* initiative is well underway. I encourage you to learn more about the process and timeline at [www.sonoma.edu/strategicplan](http://www.sonoma.edu/strategicplan).

We are expanding our student support services with the recent hiring of Dr. Megan D’Errico as our Science & Tech Academic Advisor and MESA Coordinator. Megan will be heading up the Science & Tech Student Support Center in the Darwin Lobby area. She will be advising and mentoring our students and providing valuable guidance to students as they consider their opportunities in Science & Technology. Megan’s position is part of the larger campus effort to expand student support and to improve student retention, graduation and future success.

Our Spring Symposium of student research, officially titled the *SSU Symposium of Research and Creativity Day 2: Science, Technology and Water*, is scheduled for Wednesday, May 2, 4:00 to 6:30 pm in the Student Center Ballroom. I hope you will join us for an afternoon of engaging conversation, presentation, and student achievement. This is truly a fabulous event!

I extend New Year’s greetings and the warmest of wishes to you, the members of the School of Science and Technology community as we embark on new beginnings in 2018.

Lynn Stauffer  
Dean, School of Science & Technology

*“Among the things that impress me most about our School is how committed our community is to making a difference today and into the future.”*

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## New SST Academic Advisor & MESA Coordinator

Dr. Megan D'Errico is a native of Seattle, Washington and comes from a hard science and education background. She completed her Ph.D. in Geochemistry from Stanford University and Masters of Arts in Teaching at San Diego State. In her Ph.D., she collected data using various mass spectrometers on mantle rocks called peridotites. She constructed a model to simulate the melting of Earth's mantle at a mid-ocean ridge located in the North Pole. In her more recent work in science education, she investigated instructional strategies in context of K-12 education science standards and worked with secondary science teachers to improve their skills in eliciting and building upon students' scientific ideas.

In regards to her new role as SST Academic Advisor and MESA Coordinator, Megan says:

*"I am most excited about expanding my interest of geology more broadly to all of science and technology and my desire to make a difference in the world through education and advising. This job is meaningful to me because I want to be a part of encouraging students from all backgrounds to pursue their dreams, to persevere and overcome challenges and to succeed in life beyond graduation. I had several great mentors who were scientists that encouraged and supported me to pursue further education and do great science. I will never forget how they've influenced me."*

Megan's office is located in Darwin 100A, right off the northwest corner of the Darwin Lobby. Stop by and welcome her to SST!

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## MESA's Student Leadership Conference

SSU students Lupe Calvillo, Carlos Downie, Mariah Chastain, Soumana Sylla, and faculty chaperone Dr. Monica Lares attended MESA's Student Leadership Conference at the Millennium Biltmore Hotel in Los Angeles on October 27 to 28, 2017. The conference brings together high-achieving engineering and computer science students with industry professionals to develop the next generation of STEM leaders. This year's conference theme was *Illuminate. Motivate. Launch.*

Unlike job fairs or speaker-only conferences, MESA students got the unique opportunity to interact one-on-one and in small groups with company executives, engineers and recruiters. Many often leave the conference with internship offers that lead to fulltime employment. Students participated in mock interviews, communications, team building, emotional intelligence and financial literacy workshops.

Both students and companies benefit from the conference: students network and gain the soft skills needed to be well-rounded employees; companies gain access to talented, diverse candidates for internships and employment.

Companies recognize the importance of engaging with and supporting MESA students—so much so they fully fund the conference with donations. These enlightened corporate partners understand these are not simply underserved and underrepresented students, they are an underutilized pool of talent that has been long overlooked.

This year's partners and sponsors included: Edison International and Southern California Gas Company as top sponsors and PG&E, Applied Materials, ecmc Foundation, and San Diego Gas and Electric. Other participating companies were: AT&T, Blast Motion, CHC Consulting, Disney, Northrup Grumman, Jet Propulsion Labs, Boeing, Oracle, Crane Aerospace and Wells Fargo.



Dr. Lares, Carlos Downie, Lupe Calvillo and Mariah Chastain with Disney executives Nancy Faginas-Cody and Steve Garetto-Barnett (far right).

Students from across the UC and CSU systems, and from junior colleges and private colleges attended the conference.

The MESA (Mathematics, Engineering, Science Achievement) program guides diverse students from underrepresented backgrounds into STEM careers. Each year, MESA serves over 25,000 students across California. The program bridges classroom learning with real-world applications, and employ rigorous academics, leadership preparation, a peer community and collaborative problem-solving training to produce highly-skilled college graduates who meet 21st century STEM workforce needs.

