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Nobel Prize in Physics Awarded to Gravitational – Wave Pioneers CSUF Physicists' Work Contributed to Discovery

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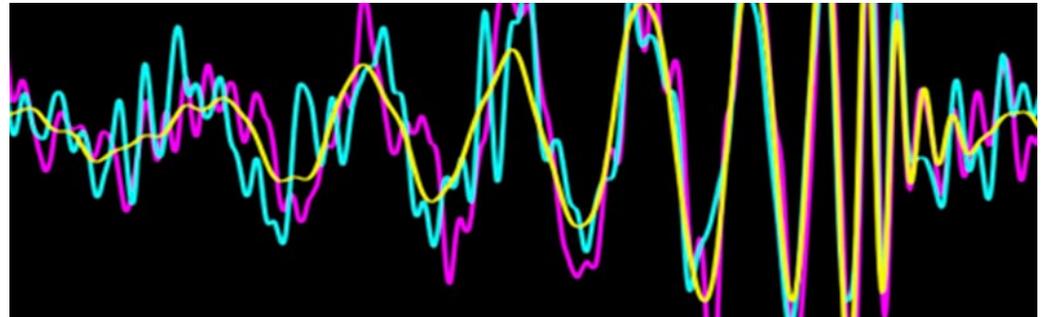
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This simulation shows how gravitational waves stretched and squeezed through the LIGO detectors as it passed through them on Sept. 14, 2015 – the first discovery. The curves are similar to how a seismograph shows how much the earth shakes as a seismic wave (earthquake) passes through it. CSUF physics alumni Alyssa Garcia and Nick Demos worked with faculty mentor Geoffrey Lovelace, the LIGO Scientific Collaboration and the Simulating eXtreme Spacetimes collaboration to perform the numerical relativity calculations and to create the image.

When the 2017 Nobel Prize in Physics was awarded Tuesday, Oct. 3, the researchers of Cal State Fullerton's Gravitational-Wave Physics and Astronomy Center were among those cheering. The prize was awarded to three pioneers of LIGO — the Laser Interferometer Gravitational-Wave Observatory — where gravitational waves from a collision of two black holes were observed for the first time on Sept. 14, 2015.

Nobel Prize recipients Rainer Weiss of MIT and Caltech's Barry C. Barish and Kip S. Thorne were recognized "for decisive contributions to the LIGO detector and the observation of gravitational waves."

In announcing the prize, a Nobel Committee member called the 2015 detection "a discovery that shook the world." CSUF researchers [Joshua Smith](#), [Jocelyn Read](#), [Geoffrey Lovelace](#), Marissa Walker, their students and computation specialist Joseph Areeda, all of the Gravitational-Wave Physics and Astronomy Center (GWPAAC), contributed significantly to that first discovery and to subsequent gravitational wave detections announced in 2016 and 2017.

Click on <http://news.fullerton.edu/2017fa/gravitational-waves-nobel-prize>. For the complete story.



Nobel Laureate Kip S. Thorne of Caltech was the keynote speaker of the opening of CSUF's Gravitational – Wave Physics and Astronomy Center.



Dan Black, one of the biggest donors to Cal State Fullerton, stand on the science building named after him on Aug. 16, 2017. (photo by Nick Agro, Orange County Register/SCNG)

Dan Black didn't race an elephant. He didn't found a fraternity. He never went to a football or baseball game in college. He doesn't live in Orange County, the 1967 Cal State Fullerton alum is one of the university's largest donors. Dan Black has his name on a science building, a business school lecture hall, a physics-business program, physics scholarships, and the directorship of the Gravitational-Wave Physics and Astronomy Center. Then there are the things his name isn't on but which he has donated to, including DC Scholars, the oral history program, the entrepreneurship center, science research and a portable planetarium.

Over the years, Black and his wife, Kathy Chao Black, have given about \$8 million to the university in gifts and pledges – something for every college.

"When I think about Dan and his philanthropy, it always goes back to our students," said Greg Saks, vice president for university advancement and executive director of the Cal State Fullerton Philanthropic Foundation.

