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Sonoma State University  
School of Science & Technology  
**Spring 2019 Newsletter**

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[www.sonoma.edu/scitech](http://www.sonoma.edu/scitech)



## Spring 2019 — Dean's Message

Dear Friends,

This spring our School is engaged in strategic planning to align our priorities and efforts with the University and Academic Affairs [Strategic Plans](#). We have cast a large net gathering input from students, alumni, faculty, staff, and campus and community members. We are asking how our School is distinctive and about what it looks like at its best. There are of course many responses to these questions. Many are rooted in the strong and supportive relationships and collaborations in our broadly-defined community. Some reflect the drive for educational excellence aligned with career and life aspirations. Others highlight the shared commitment to understanding and improving our world through scientific inquiry and dissemination.

Sonoma State's "Building Our Future at SSU – Strategic Plan 2025" focuses on four strategic priorities – Student Success, Academic Excellence and Innovation, Leadership Cultivation, and Transformative Impact. This issue of Science & Technology's newsletter includes stories and information about how our School is meeting these priorities through ongoing, new, and expanded initiatives. An example is our School's growing support for scholarship and research that includes student collaborators.

And our commitment to teaching and learning excellence is deep and long-standing. More and more this includes an emphasis on hands-on and experiential learning as an increasing number of faculty employ active learning techniques and participate in training to foster inclusion and teaching excellence.

Spring is an exciting time of year as faculty engage in guiding our students through senior-design, capstone, clinical and research projects and preparations for national and statewide competitions. Much of this work will be showcased in our Science Symposium on Tuesday, April 30, 4-6pm in the Student Center Ballroom. Please come and learn firsthand about what our students are doing.

In March, our School celebrates Women in Science during Women's History Month. Several [events and talks](#) featuring women in science are planned. On March 5 we installed in the Darwin Lobby a series of posters titled "Beyond Curie," by multidisciplinary artist Amanda Phingbodhipakkiya. The project was made possible through our School's Innovation and Strategic Priorities Funding initiative and collaboration of several members of the School. We invite you to visit the interactive installation and take-in the outstanding achievement of the featured scientists.

Elsewhere in these pages, we bring you highlights of student and faculty achievement. We also bring you the story of our Mathematics & Statistics Department and their compassionate outreach and support of colleagues at CSU Chico reeling from the devastating Camp fires. Please read and enjoy.

Best wishes for a wonderful spring and summer,

Lynn Stauffer, Ph.D.

Dean

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*"Our commitment to teaching and learning excellence is deep and long-standing."*

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## Celebrating Women in Science — Sonia Kovalevsky Day

*Dr. Omayra Ortega*

On Saturday, March 2, 2019, over 90 high school students, teachers, and parents from the six counties closest to SSU came to campus to celebrate the participation of women in the mathematics, and more generally the STEM fields. Despite the rain, there was a fantastic turn out with just about everyone registered attending!

The name of the 2019 event, The Sonia Kovalevsky High School Mathematics Day (SK Day) honors Sonia Kovalevsky. Kovalevsky, a Russian woman born in the middle of the nineteenth century, became a prominent and influential mathematician and one of the first women to receive a doctoral degree in mathematics, despite social standards that barred women from attending university.

Santa Rosa native Dr. Anastasia Chavez, who is currently a post-doctoral researcher at UC Davis, treated participants at the first SK Day to a keynote lecture. Dr. Chavez spoke about the challenges she faced as a student while she progressed towards her Ph.D. in pure mathematics at UC Berkeley and the importance of perseverance and connecting with great mentors.

Towards the afternoon, there were several hands-on sessions led by Kandis Gilmore, Department of Biology, Drs. Natalie Hobson and Martha Shott, Department of Math & Stats, and Dr. Shubbhi Taneja, Department of Computer Science. These hands-on sessions let the participants get a taste of college mathematics and what it means to DO MATH.

The SSU Math Club organized a scavenger hunt that forced everyone to network with each other and use their mathematical skills to solve challenges and win prizes! After lunch, Gina Geck, Director of Student Recruitment and Outreach, led a session introducing the CSU system and some tips for applying to college.

The event ended with a Career Path Panel where undergraduate, graduate and professional female mathematicians shared their experiences along their own path and advice for the high school students in attendance, followed by an awards ceremony for the winners of the scavenger hunt.

The day was full of joy for both participants and volunteers alike. Planning has already begun, and everyone is looking forward to doing this all again next year!