Please visit the MESA website for more information: [mesa.sonoma.edu](http://mesa.sonoma.edu).



Rigoberto Moreno Delgado, Dr. Rivoire, Grayson Blanks and Brooke Gardner.

*“Being surrounded with such bright and experienced people has been a great learning experience. Solving real problems and seeing the results of my efforts/solutions is such a rewarding experience.”*

## SC 2017

SSU computer science majors, past and present, met at [SC '17](#), the largest conference in high-performance computing (HPC), held in Denver in November 2017. Brooke Gardner, a Spring 2018 graduate, received full funding to attend from the conference’s Experiencing HPC for Undergraduates program. She says the conference opened her horizons: “Coming in, I expected a lot of panels to be research focused and presented by people whose sole focus is researching and expanding HPC. Instead, there were panels about practical and current uses of HPC, such as in climate monitoring and medical imaging. Sometimes, the people discussing these projects weren’t necessarily computer scientists—they were biologists, chemists, and physicists as well. SC showed me that a future in HPC doesn’t have to just be research based—it can be implementation based, and people find their way into the field in all different ways and each way is equally impactful.”

Grayson Blanks and Rigoberto Moreno Delgado, both Spring 2017 graduates, attended the conference representing their new employers at Lawrence Livermore National Laboratory (LLNL). They were both originally exposed to supercomputing by speakers at the [Computer Science \(CS\) colloquium](#) and by SSU coursework in parallel and high-performance computing. Moreno Delgado remembers his earliest exposure to the topic: “I first heard of LLNL when Dr. Kimberly Cupps came to speak at the CS colloquium about the Sequoia supercomputer. I remember sitting through her presentation in awe of all the technology that LLNL offered.” When Dr. Barry Rountree from LLNL taught a class at SSU in 2016, Blanks and Moreno Delgado jumped at the opportunity, and ended up as summer interns and then employees. Blanks coauthored a peer-reviewed paper presented at the conference, based on his summer internship work. Moreno Delgado says of his work in high-performance computing, “Being surrounded with such bright and experienced people has been a great learning experience. Solving real problems and seeing the results of my efforts/solutions is such a rewarding experience.” — *Dr. Suzanne Rivoire*



Karina Soto, Dr. Mary Ellen Wilkosz, Jessica Hemingway, Andrea Leffew, Ashley Sims, Dr. Tammy Brunk and Jessica Hanley.

## Mi Futuro Health Care Symposium

[Mi Futuro](#) **esta en Carreras de Salud: My Future is in Healthcare Careers** on January 19, 2018 introduced careers in mental health and primary healthcare to youth between sixteen and thirty years old, with a focus on Latino youth and cultural sensitivity to the unique Latino patient-care needs. Sonoma County is predicted to have a dominant Latino population by 2050. The symposium targets the Latino population with these statistics in mind to establish an effort toward strategically managing the local health care workforce to reflect the expected patient-care demand.

The Nursing Club participated this year in providing information to these students regarding nursing opportunities as well as the various options for obtaining a nursing education.



## Chemistry Service Learning

During the 2016-2017 academic school year, the Chemistry and Biochemistry Freshman Learning Community (FLC, CHEM 125 and 120), led by Professors Jon Fukuto and Jennifer Whiles Lillig, partnered with the upper-division students of CHEM 496 on a service learning project. The FLC was focusing on critical thinking and the CHEM 496 students, also led by Professor Whiles Lillig, were focused on the molecular basis of bacterial pathogenesis. Students worked in mixed lower- and upper-division teams to produce informational literature on vaccine-related items for their community partner, the Petaluma Health Center (PHC). Topics ranged from the differences between bacteria and viruses, appropriate uses of antibiotics, vaccination schedules and specific vaccines like those for DTaP and influenza. Products were required to be at a sixth grade reading level, but all information had to be backed up by scientific evidence.

Student teams met weekly to monitor project timelines and goals, research their topics and design their products. They also journaled weekly about how the project was related to the material they were learning in their respective classes and how the overall experience was impacting their career as an SSU science student. Midway through the semester, teams presented individually to Professors Fukuto and Whiles Lillig to defend the scientific accuracy of their pamphlets. Both professors agreed they were some of the best presentations and examples of critical thinking they had seen during their careers at SSU.