"He is passionate about helping make sure they have the resources they need to be successful. Whether it be supporting student research, scholarships, or even providing seed money to help initiate new academic programs, Dan is always interested in creating opportunities for our students to help themselves and our communities."

<http://www.ocregister.com/2017/10/03/cal-state-fullerton-donor-worked-so-physics-students-dont-have-to/>



Physics alum and donor Dan Black, center, poses May 4 with students who benefited from the gift challenge that funded undergraduate science and mathematics research. Photo courtesy of Cal State Fullerton)

Giant woolly mammoth skeleton finds a home at ...



If Cal State Fullerton mascot Tuffy Titan is looking a little long in the tusk, just wait until you see the new elephant in town. Cal State Fullerton has received a woolly mammoth skeleton that is about 20,000 years old. The giant fossil will be installed this fall in a permanent display in the Titan Student Union.

John Gregg, a Huntington Beach geotechnical engineer, and his Gregg Family Foundation have donated the extinct mammoth skeleton to the university. Gregg has kept the fossil in crates since acquiring it from a friend and fossil collector.

The rare fossil, almost fully intact, was found about 15 years ago in a remote area of western Siberia, Russia, near the Ob River, said Gregg, president of Gregg Drilling & Testing Inc., a geological sampling company in Signal Hill.

"I'm happy that the mammoth is going to get out of the dusty storage shed so people can enjoy viewing it," he said.

The mammoth skeleton, 11 feet tall at the shoulders and 24 feet from tusks to tail, will be installed in a museum-type display in the TSU's Chapman Atrium, a high-traffic area outside the Portola Pavilion.

While the shaggy-coated mammoths did not roam in what is now Orange County, Columbian mammoths and mastodons lived in the region, including near campus in Fullerton, explained [James F. Parham](#), CSUF associate professor of geological sciences and Cooper Center faculty curator of paleontology. He and his students are studying these local fossils at the Cooper Center in Santa Ana, a partnership between CSUF and OC Parks.

For the complete story <http://www.ocregister.com/2017/09/21/giant-woolly-mammoth-skeleton-finds-a-home-at-cal-state-fullerton/>



[James F. Parham](#), CSUF associate professor of geological sciences and faculty curator of paleontology at the John D. Cooper Archaeological and Paleontological Center, stands near a Columbian mammoth skull found in Orange County and estimated to be about 25,000 years old. This skull is not part of the exhibit being mounted at Cal State Fullerton. (Photo courtesy of Cal State Fullerton)



John Gregg, who has donated a mammoth skeleton to Cal State Fullerton, is seen in the hold of the Western Flyer, the fishing boat John Steinbeck immortalized in "The Log From the Sea of Cortez," which he was restoring in a dry dock in Port Townsend, Wash., in 2015. (File photo: David Ryder - The New York Times)

NSM in the News

Desert Studies



Dr. Darren Sandquist, Professor of Biological Science and Director of the CSU Desert Studies Consortium, was recently awarded a National Science Foundation (NSF) grant through the Field Stations and Marine Labs program. The \$25,000 planning grant will support development of an operations plan for at enhancing CSU faculty and student research at the Desert Studies Center (<http://nsm.fullerton.edu/dsc/>), the CSU field station located at Zzyzx, CA in the Mojave National Preserve. By studying best-practices for field station research success, and drawing on the expertise of other field station directors and users, Sandquist and his Consortium colleagues will to create a research operations plan aimed at doubling CSU faculty and student research at the Desert Studies Center over the next five years. Outcomes from the grant will also position the Consortium to be more competitive for large field station grants through NSF and other programs that support the high-impact practices inherent to student experiences at field stations.

For more information, contact Professor Darren Sandquist at dsandquist@fullerton.edu

Biology Alumni Grow Careers at Fullerton Arboretum



Titan alumnus Gregory Pongetti serves as the Fullerton Arboretum's living collection curator.



Miguel Macias, who earned B.S. and M.S. degrees in biology from CSUF, is the Fullerton Arboretum's education program manager.