## Celebrating Women in Science — *Beyond Curie* Unveiling

If you have walked through Darwin recently, you probably noticed the newly installed series of prints in the Lobby. The prints are part of the STEM design project *Beyond Curie* by Amanda Phingbodhipakkiya, a multidisciplinary artist, scientist, professor, and STEM advocate. The project recognizes the numerous women scientists, mathematicians, and engineers whose incredible advances in their fields are often overlooked and unacknowledged. The series is a celebration of 35 of these women, including 16 winners of the Nobel Prize in Physics, Chemistry, and Medicine/Physiology.

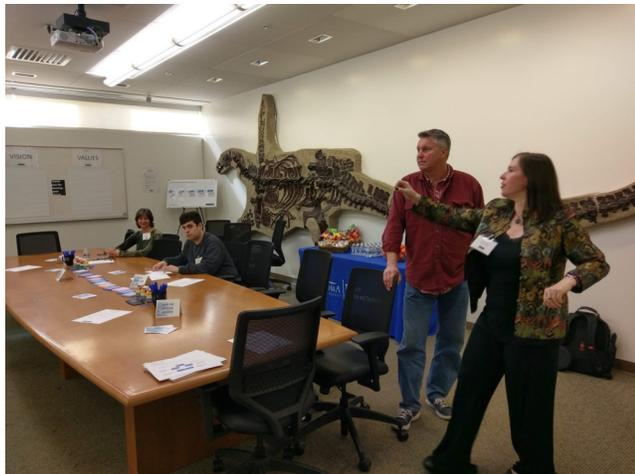
The installation was made possible by a School of Science and Technology Innovation and Strategic Priorities funding proposal by Professors Brigitte Lahme (Math & Stats), Suzanne Rivoire (Computer Science), Laura Waters (Geology), and Carmen Works (Chemistry), and was unveiled on March 5 to kick off Women's History Month in the School of Science and Technology. Members of the SSU community from across campus came to view the prints, enjoy cupcakes, and hear Dean Stauffer's remarks.

We invite you to come by Darwin and view the 20 prints currently hanging in the Lobby. We plan to install the remaining 15 prints throughout our departments in the coming months. Be sure to install the [Beyond Curie AR app](#) to enjoy the prints' other dimensions.

Thank you to Keith Tucker and Kevin Alexander of Facilities Management for installing the prints. Thank you to Robbin Elliott Cortez (Math & Stats), Sarah Tucker (Math & Stats), Cory Oates (Dean's Office), and Julie Barnes (Dean's Office) for planning and coordinating the unveiling event. Thank you to Drew Horton, math major, who designed the center title print.



## SST Strategic Planning Continues!



Wendy St. John talking with Dr. Derek Girman as her fellow Strategic Planning Taskforce members Dr. Laura Peticolos and Jorge Ruiz Gonzalez look on.

Strategic Planning is well underway in the School of Science & Technology. In February, the School hosted a drop-in salon for faculty, staff, students, and administrators across campus to ask questions and lend input on SST's mission, values, vision, in addition to how SST can align with SSU's four strategic priorities of student success, academic excellence and innovation, leadership cultivation, and transformative impact.

The turnout was excellent! Extremely valuable input was gathered and will be used to inform the final draft of the plan, which should be available by the end of the semester.

Thank you to those who attended and participated in our survey. Your feedback is greatly appreciated!

Please visit SSU's [Strategic Plan 2025](#) for information on the Strategic Plan, timeline and progress, other divisions' plans, and more.



Dr. Murali Pillai and Michael Balasek in the foreground.

## High Rankings for Nursing Program

SSU's Nursing Program recently ranked high by two nursing organizations.

The Registered Nursing Organization [ranked](#) SSU's program fifth of fifty RN programs in California. Of particular note, SSU's nursing program is the highest-ranking program that offers Bachelors and Masters of Science in nursing degrees. The organization's rankings are based on current and historical NCLEX-RN pass rates.

In addition to being awarded \$192,000 in funding, the Family Nurse Practitioner Program was ranked second at the Song Brown Office of Statewide Health Planning and Development Meeting and third overall in advanced practice programs, which includes both FNP and Physician Assistant programs. Song Brown recognizes schools who have rigorous academic programs, places students in clinical sites in under-served areas, and whose graduates go on to work in areas of unmet need. Congratulations to Drs. Jordan Rose, Mary Ellen Wilkosz, and Wendy Smith for their role in obtaining funding.



For the second time in as many years, Aureore Simmonet, Scientific Illustrator for SSU E/PO, has created the cover artwork for *Nature*. Her impression of a black hole that has started to accrete material from a nearby star appeared on the [January 10 issue](#).