Emily Cavallero and Delmira Agnew, current sophomores from the 2016-2017 FLC, completed the final aesthetic of the pamphlets. The products are currently being vetted by PHC for inclusion at their facility. Cavallero and Agnew are also rebranding the materials for use at the Sonoma State Health Center in spring 2018.

Throughout the course, Professors Fukuto and Whiles Lillig witnessed teams struggle with the ups-and-downs of team dynamics, come together to meet deadlines and presentation requirements, and form bonds of friendship as the upper-division students mentored the freshmen. Given the success of the project, Professors Fukuto and Whiles Lillig are partnering again in a service learning project with the SSU Student Health Center and Office of Student Affairs. Freshmen in the 2017-2018 FLC, now taught by Professor Whiles Lillig and Professor Monica Lares, are teamed with Professor Fukuto's upper-division students that are studying the pharmacology and toxicology of drugs. Mixed teams are studying the chemical aspects of drugs like THC, nicotine, MDMA and acetaminophen including uses and abuses, chemical structures and metabolism for preparation of informational materials for SSU students. Stay tuned! —*Dr. Carmen Works*

## And the award goes to...

**English Knowles**, a student in the FNP program, was **awarded \$10,000 by the Northern Sonoma County Health Foundation**. This scholarship is awarded to a student who is interested in working with the underserved in a clinic located in Northern Sonoma County. Knowles is a long time resident of the area and plans to work as a nurse practitioner in the Healdsburg/Windsor area when she graduates in May.

**SSU's Society of Physics Students (SPS)** has won **Outstanding SPS Chapter** for the third year in a row. This award is the highest level of distinction for SPS chapters and is given only to the top ten percent. It recognizes SSU's SPS chapter's dedication and commitment to the SPS mission and tireless efforts to enrich the SPS community.

Geology major **Maureen Redmond** was presented with the **Outstanding Student Award by the Association of Women Geoscientists (AWG)**. This is an annual award that recognizes excellence in geology departments from campuses around the Greater Bay Area. Redmond was presented with the award at a ceremony on December 5 at Stanford. Redmond was supported at the ceremony by Dr. Matt James, Geology Professor and Chair, and her family.

## SST Students Featured by CSU



*“Just seeing how many faculty members genuinely care and want to see me succeed makes me want to push on even more. These are the people who believe in me during the times I don’t believe in myself.”*

*—Lucero Alvarez Vieyra*

Two SST students were recently featured on the [CSU website](#). Here are their stories:

[Lucero Alvarez Vieyra](#) first came to Sonoma State when she was a high school sophomore. She was enrolled in [Upward Bound Sonoma County](#), a federal program that prepares low-income, first-generation college students to enroll in and graduate from a four-year university, and introduces them to college terms and processes. However, when she became pregnant, she feared she would have to forgo college and put her hopes of becoming a medical researcher on hold. Gerald Jones, the Upward Bound program director and Alvarez Vieyra’s college prep advisor, presented a different approach: change your path, not your dream. Jones helped her outline a plan that would allow her to balance motherhood and obtain her degree.

However, her first year at college was difficult. From struggling to balance school, work and motherhood to facing homelessness, Alvarez considered dropping out. Now it was her advisors and professors who stepped in and presented a new path to keep her on track to graduate. “Just seeing how many faculty members genuinely care and want to see me succeed makes me want to push on even more. These are the people who believe in me during the times I don’t believe in myself,” she says.

Alvarez Vieyra is now in her third year as a biochemistry major. She is active in the Chemistry Club and Makerspace lab, and has traveled abroad on research trips offered by the [Louis Stokes Alliance for Minority Participation](#) program. “Once I started to be more involved, I felt more welcome and not alone,” she says. “I now feel as though I belong—*this* is what I lacked my freshman year. I can’t emphasize how important it is to be involved on campus.”

Additionally, she is a peer mentor, a role that allows her to help students that are as lost as she was her first year. Of her role, she says, “Because I can relate to them and many of the things that they are going through, students believe in me and trust me.”

Her daughter, Mia, is her biggest motivation to complete her degree, which she

plans to follow with a Ph.D. She will be the first in her family to earn a degree and she wants to set an example for her daughter. “I want her to want to go to college. And for her, it’ll be easier than it was for me because she’ll have someone in the family who has done it before—me.”

[Emily Rosa](#)’s childhood hobby of snorkeling sparked her interest in environmental studies. Rosa noticed that by the time she reached high school, the ocean’s fish population, once abundant, had dwindled significantly. She wondered what caused this change, and it ultimately led her to pursue a major in environmental studies and planning with a minor in biology at SSU.