Gregory Pongetti worries about a pest called the Polyphagous Shot Hole Borer, which has been "wreaking havoc on trees all over Southern California" in recent years. Some of the Fullerton Arboretum's trees have fallen victim to the pest, as well as to heat waves and periods of drought.

From gardener to living collections curator, Pongetti has spent the last decade caring for some 4,000 plants in the arboretum. But before he discovered a passion for botany, he was a Cal State Fullerton student.

"I see students at the arboretum every semester, collecting pond water samples to examine different types of algae and unicellular organisms," said Pongetti '06 (B.S. biological science). "Every time I see them, I think back to my time as a student." From gardener to living collections curator, Pongetti has spent the last decade caring for some 4,000 plants in the arboretum. But before he discovered a passion for botany, he was a Cal State Fullerton student.

<http://news.fullerton.edu/2017su/Fullerton-Arboretum-Alumni>

Math

Presentations and Publications

Dr. Cherie Ichinose and Dr. Marty Bonsangue, both in the Dept. of Mathematics, were invited to lead an all-day retreat on Course Redesign with Technology at Clark Atlanta University, an HBCU in downtown Atlanta on October 3, 2017. Pictured is Dr. Ichinose, far right, with CAU Team Leaders.

Geology

Presentations and Publications

Inserra**, N., Nelems*, C., Muthala*, R., Torres*, J., Akciz, S. O., 2017, Paleoseismic investigation of Van Matre Ranch site along the Carrizo Plain section of the San Andreas Fault: Southern California Earthquake Center Annual Meeting, Palm Springs, CA.

General News

Professor Adam Woods was awarded an Honorary Lifetime Membership to Pacific Section SEPM for his service to the organization as treasurer (2008-present) and past Vice President (2005).

2017 Annual Alumni Dinner



The Department of Geological Sciences
California State University Fullerton

*5th Annual
Alumni Reception*

Friday, October 6
6:00 p.m.

RSVP to
lhargrove@fullerton.edu

Location will be:
Florentine's Grill
102 N. Harbor, Fullerton






NSM Student Spotlight

I would like to nominate Shayna Avila for the student spotlight. Shayna is a senior working on her BS in geology. For her senior thesis, she works with Dr. Jeff Knott on basalts in Death Valley. Shayna is the president of the Association for Women Geoscientists, Student chapter at CSUF, enjoys doing outreach through the chapter and the geology club, and she is a mother of three.

Vali Memeti

Assistant Professor

Department of Geological Sciences

Tell us a little about yourself. My name is Shayna Avila. I am a senior currently working on my BS in Geology. I am interested in volunteering to teach the youth about the geosciences.

How has the College of NSM prepared you for your future career plans? While in the College of NSM, I have acquired a variety of skills needed for my major. These skills have come from courses in geology, chemistry, physics, math, and other fields.



What kind of research have you done? If you have not done any research, what kind of research would you like to do?

I recently finished my undergraduate thesis with Dr. Jeffrey Knott, on basalt correlation in the Sylvania Mountains, California, by X-ray Fluorescence Spectroscopy. My thesis involved the examination and correlation of basin and range basalts to determine a timeline for basin and range extension and the fragmentation of Fish Lake Valley and the Fish Lake Valley fault zone.

What have been your major awards or accomplishments as a CSUF student or NSM major?

In Spring 2017, I was awarded by the Geology Department with the David L. Willoughby Scholarship.

Name: Shayna Avila
Major: Geology
Expected Graduation Date: Summer 2018



What challenges have you faced as a college student?

Not only am I a full-time college student here at Cal State Fullerton, I am a mother of three children and have multiple jobs. The road has not been easy, but this has made me become more focused and persistent to successfully reach my goals, and I have great time management and multi-tasking skills. Even with a full class schedule, I still find time to volunteer and give back to my community.