## Professor Lahme Receives National Recognition for Work with First-Year Students

In recognition of her exemplary work on behalf of first-year students, the National Resource Center and Cengage Learning has selected Dr. Brigitte Lahme, professor and chair of the Department of Mathematics and Statistics at Sonoma State University, to receive a 2018-19 'Outstanding First-Year Student Advocate' Award.

The national award recognizes educators who are doing exceptional work in the areas of student learning, development and success, according to the National Resource Center. Lahme was one of 10 recipients of the award but one of only two chosen from four-year colleges and universities between 7,000 and 15,000 students in size.

Lahme said she was honored just to be considered let alone to receive the award. "It's all due to having so much support from the math department," said Lahme. "It's a great collaborative environment with so much positive energy to help students think about math differently."

A professor at SSU since 2002, Lahme is nationally recognized for her contributions to mathematics education. She has spearheaded a number of initiatives including a complete transformation of Sonoma State's curriculum for first-year mathematics students and has served as a faculty lead on a multi-year STEM Talent Expansion grant from the National Science Foundation.

In nominating her for the distinction, Lisa Vollendorf, Provost and Executive Vice President of Academic Affairs at Sonoma State University, described Lahme as "a dedicated educator and student success advocate" and a "highly respected change-leader for the entire California State University system."

Vollendorf added, "Throughout her career, Dr. Lahme has made an extraordinary difference in what we know about teaching mathematics, the way K-16 teachers engage all students in meaningful learning about mathematics, how college students of all backgrounds see themselves as part of the future of STEM,

and how one faculty leader can inspire and advance the mission of many."

Lahme said she has a passion for helping first-year students start off on the right foot, especially in math. "It's not easy, but math is powerful because it opens so many doors for students," she said. "Even if they decide to not go into mathematics later, empowering students to have the option to follow that route and being math literate is an amazing goal for us. It makes our students lives better and it makes our society better."

The award was presented to Lahme at the 38th Annual Conference on 'The First-Year Experience' in Las Vegas from Feb. 16 to Feb. 19, 2019.



Dr. Karen Moranski, Senior AVP and Dean of Academic Programs, Dr. Brigitte Lahme, and Dr. Martha Shott, Department of Mathematics & Statistics.

## \$4 Million Grant to Expand *Learning by Making!*

Dr. Lynn Cominsky

This article originally appeared in the January 2019 [Learning by Making Newsletter](#).

US Department of Education awards \$4 million grant to expand Learning by Making Program to Sonoma and Lake counties.

For the past five years, Sonoma State University's Education and Public Outreach Group has been working to create and fine-tune a ninth grade curriculum that re-thinks the way STEM courses engage students. The result has been a Learning by Making (LbyM) curriculum that trains students to design and construct their own experiments.

Piloted in six Mendocino County high schools during the past three years, the curriculum will now expand to Sonoma and Lake counties thanks to a \$3.93 million grant from the U.S. Department of Education.

"We are thrilled that the Department of Education has recognized our work on our innovative 9th grade integrated STEM curriculum by awarding us funding to continue to develop the LbyM curriculum for another five years," said Lynn Cominsky, who leads the new project. Cominsky is also Director of SSU's Education and Public Outreach (EPO) Group and chair of the Department of Physics and Astronomy at Sonoma State. "LbyM has been our group's most challenging project, but it also has the potential to transform STEM education nationally." Other Co-Principal investigators on the new grant are Dr. Laura Peticolas, Associate Director of the EPO group, and Susan Wandling, Senior Director of SSU's Pre-Collegiate Programs.

The LbyM project was specifically designed to benefit rural schools which are typically underserved in STEM education. With many rural schools not having credentialed teachers in each science discipline, teaching an integrated STEM curriculum allows flexibility. The curriculum design also provides advanced students the opportunity to take on more challenging activities, which is important in rural schools where small student populations preclude the ability to offer AP clas-

ses.

The LbyM curriculum was originally supported by a \$3 million grant from the Department of Education in 2013 and was taught in six Mendocino County high schools. Susan Wandling directed the 2013 grant with Cominsky serving as STEM curriculum lead. LbyM is currently being taught for the fourth year at three different Mendocino County high schools: Ukiah, Point Arena, and Round Valley. During the 2016 - 17 school year, external evaluators at WestEd conducted an impact study that compared student learning outcomes using the LbyM curriculum to other 9th grade students who were enrolled in traditional courses. According to Wandling, their initial evaluation "demonstrated significant gains in science learning and improvements in mathematics skills." Further explanation of the study can be found on the LbyM project's website.

SSU's Education and Public Outreach Group has a goal of having at least 12 schools in the region teaching the LbyM curriculum within three years. Although the project is targeting rural schools, the curriculum also will be tested in selected urban schools, including Roseland University Prep and Healdsburg High School, to measure the student learning outcomes in different settings.