In her junior year, Rosa’s advisor encouraged her to gain research experience. She decided to work with Dr. Lisa Bentley, Assistant Professor of Biology, who was in need of a research assistant. Professor Bentley was doing research on plant ecophysiology, which is the study of the interrelationship between the normal physical function of an organism and its environment. Specifically, Rosa helped Professor Bentley with her research on the relationship of tree architecture and scaling patterns on plant biodiversity.

Professor Bentley introduced Rosa to the [DaRin Butz Foundation Research Internship Program at the Arnold Arboretum of Harvard University](#). The prestigious program gives students studying life sciences the opportunity to conduct and present their research while gaining expertise and connections in the scientific community. Professor Bentley encouraged Rosa to apply and put her in contact with a researcher at Harvard she could work with over the ten weeks. Ultimately, Rosa was one of eight interns selected to participate in the program, where she continued her work on tree branch architecture.

While at first nervous, Rosa soon found that Arnold Arboretum staff were supportive and encouraging, which quickly dissolved her anxieties. Her mentor, Dr. Kasia Ziemska, instilled Rosa with confidence in her research. “She really helped me gain confidence and allowed me to start viewing myself as a young scientist,” says Rosa. Of the internship, Rosa states, “[It] was an amazing opportunity to see the endless research options that my CSU degree can allow me to pursue.”

Since returning, Rosa continues to work with Dr. Bentley in her lab where she shares the new techniques she learned from her internship with fellow students. She is graduating this May and plans to gain some work experience before continuing to grad school.

*“[It] was an amazing opportunity to see the endless research options that my CSU degree can allow me to pursue.”*

*— Emily Rosa*



## Chemistry Week

SSU's Chemistry Club hosted a group of local third graders on October 26, 2017 as part of National Chemistry Week. This is a long-standing annual student-run effort at SSU that invites elementary school students to campus to partake in experiments that teach the finer points of chemistry. In addition to the undergraduate and graduate chemistry students, Professor Jenn Whiles-Lillig was on hand to facilitate various experiments. Of the event she says, "It's such a great event because not only do the younger students get to learn about science, but our students see the excitement of discovery in their faces. Sometimes it reminds them of when they were at that age, and why they wanted to study chemistry in the first place."



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## LED Hearts

Engineering students celebrated Valentine's Day by assisting other students to assemble a digital flashing heart at the SSU Makerspace. Students from across campus came together to create something unique. The construction of the free electronic kits introduced students to new technical skills and share a Maker experience. For many, this was their first visit to the SSU Makerspace. Most participants had never used a soldering iron before or wired a LED circuit. "The kits are a bit challenging to put together, but it is exciting to finish one and see it working," pointed out Rona Jergenson, a senior electrical engineering student, as she was showing off the "beating heart".

"The turnout was great! Unfortunately, we had to turn back a few people because we did not have enough kits for everyone," noted Mr. Shahram Marivani, an adjunct faculty in the Engineering Department.

"Our goal was to create a fun and educational event. At the same time, we wanted to reach out and support our SSU community," said Dr. Jeremy Qualls, founder of the SSU Makerspace. Attendees had the option of donating their assembled hearts to the victims of the recent wildfires.

—Shahram Marivani



Photo courtesy of Shahram Marivani.

# SST Innovation and Strategic Priorities Funding

Provost Lisa Vollendorf allocated one-time funds to SSU's academic schools and library to support innovation and strategic priorities in the 2017/18 academic year. SST received \$32,000 which funded twelve proposals. Here are reports on three of those proposals:

## Petrographic Analytical Suite

In geologic applications, images and mineral proportions of rocks are used as the basis of geologic nomenclature. To collect first order microscopic data on rocks, a 30-micron sliver of rock mounted on a glass slide is examined using a specialized optical microscope. The sliver of rock mounted on the slide, known as a thin section, is ground down so thin that cross-polarized light can pass through many of the minerals and be studied with a petrographic microscope.