NSM Student Spotlight

Name: Shayna Avila

Major: Geology

Expected Graduation Date: Summer 2018

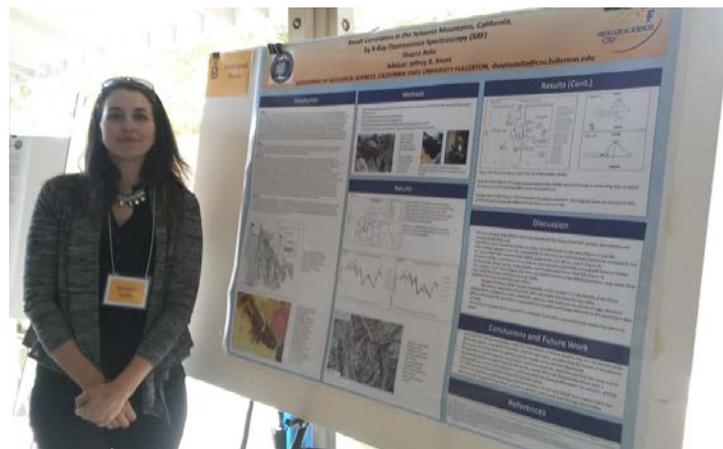
What campus involvement have you been a part of?

I am the current President of the Association for Women Geoscientists Cal State Fullerton Student Chapter. Our goals for the club are to inspire youth participation in the Geosciences by outreach. We are currently planning multiple science nights in local elementary schools.

I am also a Student Instructional Assistant for the University Learning Center for Geology and Anthropology. This is my first semester tutoring, and I have found it so rewarding to help and inspire students. No matter how hard it may seem, they can get through these courses, and can achieve their goals.

What advice would you give to your fellow NSM Students?

To my fellow NSM students, I would advise you to get involved in an on campus club. This is a great way to meet people, and network while providing outreach or just having fun.

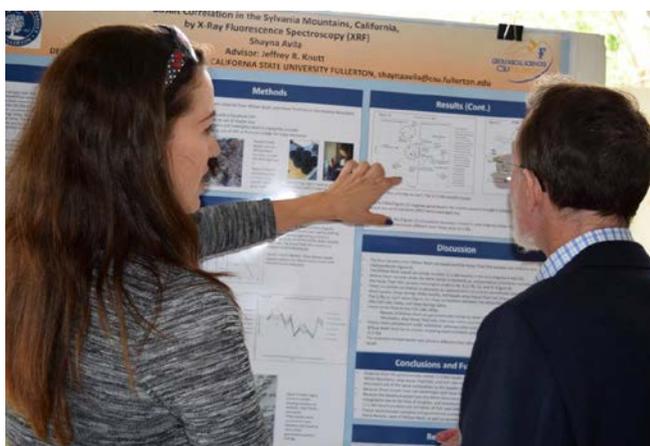


What has been one of your favorite moments at CSUF?

One of my favorite moments at CSUF was presenting my research last April at the Geology Department Research day. It was a great opportunity to share my thesis research, and to see all of the other research posters.

What are your plans for after you graduate and how have you come to this decision? (Graduate school, medical school, career plans)

After I graduate, I would like to start my career as a geologist, and apply to Grad school for a Masters in Geology.



When I grow up I want to be...
(a Geologist)

NSM Student Spotlight



Name: Maddie Ybarra

Major: Biological Science

(Ecology and Evolutionary Biology)

Minor: Chemistry

Expected Graduation Date: December 2017

Tell us a little about yourself.

My name is Maddie Ybarra and I am majoring in biology. I am interested in how desert organisms function in such an extreme environment.

What kind of research have you done? If you have not done any research, what kind of research would you like to do?

I am currently in Dr. Sandquist's plant physiological ecology lab working on the Campus-Wide Irrigation Project (CWIP for short!) In CWIP we are trying to determine the water sources used by various tree species on campus through analysis of stable isotopes in tree sap. The stable isotopes act as natural markers to identify if trees are using imported sprinkler water or local groundwater. If some trees are not using the irrigation water, we can turn off their sprinklers and reduce water use on campus.

In the future I would love to continue doing research using stable isotopes, especially desert to learn about the physiology of organisms such as plants and birds.