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*"We have the opportunity to rethink the way that STEM subjects are taught, so that students are more actively engaged, and not just memorizing facts."*

*—Dr. Laura Peticolas*

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## Discovery in Action in Science & Tech!

We are proud to recognize our faculty and students who have received [Research, Scholarship, and Creative Activities Program \(RSCAP\)](#) through the campus and CSU Chancellor's Office and Koret Foundation funding this year.

### RSCAP 2019-2020 Awards

Faculty Name	Department	Project Title	Type	Amount
Joseph Lin	Biology	<i>Manuscript Preparation: Cellular Protection</i>	Fellowship	\$5,000
Mackenzie Zippay	Biology	<i>Understanding Hsp90 in Developing Purple Sea Urchings: Maternal-to-Zygotic Transition</i>	Mini-grant	\$5,993
Michael Cohen	Biology	<i>Developing Microbial Fuel Cell-Based Wastewater Treatment: System Improvements and Publication of Findings</i>	Buy-Out	\$5,781
Shubhi Taneja	Computer Science	<i>Evaluating the Performance and Energy-Efficiency of the State-of-the-Art CPUs and GPUs</i>	Mini-grant	\$5,897
Laura Waters	Geology	<i>Water Contents of Magmas: A new Feldspar-Hygrometer</i>	Mini-grant	\$5,979
Robin Glas	Geology	<i>Influence of Climatic Variability on the Hydrology of Northern California's Headwater Catchments</i>	Mini-grant	\$5,822
Lauren Morimoto	Kinesiology	<i>Putting "Hispanic" and the Humanities in HIS</i>	Fellowship	\$5,000
Brigitte Lahme	Math & Stats	<i>Radical Inclusion in Postsecondary Mathematics and STEM</i>	Fellowship	\$5,000

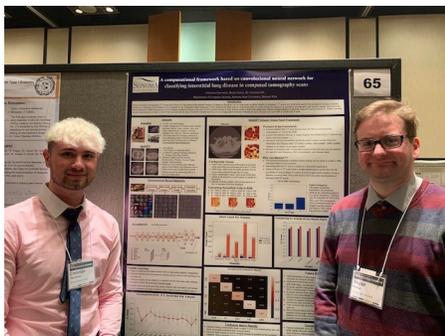
**Koret 2018-2019 Awards** — Koret Awards are made possible by a grant from the Koret Foundation and are intended to support undergraduate students and their faculty mentors in research and creative projects across all academic disciplines

Faculty Name	Department	Student Researchers	Project Title	Amount
Michael Cohen	Biology	Jenasea Blessing Gabriel Quintero Plancarte Savannah Samp Irving Uriel Ramirez	<i>Developing biological systems for treating and monitoring the toxicity of wine and brewery wastewaters</i>	\$10,000.00
Derek Girman	Biology	Kayla Hontz Jennifer Juarez Yoc Alexander Moore Alejandra Perez	<i>eDNA analysis of the endangered California Tiger Salamander</i>	\$10,000.00
Brent Hughes	Biology	Lauren Bocca Natasha Higuera Aanisah Houston Jessica Saavedra	<i>Scale-dependency in coastal food webs along the California Current</i>	\$10,000.00
Mackenzie Zippay	Biology	Matt Draluck Matthew Ramsey Lindsey Wachsmann Kaitlyn Wagner	<i>Molecular analysis of physiological responses</i>	\$10,000.00
Monica Lares	Chemistry	Tara Avrit Thanh Blade Erick Juarez Stephanie Roa	<i>Optimizing Electromobility Shift Assays between the BAFF-receptor and its RNA Aptamer</i>	\$10,000.00