Many sub-disciplines in geology often use a petrological microscope to collect first order data of thin sections of rocks and minerals. The photomicrographs, phase proportions, and micro-texture data collected help to study and classify the specimens. Our new Petrographic Analytical Suite enables students and faculty to take pictures of thin sections to illustrate techniques in microscopy, optical properties, and the textures and composition of rock specimens



We have three goals for our new research tools. They will serve as (1) a resource for students and faculty to collect images for review and research, (2) improve our curriculum by providing training for students in geology to collect and present professional quality images and data, and (3) create a facility for students to explore lab based analytical methods in geologic research. The new lab tools are set up and in use in Darwin 128. Bring a thin section by and take a detailed look at your favorite rocks! —*Phil Mooney*

## Experimental Aquaponics

A major challenge of our time is developing sustainable means to produce food that conserves water and recycles nutrients. Biology Professors Joseph Lin and Michael Cohen have established a novel aquaponics system that will allow students in multiple courses to become involved in a long-term experiment with the goal to optimize yields of crop plants that are cultivated with water and nutrients from an operational fish tank.

Briefly, water from a fish tank containing channel catfish (*Ictalurus punctatus*) is pumped into a microbial treatment zone that oxidizes ammonia waste from the fish to nitrate. Next, hydroponically cultivated plants utilize the nitrate as fertilizer and further purify the water as it flows back to the fish tank. Aquaponics systems like this are already in use; the unique feature of the SSU design is a split parallel flow configuration of the microbial and hydroponic portions of the system, allowing one side of the system to be changed in an experiment while keeping the other the same. The effect any change may have on performance (e.g. plant growth, nitrate removal efficiency) will be monitored, and the results used to optimize the system. Research conducted with

this aquaponics system will provide valuable experiences in experimental design, environmental sampling, and microbiological and chemical analyses, and will prepare students to enter the workforce in a variety of fields including agriculture, water technology and biotechnology. —*Dr. Richard Whitkus*



## 3WINS SSU Fitness

During the Fall 2016 semester, Dr. Kurt Sollanek from the Department of Kinesiology helped to initiate a free community-based group fitness program called "3 WINS Fitness." The program is run by SSU Kinesiology Students who offer a 1-hour long group fitness class, 3 days per week, at a local park in Rohnert Park. To accomplish this, the SSU Kinesiology Students bring out an array of equipment (yoga mats, medicine balls, battle ropes, etc.) and they instruct the community participants on proper exercise techniques while leading them through the exercise classes.

This program was initially started in Southern California by Kinesiology Department Faculty at CSU Northridge (CSUN) and has spread to over 10 other Universities in California, many of which are sister CSU schools. During the launch of this endeavor at SSU, CSUN graduate students visited for multiple weekend-long training sessions to prepare our students to carry out this program.

3WINS SSU Fitness officially launched during the Spring 2017 semester led by a core group of undergraduates. These students kept the program going during the Fall 2017 semester where through strategic marketing, the number of community participants increased by about five to ten participants per one-hour workout session. Importantly, since this is a student-run program, the program must continuously find and train new student volunteers to perpetuate the program. Through a successful recruiting campaign at the end of the Fall 2017 semester, a new crop of students has championed the program now into the Spring 2018 semester. The free exercise classes will be taking place Mondays 12:30 pm to 1:30 pm, and Wednesdays and Thursdays 3:00 pm to 4:00 pm at the Rohnert Park Community Center located at 5401 Snyder Lane. All SSU community members are encouraged to stop by and get a free workout in while enjoying the beautiful outdoor spring air.

Innovation and Strategic Priorities funding helped with program upgrades and expansion. Over the coming years, Dr. Sollanek would like to see this program expand into other parks in the local area (e.g., Santa Rosa, Petaluma, etc.). This program holds great promise for increasing the level of physical activity in the community, as well as helping SSU become more involved in our local community. For more information, please visit 3WINS SSU on Social Media:

Facebook: [www.facebook.com/3winsnomafitness](http://www.facebook.com/3winsnomafitness)

Instagram: @3winsfitnesssonoma

Email: [3winssu@gmail.com](mailto:3winssu@gmail.com)

—*Dr. Kurt Sollanek*

## Wine Country Math Teachers' Circle

SSU's mathematics department is connecting with Sonoma County K-12 teachers through the newly-founded Wine Country Math Teachers' Circle. The group started in 2017 with a summer immersion program at the American Institute of Mathematics (AIM) in San Jose and began meeting monthly in September. The Math Teacher's Circle Network ([www.mathteacherscircle.org](http://www.mathteacherscircle.org)) is a national organization run under the umbrella of AIM which aims to provide k-12 teachers with regular experiences to engage in rich mathematical discovery. Our MTC is supported by AIM and the California Math Project, North Coast. Drs. Martha Byrne and Ben Ford at SSU founded the Wine Country MTC (<https://batmath.org/math-teachers-circles/wine-country/>) with two local teachers, Laura Williams Rigby and Renee Duvander, of the Cloverdale Unified School District. Dr. Byrne worked with the Albuquerque Math Teachers' Circle as a graduate student at the University of New Mexico, and Laura Williams Rigby had attended a summer immersion program at AIM in 2016 in the hopes of being involved in the inception of a circle in the North Bay.