What challenges have you faced as a college student?

For most of my college career I have worked part-time (about 15-18 hours each week). Being able to manage my time, complete my assignments, and turn them in on time was my biggest challenge, however, planning ahead and sticking to my agenda was a lifesaver and helped me organize my school, home, and work life.

I would like to nominate Maddie Ybarra.

Maddie is a biology major that was selected last summer to be an International Studies Ambassador. This is because she spent last spring in Ireland, which is really unusual for a biology major since it is hard when going abroad to get the courses you need for completing one's degree. Maddie is in her final semester at CSUF and is working in my lab on the campus tree water sources research project, a program funded by the CSU Campus as a Living Lab program. She is applying stable isotope tracing methods to determine if trees are using mostly local groundwater or have become dependent on the irrigation water provided by campus (which originates in places like Colorado and the Sierra mountain range).

Darren R. Sandquist, Ph.D.

Professor, Plant Ecology

Department of Biological Science

How has the College of NSM prepared you for your future career plans?

The Biological Science faculty have helped me immensely during my time at CSUF. Many of my professors have increased my view of what biology (specifically ecology) is and what types of careers I can pursue in that field.



NSM Student Spotlight



What has been one of your favorite moments at CSUF?

My favorite moment at CSUF was during my Ornithology class this past spring when we had our opening night for an exhibit in Pollak Library. For most of the semester, my class and I worked on creating an exhibit that showcased the local bird diversity in reference to a historical ornithological text (American Ornithology, Alexander Wilson). That evening was one of my favorite moments because I was able to bring my family into my school life, and share with them everything that I had been working on that semester.

What advice would you give to your fellow NSM Students?

Talk to your professors because they want to see you succeed! I know that most professors in NSM want you to ask questions and are always willing to help students. The relationships that you form may help you find other opportunities within your field, whether they are internships, lab experiences, or job openings.

What are your plans for after you graduate and how have you come to this decision?

Once I graduate I plan to look for a field job to build up my experience and to focus my interests. Eventually, I plan to attend graduate school and hopefully study desert ecology.

Name: Maddie Ybarra

Major: Biological Science

(Ecology and Evolutionary Biology)

Minor: Chemistry

Expected Graduation Date: December 2017

What campus involvement have you been apart of?

I am a part of the Desert Docents, which is a newly formed group of students that go out with the lower division biology courses to the Desert Studies Center at Zzyzx, CA. While there, we help the students with various projects that they are working on for their classes and help to educate them about the Mojave Desert. I have also been a part of the Global Titans Leadership Program where we developed new study abroad opportunities for first time freshman at CSUF. We visited the city of La Paz, Baja California Sur and various non-governmental organizations (NGO's) that would introduce freshmen to learning through service.

What advice would you give to your fellow NSM Students?

Talk to your professors because they want to see you succeed! I know that most professors in NSM want you to ask questions and are always willing to help students. The relationships that you form may help you find other opportunities within your field, whether they are internships, lab experiences, or job openings.