*Continued on page 9.*

Faculty Name	Department	Student Researchers	Project Title	Amount
Bogdan Negru	Chemistry	Sarah Ballentine Emily Cavallero Ryan Gumrich Delilah Milner	<i>Construction and Implementation of the 785 nm Laser Line for Surface-Enhanced Raman Spectroscopy</i>	\$10,000.00
Mark Perri	Chemistry	Mary Akinmurele Clarissa Alcala Michael Diaz Samantha Oliva	<i>Providing Open Access Computational Chemistry to Undergraduates and The Chemical Fate of Antibiotics in Wastewater</i>	\$10,000.00
Farid Farahmand	Engineering Science	Jonathan Cervantes Jesus Gonzalez Jesus Lopez Ochoa Joshua Paine	<i>BlueSense: A General Purpose Remote Controlling &amp; Monitoring Device</i>	\$10,000.00
Sudhir Shrestha	Engineering Science	Daniel Gil Gaven Hayden-Town Logan Lawrence Blake Zuniga	<i>Multiple - please refer to the cover page and project narrative</i>	\$10,000.00
Owen Anfinson	Geology	Graciela Camarena Kylie Dupuis Kalia Richardson Mayreline Rico	<i>The Provenance of Wine: The Role of Bedrock and Soil in Transferring Rare Earth Elements into Wine Grapes, Sonoma County, CA.</i>	\$10,000.00
Bulent Sokmen	Kinesiology	Emily Campbell Autumn Drake Jireh Pejana Jenna Spolarich	<i>Effects of Eccentric and Concentric Muscle Contraction on DOMS, Isokinetic Torque, and Coactivation Ratio During Rehabilitation Exercise</i>	\$10,000.00
Kurt Sollanek	Kinesiology	Jose Flores Selomie Mebrahtu Shasta Rice	<i>Beverage Osmolality Study</i>	\$10,000.00
Rachel Napoli	Nursing	Alexandra Holbrook Caitlyn Quinn Kaitlyn Suchanek Jessica Young	<i>Bullying in the Workplace: An Assessment of Prevalence in Nursing Schools</i>	\$10,000.00
Natalie Hobson	Mathematics & Statistics	Serina Cabrera Drew Horton Keith Rhodewalt Ry Ulmer-Strack	<i>Counting Pseudo-Progressions and Students' Persistence in STEM while taking Stretch Mathematics Courses</i>	\$10,000.00
Omayra Ortega	Mathematics & Statistics	Therese Azevedo Tavanuku Etu Christina Lynch Ana Tongilava	<i>Modeling Climate Dependence of Disease Dynamics</i>	\$9,697.00
Hongtao Shi	Physics & Astronomy	Scott Allred Isabella Amyx James Garner Mackenzie Hunt	<i>Cultivating Capstone Research Experience from Making Nanostructures to Understanding Concussions</i>	\$10,000.00
Thomas Targett	Physics & Astronomy	Tairyn Addison Jorge Bautista Karli Martin Adrienne Young	<i>It is Rocket Science! An undergraduate Built Earth Orbiting Satellite</i>	\$10,000.00

## SST Students Attend CSU-Wide Biotechnology Symposium



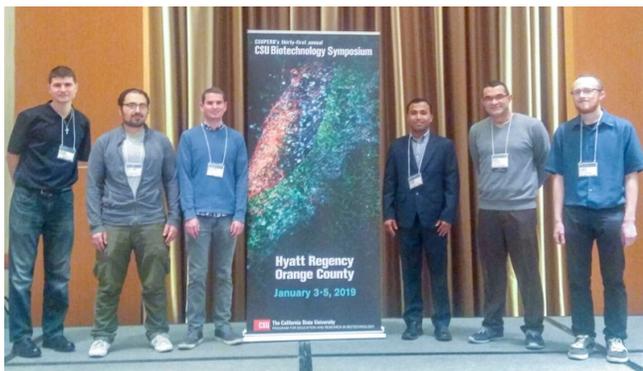
CS students Christian Havranek and Skyler Penna.

Every year, students and faculty from the School of Science and Technology attend and present at CSUPERB's Annual Biotechnology Symposium held in January.

The symposium brings together faculty and student researchers from across California, and provides a valuable experience for students to network and discuss their research in a professional atmosphere. Following are summaries of the experience by students in their own words:

### Brandon Russel, Electrical Engineering

"The CSUPERB Biotechnology Symposium was a great experience. The poster sessions provided a chance to meet students in other majors and see what they have accomplished. I met bachelors and masters students, professors, and other industry professionals and learned a great deal from them. There was a networking event where students were able to speak one-on-one with experienced professionals including venture capitalists, entrepreneurs, and scientists. They were able to provide valuable information to undergraduate students about the professional world and different



James Normantas, Dr. Mohamed Salem, Brandon Russel, Dr. Sudhir Shrestha, Dr. Farid Farahmand, and Logan Lawrence.

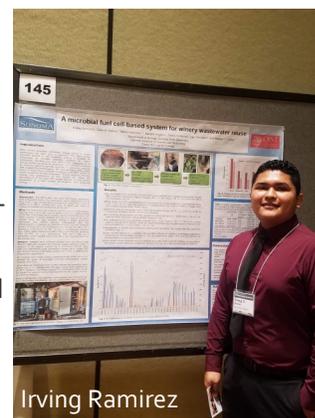
career paths. Anyone who has the opportunity should attend this symposium.