The group consists of in-service teachers from Healdsburg, Cloverdale, Rohnert Park, Cotati, and Petaluma, along with pre-service teaching students from SSU and SSU faculty. Monthly meetings are

held at the Sonoma County Office of Education and include free dinner and engaging mathematical conversation for participants.

The primary goal of the Wine Country Math Teachers' Circle is to bring low floor, high ceiling tasks—problems with little to no prior knowledge required but with far-reaching expansions, ramifications, and spin offs for further work into advanced content areas—to math teachers in the area to support teachers' growth as mathematicians through joyful experiences of mathematical investigation. Since September, the Circle has talked about mythical lands of truth and lies, the game of 24, what knots have to do with fractions, "mathemagical" card tricks, and how knowing about even and odd numbers can keep you from getting eaten by witches. And all of these conversations have been about deep mathematical concepts that are accessible to anyone who finds joy in solving puzzles and knows basic arithmetic.

There are two remaining meetings during this academic year—April 12 and May 10—and the group would love to share the fun with others. If you're interested in joining or knowing more, the Circle leadership can be reached by emailing [winecountrymtc@gmail.com](mailto:winecountrymtc@gmail.com).

—Dr. Martha Byrne

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*"[T]he Circle has talked about mythical lands of truth and lies, the game of 24, what knots have to do with fractions, 'mathemagical' card tricks, and how knowing about even and odd numbers can keep you from getting eaten by witches. And all of these conversations have been about deep mathematical concepts that are accessible to anyone who finds joy in solving puzzles and knows basic arithmetic."*

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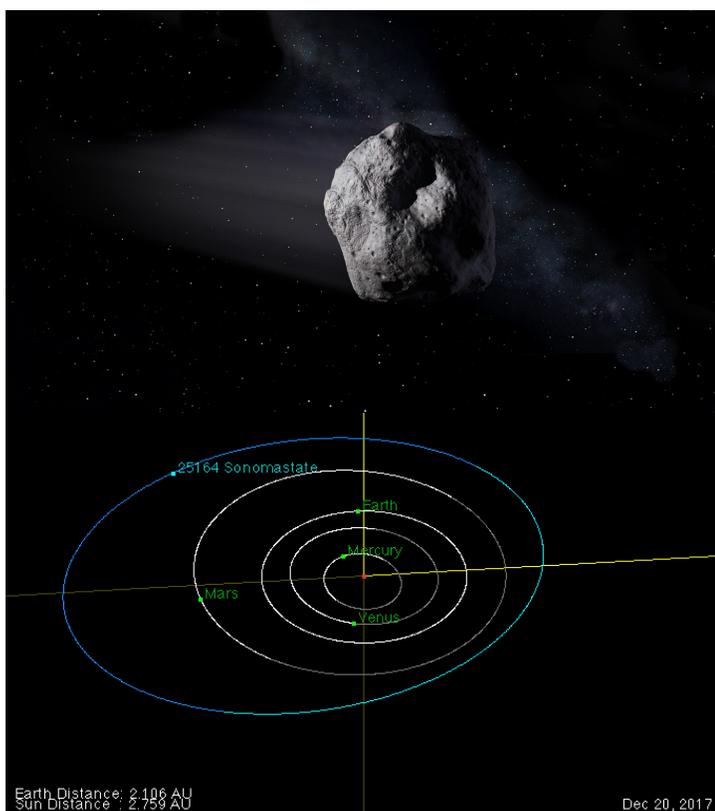
## Sonoma State Asteroid

An asteroid is now officially named after Sonoma State! 25164 Sonomastate is located in the main asteroid belt, between Jupiter and Mars. It is about 3.1 kilometers (almost 2 miles) in size and orbits the sun every 3.6 years.

SSU Professor Emeritus Joseph S. Tenn suggested the name to astronomer Larry Wasserman at the Lowell Observatory Near-Earth Object Search at the Anderson Mesa Station in Arizona. Wasserman discovered the asteroid in 1998, which gave him the right to propose a name to the International Astronomical Union (IAU). IAU is recognized by the world's astronomers as the sole authority for naming stars, asteroids and planets.