RAISE in the News

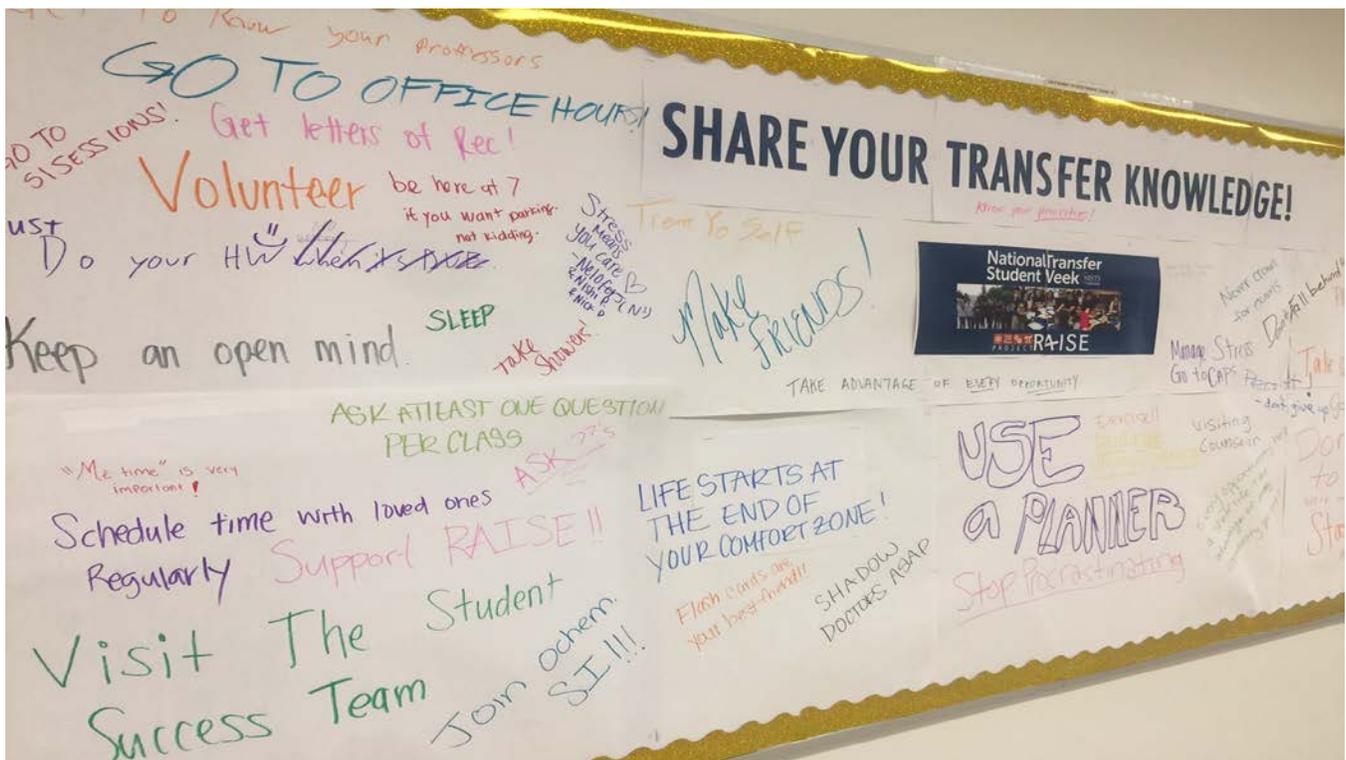
Project RAISE Celebrates National Transfer Student Week



Project RAISE joined the National Institute for the Study of Transfer Students (NISTS) in celebration of the inaugural National Transfer Student Week October 9-13. Project RAISE staff, Peer Advisors, and RAISE Transfer Program (RTP) students celebrated all week by tabling and sharing upcoming RTP events in the McCarthy Hall breezeway, highlighting RTP students on social media about their transfer experience (Instagram and Facebook @csufprojectraise), and creating a “Share Your Transfer Knowledge” board outside of the TRC where students could write their words of wisdom on how to succeed at CSUF. The celebration concluded with a networking lunch at the Transfer Resource Center.

Upcoming Project RAISE RTP workshops and activities:
Wednesday, October 25th 12 p.m.-1 p.m. TRC (MH-525)
LinkedIn: How to Set Up Your Profile and Leverage Your Network

Wednesday, November 8th 12 p.m.-1 p.m. TRC (MH-525)
Acing the Interview



Career Center News

Upcoming Events

- Slice of Advice: The Pathway to Teaching at the Community College, Thursday, November 16th, 5:30pm-7pm, RSVP HERE: <https://goo.gl/214YVE>
- What's a Staffing Agency? And Why You Want Join One? Tuesday, November 28th, 5:30pm-7:00pm, LH-210G, RSVP HERE: <https://goo.gl/zXDegt>
- And more! Check out all of the workshops and info sessions by clicking here: <http://www.fullerton.edu/career/students/workshops-info-sessions.php>

Upcoming Career Fairs

- STEM Internship & Career Expo, Thursday, November 2nd, 10am-2pm, TSU Pavilions, click HERE to check out employers and RSVP: <http://www.fullerton.edu/career/students/STEM-expo.php>

Appointments and Drop In Hours

Don't forget to make an appointment with Michelle Levy by calling 657.278.3121.