### James Normantas, Electrical Engineering

"Attending the CSUPERB conference is a great opportunity for EE students. You get to meet a lot of people with a background focused on biotech that have done very interesting projects. Biotech is a possible path for EE majors, and they have sessions where they discuss how to get a job in biotech. They also have sessions to explain a lot about graduate school, including how to apply and what to do once you are accepted. Another important aspect of the conference is presenting your project. It gives you an opportunity to learn to discuss your EE project with people who know nothing about EE. This is a very valuable skill for any field you decide to work in."

### Irving U. Ramirez, Biology

"In early January, I presented the results of my research group at the 31st Annual CSUPERB Biotechnology Symposium. I am grateful to Dr. Michael Cohen and SSU for providing me with this opportunity. Overall, the event was an amazing experience. I was able to meet many different students and professors from all the science fields. At first, being there was a bit intimidating, but throughout the days of the event, I started to open up. I learned what we as scientists are all more or less tackling the same set of problems, just from different angles. The productive interactions there demonstrated to me that if we can all begin to communicate better by disputing a point, not a person, we could get a couple of steps closer to finding solutions. My biggest take away from CSUPERB was this quote, 'Do not be afraid to trust yourself and everything you have done. Be prepared to PUT IN WORK.' Thinking this way motivates me moving forward after I graduate from SSU."



Irving Ramirez

## SST Students Selected to Participate in CSU-Wide Research Competition

Seven research projects from the School of Science & Technology have been selected to represent SSU at the [33<sup>rd</sup> Annual CSU Student Research Competition](#) on April 26-27 at CSU Fullerton.

The system-wide competition showcases the innovative research and creative activities of undergraduate and graduate students in the full range of academic programs offered by the CSU. Participants make oral presentations before juries of professional experts from major corporations, foundations, public agencies, colleges and universities of California.

The competition is held annually to promote excellence in undergraduate and graduate scholarly research and creative activity and recognizes outstanding student accomplishments from throughout the twenty-three CSU campuses.

The projects from SST are:

Student(s)	Faculty Advisor	Department	Title
Jack Dirk	Dan Crocker	Biology	Factors Influencing Growth Rates of Head-Started Western Pond Turtles ( <i>Emys marmorata</i> ) and Consequences for Conservation
Megan Gaitan (MS)	Lisa Bentley	Biology	Community composition and functional traits of a 42-year old forest
Thanh Blade	Monica Lares	Chemistry	Determination of the Binding Affinity between RNA Aptamer and B-cell Activating Factor Receptor
Jorge Bautista Skyler Penna	Gurman Gill	Computer Science	Applications of Convolutional Neural Network Model for classifying Interstitial Lung Disease images from Computed Tomography scans
Hannah Bowman Alexander Elkins Nick Ivanoff	Anamary Leal	Computer Science	Imitating Tangible Craft Practices Online: A Study of Communicating Craft Knowledge on Social Media
David House David Story	Lynn Cominsky	Physics & Astronomy	Design of Science Payload and Support Subsystems for 1U CubeSat EdgeCube
Zack Tweedy	Scott Severson	Physics & Astronomy	Simulating LIGO - Wavefront Sensing Using Interferometry

## ES Students and Faculty Attend Global Humanitarian Conference

This past October, SSU engineering students and faculty attended the [2018 IEEE Global Humanitarian Technology Conference](#) (GHTC) in San Jose, CA. IEEE GHTC is an international flagship conference on the application of technology to meet the needs of underserved populations around the world and in support of United Nations Sustainable Development Goals (UNSDG). An important focus of the conference is on community building. Humanitarian Technology/Engineering in-



Logan Lawrence, McKenzie Maher, Priyanka Khera, Alyssa Wright, Dr. Farid Farahmand, Shivakumar, and Muhammad Khan.

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volves the application of technology to improve the quality of life of underserved populations, and to meet the challenges of both natural and man-made disasters.

At the [Student Poster Competition](#), Alyssa Wright, Priyanka Khara, and McKenzie Maher presented their work, entitled, “Body Vitals Transmitted Through Low-Cost Cellular Network.” SSU industry advisor, Mr. Rob Rowlands of [Gap Wireless](#), has supported this project. Logan Lawrence presented his team’s ongoing research at the Competition, entitled, “A Low-Cost Diabetic Retinopathy Detection Solution Using Machine

Learning.” This project is through the [Intelligent Systems Laboratory](#) (ILS) in the Engineering Department directed by Dr. Sudhir Shrestha.

At the conference, Dr. Farid Farahmand, Engineering Science Professor and Department Chair, co-presented the [Internet-of-Things \(IoT\) Workshop](#) with Mr. Shivakumar Mathapathi, Co-Founder and CTO of Dew Mobility and Senior Design Project Mentor. About 35 researchers, students, and industry representatives participated in the workshop. In the workshop, Dr. Farahmand and Mr. Mathapathi covered the IoT applications, its use cases, basic building blocks, protocols, and related technologies. The workshop concluded with several hands-on activities and demonstrations.