25164 Sonomastate's [citation](#) notes that SSU "has a nationally recognized Education and Public Outreach program [E/PO] for space missions and STEM teacher education, and its physics students have built a successful CubeSat."

Physics and Astronomy Department Chair and E/PO Directory Lynn Cominsky states, "I think it's incredibly exciting that Sonoma State's contributions to space science are being recognized by this naming."





## SSU Symposium of Research and Creativity, Day 2: Science, Technology and Water

Our annual research symposium continues to grow, and due to last year's overwhelming response, we are expanding the event to take place over two days. Students in the School of Science and Technology and those funded by a WATERS Collaborative or Norwick Memorial Fund grant will present at the *SSU Symposium of Research and Creativity, Day 2: Science, Technology and Water*. The event will take place on **Wednesday, May 2 from 4 to 6:30 pm** in the Student Center. The Symposium is open to all to attend.

For more information, please visit our website: [web.sonoma.edu/scitech/symposium](http://web.sonoma.edu/scitech/symposium).

## Copeland Creek Riparian Restoration Project

In December, Biology and GEP lecturer Wendy St. John's Copeland Creek riparian restoration project achieved a big milestone when her group of volunteer students planted native grasses, rushes, and sedges (collectively known as "graminoids") near the spot they have deemed Snowberry Corner, which is between the Environmental Technology Center and the Art Building.

The project is supported by a WATERS grant, and has been truly a collaborative effort. Earlier in the year, teams of students and community volunteers—organized by JUMP, the Watershed Stewards Program, and the North Bay Conservation Corps—removed invasive Himalayan blackberry from the area in preparation for planting. Over the course of the Fall 2017 semester, the plants were cultivated on campus by Heidi Herrmann's native plant propagation class. Finally, in mid-December, St. John was ready to lead a team of student volunteers in putting the plants in the ground.

To facilitate tracking survivorship into the future, the group established four planting zones of roughly the same size (800 m<sup>2</sup>): two in drier areas near the bike path, and two in a seasonal "wetland" nearer the creek (see [map](#)). Dry areas were planted mostly with Blue Wild Rye (*Elymus glaucus*) and Beardless Wild Rye (*Elymus triticoides*). In the "wetland", the group planted Santa Barbara Sedge (*Carex barbarae*) and a species of *Juncus* (rushes). Snowberry Corner was then enclosed with a string of yellow flagging tape to discourage joggers and bicyclists from cutting through while the plants are getting established.

—Wendy St. John.

*Top photo: Audrey Zitnay and Desirae Braga.*

*Second photo: Native California blackberry (*Rubus ursinus*), which has been reemerging in areas where invasive blackberry was removed.*

*Third photo: Allison Piazzoni, Cindy Tanaka and Alyssa Loban planting.*

*Bottom photo: Snowberry Corner (the white PVC stakes mark-off the boundaries of the planting zones).*

*Photos courtesy of Wendy St. John.*



## Song Brown Award

Dr. Mary Ellen Wilkosz, Chair of the Nursing Department and Director of the FNP Program was invited to present the 2018/2019 Family Nurse Practitioner (FNP) grant proposal she developed to the Song Brown Commission, Office of Statewide Health Planning Development on January 10 in Anaheim. She was one of three directors from state approved nurse practitioner and physician's assistant programs invited to present. Sonoma State's Program was identified as having one of the best examples of an excellent health care worker pipeline and a long-established record of advanced practice nursing education.

At the meeting, Dr. Wilkosz was successfully awarded \$192,000 to assist in supporting the Distance MSN and Post-Masters FNP Program that provides family nurse practitioner education to nurses in geographic and medically underserved areas from Fresno to the California-Oregon border.

—Dr. Wendy Smith

## Emeritus Professor Receives Lifetime Achievement Award

Geology Professor Emeritus Tom Anderson has received the 2017 A. Eugene Fritsche Lifetime Achievement Award from the Pacific Section of the Society for Sedimentary Geology. Anderson joins a list of distinguished Pacific Section giants who dedicated a significant portion of their lives to the science and people they loved.

The Society for Sedimentary Geology is an international not-for-profit society based in Tulsa, Oklahoma. Through its network of international members, the Society is dedicated to the dissemination of scientific information on sedimentology, stratigraphy, paleontology, environmental sciences, marine geology, hydrogeology, and many additional related specialties. The A. Eugene Fritsche Lifetime Achievement Award is conferred *yearly* on high profile nominees for years of committed service and contributions to the society and the geologic community in terms of teaching, research and publications, public service, and field trips.