Appointment types include

- Career Assessments
- Career Exploration
- Graduate and Professional School Preparation (Exploration, Statement of Purpose, and Interview Preparation)
- Resume/CV and Cover Letter Review
- Mock Interviews
- LinkedIn Set Up and Profile Review.

Also visit Michelle at her NSM Drop In Office Hours (Tuesdays, 11am-12:30pm, MH-488). Drop In Hours are for quick 10-15 minute appointments to review resumes/CVs and cover letters and referrals to resources.

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CAREER CENTER
FULLERTON.EDU/CAREER

STEM

internship & career expo

NOVEMBER 2ND
10 AM - 2 PM
TSU PAVILIONS

FOLLOW US @CSUFcareer

To RSVP and more details about the **STEM Career Expo**, snap the snapcode.

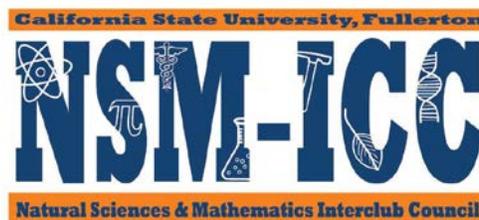
Or RSVP by visiting bit.ly/cc-stemexpo

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NSM CLUBS AND ORGANIZATIONS

NSM.fullerton.edu/student-resources/get-involved



Contact any of the organizations below to find out their meeting and activity information.

American Medical Student Association (AMSA): Is committed to improving health care and healthcare delivery to all people; promoting active improvement in medical education; involving its members in the social, moral and ethical obligations of the profession of medicine; assisting in the improvement and understanding of world health problems; contributing to the welfare of all pre-health professional students. AMSA@fullerton.edu

Biology Graduate Club (BGSC): Offers opportunities for association and interaction between students, faculty, and the administration of CSUF. bgsc.csuf@gmail.com

Chemistry and Biochemistry Club (CBC): provides information pertaining to opportunities and careers with the fields of Chemistry and Biochemistry, familiarizes students with department opportunities, and conducts community outreach. csuf.cbc@gmail.com

Geology Club: Unites geology majors and others by providing related information and volunteer activities on and off campus. geologyclub@fullerton.edu

Latino Medical Student Association Pre-Medical Latino - Undergraduate Society (LMSA PLUS): For anyone interested in medical school can join LMSA, you do not need to be of Latino/Latina heritage! lmsa.plus@exchange.fullerton.edu

Math Club: Encourages students to start joint research projects with each Faculty and attend conferences nationwide for observation and / or presentation. csufmathclub@gmail.com

NSM Inter-club Council (NSM-ICC): NSM clubs and students collaborates with each other and Associated Students (ASI) to provide events and travel funding to all NSM and CSUF students. The NSM – ICC organizes the NSM Symposium, Meet and Eat with the Deans and Chairs. nsmicc.csuf@gmail.com

Physics Club: organizes lectures from guest speakers as well as several events a year. All CSUF students are welcome. Physicsclub.csuf@gmail.com

SMART Girls Support Group (Sisters in Mathematics and Academic Relations in Teaching): holds monthly meetings, study sessions, and provides access to advisors. Learn how to be successful in math courses, relate undergraduate courses to high school teaching connect to school tutoring in schools and networking. Males may join as associate members. csufsmartgirls@gmail.com

STEM Outreach Club: Build a community with your peers. Form study-groups. Get involved in the community. Help promote science. And much more! ALL MAJORS WELCOME! csufmentor1@gmail.com.

SUCCESS (Students United with Community Collaborators to Enhance Success in Science): consist of students from all STEM disciplines who are interested in undergraduate research who collaborate together to hold workshops and events for CSUF students. SUCCESS@CSUF@gmail.com