## Local Junior High Explores Geology at SSU!

*Phil Mooney*

Grace Cosentino graduated from SSU with a BA in earth science in 2014. For the past three years, she has been teaching 7th-grade science at San Jose Middle School on Novato, CA. As a kid growing up in Novato, current geology major Ian Ocampo attend 7th grade at that very same school!

Now the soon-to-be graduating senior, Ocampo, and Cosentino escorted 47 San Jose 7th graders around the SSU campus, Darwin Hall, and the Geology Department. The students learned about life as a college student, toured the buildings on campus, and got a behind the scenes tour of our facilities.

Phil Mooney, Geology Department Technician, along with Ocampo and Cosentino showed the students the 3D Augmented Reality SandBox, the Liquification Table, and a whole assortment of rocks and fossils along the way. On the tour of the department, the students saw the Geology Department's labs, rock and mineral collections, and admired the new Beyond Curie in the lobby.

The Department would like to acknowledge Ocampo for all his hard work setting up this visit, donating his time, and for positively representing SSU, Geology, and the School of Science & Technology.



Ian Ocampo shows students the Geology Department’s rock collections in Darwin 128 (top); students experience the sand-box (bottom left); Ocampo shows the students more rocks behind Darwin (bottom right).

## Nursing Students Honored by International Society

On February 2, 2019, twenty-eight new members were inducted into Sigma Theta Tau's Lambda Gamma chapter of the International Nursing Honor Society. The event took place at the Cooperage on campus and honored students in the Pre- and Post-Licensure BSN programs, the Family Nurse Practitioner MSN program, as well as community members. Membership in the Honor Society is made by invitation only to nurses with a stellar academic record, leadership attributes, and a recommendation from a current member. In addition to their induction, Rajwinder Kaur (FNP) and Ashley Simms (BSN) were awarded academic scholarships.



## Math & Stats Supports Colleagues at Fire-Impacted CSU Chico

Members of the Math Department at CSU Chico were delighted when two mystery boxes arrived as the campus was still reeling from the devastating Camp Fires. Filled with snacks, treats, and good wishes collected by the Math & Stats Department at SSU, the generosity and support of colleagues helped lift spirits during the incredibly difficult times caused by the fires.



Dear Sonoma State Dept. of Math & Stats,  
Thank you so much for the wonderful care package. The snacks were set up in the Emergency Operations Center and enjoyed by our team for many hours over many days. The snacks were so comforting. That was so thoughtful of you. We, at Chico State, appreciate your support during this difficult time.  
Sincerely,  
Kathy C...  
Hannah Hasegawa  
Bruce Bar...

## Professor James, Featured Guest & Speaker

The writing of Professor Matt James in Geology was featured on the January 28, 2019 episode of [Time to Eat the Dogs](#), a podcast about history, exploration, and science, with host Michael Robinson of the University of Hartford. Professor James spoke about his book on the 1905-06 Galapagos Islands scientific collection expedition from the California Academy of Sciences, and his own personal expedition experiences in the Galapagos archipelago in 1982 on his first of several research trips to the island.

Professor James will also be a featured speaker at the annual [Big Bang Gala](#) on April 25, 2019, at the Califor-

nia Academy of Sciences, along with Kate Brandt, the head of sustainability at Google, and Aturo Izurieta, the executive director of the Charles Darwin Foundation. With some 500 people in attendance, the Big Bang Gala is the premier philanthropic and social event of the year benefiting the scientific and public outreach work of the curators and staff of the Academy. Professor James has been a Fellow of the Academy since 2000 and will be speaking along with Dr. Izurieta about the past, present, and future of science and conservation in the Galapagos Islands.

## Local Tech Company Supports ES Students' Success

On September 17, 2018, Chun-ting "Tim" Wang Lee from Keysight Technologies held a workshop for SSU students in the Computer Engineering Science (MS) and Electrical Engineering (BS) programs. The workshop introduced students to basic analyses and concepts in signal integrity with applications using Advanced Design System (ADS) software. The workshop is part of the ongoing skill-building workshops sponsored by the Engineering Science Department and coordinated by Dr. Mohamed Salem. Signal integrity analyses are essential for determining the quality of electrical signals, especially for high bit rate and long distance applications. Special thanks to Mr. Tim Wang Lee, and Application Design Engineer for High-Speed Digital Applications, and Mr. John Kikuchi, the University Program Manager at Keysight, for hosting the workshop.