Anderson will be recognized and awarded a plaque during the Paria Wilderness Fall Field Trip in southern Utah later this year. Congrats to Tom, and thanks for continuing to positively represent the university in the geologic community.

—Phil Mooney

## CVS Health Foundation Scholarship Grant

Dr. Mary Ellen Wilkosz was awarded a \$5,000 grant for scholarships to support Advanced Practice Nurses who are bilingual and are caring for individuals in underserved areas. Four scholarships will be awarded to Joseph Hatheway, Charys Hayden, Samina Khan, and Anna Vue, who are all currently in SSU's FNP/MSN Program.

## UC Berkeley Faculty Fellow

Dr. Carmen Works has been appointed a Faculty Fellow by UC Berkeley through her participation in facilitating the *Transforming STEM Teaching: Faculty Learning Program*. Dr. Works played an integral leadership role in the program. SSU was one of the first campuses to implement the program, and Dr. Works was there from the beginning—first as a participant and then as one of the first facilitators. There are now 19 CSUs and UCs participating.

## Illustrative Mathematics

*Illustrative Mathematics 6-8 Math*, co-written by Mathematics Department Chair and Professor Brigitte Lahme, received the [highest-ever score](#) from EdReports during its recent [review](#). EdReports is an independent nonprofit that reviews K-12 curricula for standards alignment and quality. Teachers are also [blogging](#) about using the materials and their students' experiences (the circle unit mentioned in the post is co-authored by Professor Lahme).



Photo courtesy of Shahram Marivani.



More than thirty alumni returned to Sonoma State University for the 2017 Electrical Engineering Alumni Reunion, where they had the opportunity to reconnect with classmates, network with current students, and see how campus has changed since they graduated from SSU.

Although the majority of alumni are employed by local high-tech companies and live in the Bay Area, some came from as far as Los Angeles. "It was a long drive from Los Angeles, but I wouldn't have missed this event for the world!" noted Jon Porazzo, a ride controls engineer at Walt Disney Imagineers (Class of 2015). "I simply cannot explain how appreciative my peers and I are to the department for holding this event. This event is a key example of how deeply rooted the Engineering Department is in preparing students for a career immediately after graduation," Porazzo pointed out.

Most of the evening was spent catching up and planning for the next reunion. Many suggested having the event once a year. "Reuniting with old classmates and meeting current students is not only lots of fun, but an excellent networking experience. It is also great to see the high caliber positions other graduates have been able to achieve. This event made me even more proud to be a Seawolf Engineer. So, let's have it every year," suggested Eric Waugh, a staff software engineer at Calix Networks (Class of 2014).

The reunion followed the Senior Design Project Proposal presentations, and a number of alumni participated in the event. "It is very clever to align these Engineering alumni events with the Senior Design Project presentations; it gives the students an audience of their peer to draw feedback from, and gives them a great opportunity to network with fellow alumni both in the area and abroad," expressed Casey White, a materials engineer at Deposition Sciences (Class of

2014). White, who is currently mentoring a group of undergraduate Engineering students, added, "It is an extremely rewarding experience to give back to the students and the department."

In addition to alumni, several industry representatives also participated in the reunion. Among them was Dr. Salam Marougi from Keysight Technologies, who has been involved in the Engineering Department since 2005. "Over the past several years, Keysight Technologies (formerly Agilent Technologies) has been in partnership with the Engineering Department and we have collaborated on various initiatives to advance the development of the engineering program at Sonoma State. We see lots of potential in this program to develop a solid and strong engineering education to support the local high-tech industries," said Marougi.

Another key industry partner who participated in the event was Chris Stewart, a volunteer engineering professor and president and co-founder of Pocket Radar Inc. and Invention Planet, LLC. "I have been working directly with the seniors in the Engineering Department as an industry advisor and mentor for the past several years. I recall guiding many of these graduates, and it is exciting to see them again," said Stewart. "The jewel of the engineering curriculum at SSU is its Senior Design Projects. I believe tonight many of our alumni reaffirmed that the engineering senior project is what helped them get their jobs. Many companies are looking for more SSU grads because of the real-world experience they develop during their senior design. I have found this to be true myself in hiring SSU grads. The Engineering Department is growing rapidly and doing a great job of blending strong academic studies with real world practical problem solving to develop great engineering talent," added Stewart. —Shahram Marivani