Additionally, Keysight held an Information Session on December 5, 2018, for the Engineering Department. The event was a great success with about thirty students attending. We are grateful to the amazing Keysight managers and interns who shared their stories and valuable career insights with our students. Thank you to Maria, Gean, Loren, Bob, Ethan, Cris, Ley-

la, Lea, Bonnie, Jonah, Adrian, Kooi, Ian, and Mackenzie for going above and beyond to support the success of our students and future engineers in the region. Our industry collaborations and partnerships are a win-win for all!



Ian Furniss, Mr. John Kikuchi, Mr. Tim Wang Lee, Jorge Munos, Kenneth Kleinsmith, Anthony Aboumrad, Geoff Thomas, Saumya Saxena, and Lorin Nimri.



Students at the Keysight Information Session.

## Nursing Department Participates in Youth Healthcare Symposium



The Nursing Department participated in the Mi Futuro in Healthcare Symposium held in the Student Center on January 11, 2019. The Symposium is in its fourth year and is designed to introduce the North Bay's

youth to careers in mental and primary healthcare, with a particular focus on Latino and Native American youth and cultural sensitivity to their unique patient-care needs.

Faculty and students from the Pre-Licensure Nursing Program helped to inform more than 400 high school students from local schools about possible careers in nursing. They also collaborated with Micahel Germani, owner of the Critical Care Training Institute, to train more than 200 students in performing "Hands-Off CPR" during the many afternoon workshops.

## SSU Nurses Making a Difference in our Community

*Dr. Karen Werder*

This past fall, Dr. Karen Werder had the pleasure of being the clinical instructor of four very bright and creative RN-to-BSN nursing students at Mission Solano, a 160-bed homeless facility that houses men, women, and children in Fairfield, CA. The students, Viktoria Fitzgerald, Evelyn Oei, Taylor Jones, and Lyza Nest Song, were doing a preceptorship at the facility for Nursing 412, Community Public Health Nursing Practicum.

Mission Solano is a unique homeless shelter. Unlike many other shelters, residents' length of stay is not limited. The average person stays for three to six months. There are respite beds from local hospitals where people can receive focused care from visiting nurses in clean environments. People are also provided structured safe housing while they look for jobs, apartments, and integrate back into society after incarceration. The staff works in conjunction with local hospitals, social service agencies, probation departments, as well as Mental Health Day Programs.

Dr. Michelle Kelly and Dr. Werder introduced the students to a concept called Care Transitions, a care model created by Dr. Eric Coleman. It is based on four conceptual areas known as The Four Pillars®, which include medical self-management, use of a patient-centered record, primary care and specialist follow-up, and knowledge of red flags. The students decided to implement these four pillars at the shelter with hopes of bringing down hospital readmissions and assisting guests in taking responsibility for their medical conditions and care. They also discovered that the shelter was weeks away from the possibility of closure due to lack of funding and hoped to make a difference.

The students assisted the clients in creating their own Personal Health Record, something they could use to track their medications, doctors' appointments, and medical information. This facilitates communication between patients and their health care providers to ensure continuity of care. They assisted clients in tracking their appointments and empowered clients to

do so themselves. They educated the clients and staff on Red Flags, symptoms of an exacerbated medical condition, in order for them to be knowledgeable about when and when not to seek medical care.



Sonoma State's Department of Nursing provided funding for the students to purchase blood pressure cuffs, oximeters, first aid kits, and a scale to assist clients to track their personal health information, as well as materials for clients to track their personal health records. The clients were given incentives, such as bus passes and healthy snacks, to participate in the students' project.

The staff and clients were all so appreciative of the program the students created and verbalized what an amazing group of young health professionals they are. Thank you, Viktoria, Evelyn, Lyza, and Taylor for making a difference in the lives of the vulnerable people we serve and congratulations on a job well done!



### School of Science & Tech Commencement Ceremony

Saturday, May 18 at 1 pm

Weill Hall, Green Music Center

[commencement.sonoma.edu](http://commencement.sonoma.edu)

# 2019 Science Symposium

Part of SSU's Week of Research & Creativity

Tuesday, April 30

4 to 6:30 pm

Student Center Ballroom

The Symposium is open to the whole campus and community members to attend.

[web.sonoma.edu/scitech/symposium](http://web.sonoma.edu/scitech/symposium)



## Mineral Collection Donated

Geology student Brennan Williams-Mieding is helping to sort and catalogue a spectacular mineral collection donated to the Geology Department by Rohnert Park resident Forrest Becker. This donation will be added to the department teaching collections and used to create new displays in Darwin Hall.



## Give to SST

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