Hello NSM Family,
I hope your spring 2020 semester is off to a great start!

The spring semester has always been bitter-sweet for me. Spring to me means graduation season for students we have been working with for years, which brings up a lot of emotions.

Right now, we are all working towards graduation whether we are faculty teaching and doing research with graduating seniors or assisting students in applying to and being accepted into graduate school. We are helping students plan for graduation and planning commencement. Helping them through their last set of classes and helping them make hard decisions for what comes next. Or, maybe you are that student we are referring to. Regardless, I am cheering all of you on!

I want to encourage you all to keep exploring, wondering, questioning the world around you, and do not give up. Especially in those long hours in the lab, working in the basement of McCarthy Hall, or studying in the NSM Student Success Center.

I continue to stand in awe of everything that our college does and I am always excited to see what the future has in store for our college, our faculty, our staff, and our students, who all make NSM a family.

-Tatiana Pedroza, NSM Assistant Dean
Dr. Doug Eernisse (Biology) visited the Muséum national d'Histoire naturelle in Paris in December to continue ongoing collaborative research on chitons from the museum’s worldwide recent expeditions. Dr. Eernisse and colleagues from Japan, Russia, Belgium, and France first assembled in January 2017 at the museum, and have since sequenced more than 500 selected specimens for multiple gene regions. In January, Dr. Eernisse was also able to extend his current field intertidal studies to the southern coast of Portugal for two chiton species complexes spanning the Strait of Gibraltar. Recent publications from his lab:


Dr. Joshua Der has coauthored a new paper describing the California Phenology Network and their efforts to digitize herbarium specimens in the MacFadden Herbarium at CSUF and other herbaria across the state.


CHEMISTRY:

Dr. Michael Groves published a paper called "Relative Abundances of Surface Diastereomeric Complexes Formed by Two Chiral Modifiers that Differ by a Methyl Group" DOI: 10.1021/acscatal.9b04682

Dr. Groves' research group, in collaboration with colleagues from the University of Laval, in Quebec City, Canada, have demonstrated that small modifications to chiral molecules on metal surfaces can have a profound impact on catalyzing the synthesis of other chiral molecules. This result has an impact on the future of pharmaceutical synthesis as many drug companies are transitioning from batch to flow processes and there still are not robust methods to predictably make pure chiral compounds.
DEPARTMENT HIGHLIGHTS

BIOLOGICAL SCIENCE:

Biology major James B. White IV presented his Honors Program Research project, "A self-guided arboretum tour of 'charismatic megaflora' is associated with gains in knowledge about plant biodiversity" at the 2020 Society for the Advancement of Biology Education Research (SABER)-West conference at the University of California, Irvine. His poster described the design of his web-based audio tour of the Fullerton Arboretum (charismaticmegaflora.com) and the impacts that tour has had on student knowledge of rarity, endangered species, and conservation.

Undergraduate students, Lina Luu and Tuesday (Danielle) Weaver, presented a poster titled "Chloroplast genomes in the parasitic sandalwood order" at the Northern California Botanists Symposium on January 14, 2020. They won 1st place in the student poster competition for their presentation.

The Sacco lab published a paper on an avian endogenous retrovirus project in the Journal of General Virology, co-authored by former undergraduate student, Anna Crosetti, titled "GGERV20, a recently integrated, segregating endogenous retrovirus in Gallus gallus" (Published online: 09 January 2020) https://doi.org/10.1099/jgv.0.001379
Students in Winter Sessions BIOL 490 got the opportunity to study abroad in Argentina with Dr. Ramirez!

This course is designed to explore issues related with mechanisms of pathogenicity, control, and the epidemiology of infectious diseases. It aims to study problems related to infectious diseases including control, prevention and emergent chemotherapy resistance. Students acquire the tools and knowledge necessary to understand epidemiology and molecular mechanisms of infectious diseases.

They worked on solving clinical cases and learning how to address the correct identification, together with learning about infectious diseases.
CHEMISTRY & BIOCHEMISTRY:

Allyson Fry-Petit, assistant professor of chemistry and biochemistry, with seniors Daniel Sandoval (left) and Jose Gonzalez Jimenez at the Oak Ridge National Laboratory, where they conducted experiments related to their CSUF research. Fry-Petit encourages undergraduates to visit such large national research labs to learn about careers in science. Credit: Genevieve Martin/Oak Ridge National Laboratory, U.S. Dept. of Energy

Honored for his student teaching, chemistry graduate student Alex Ku is working on his thesis project, which focuses on synthesizing small molecule inhibitors for proteins related to human health and disease, such as botulism. His research adviser is Nicholas T. Salzameda, associate professor of chemistry and biochemistry.
GEOLOGICAL SCIENCES:

Geology’s very own MS student Terrinda Alonzo was recently awarded the best student presentation (Farvolden Scholarship) at the National Ground Water Associations (NGWA) Annual Groundwater Week in Las Vegas. Her presentation titled: “Comparing Natural Silica Sand and Glass Bead Filter Packs Used in Production Well Design and Construction” was advised by Dr. Laton. She answered numerous questions about her research without skipping a beat. It should be also noted that she competed with many other MS and PHD students from around the country and overseas to earn the Farvolden Scholarship and the $1,000 that comes with it. Her presentation was done to a packed house of both academia and professionals alike.
MATHEMATICS:

Transitioning Math Majors into Teaching (TMMT) Transitions First Three Scholars

Transitioning Math Majors into Teaching (TMMT) is a Noyce Track I project designed to encourage talented mathematics majors to become secondary school mathematics teachers. The project seeks to recruit and prepare highly effective mathematics teachers in high-need local educational agencies as well as increase the number of highly qualified secondary math teachers. TMMT is a collaboration between California State University, Fullerton, the Anaheim Union High School District (UHSD), Santa Ana Unified School District (AUSD) and Santa Ana Community College (SAC).

The project was launched in January 2019 with three TMMT “Scholars” in their first semester of the Secondary Education Cooperative Teacher Education Program (SECTEP). Maroun Nehme, Jorgelina Corral, and Megan Tanielu each received a $10,000 scholarship to support them during the two-semester credential program. Maroun did his student teaching at Buena Park High School, where he recently signed a full-time teaching contract. Jorgelina did her student teaching at San Clemente High School and Megan student taught at Sonora High School in the Fullerton Joint Union High School District. Both hold long-term mathematics substitute positions and anticipate being offered full-time contracts in the new school year.

The project is directed by Dr. Cherie Ichinose (Math), Dr. David Pagni (Math), and Dr. Patrice Waller (Sec. Ed.)
LSAMP is a statewide program with the goal of increasing the number of graduates with Science, Technology, Engineering & Math (STEM) degrees, especially for individuals who have faced or face social, educational, or economic barriers to careers in STEM.

<table>
<thead>
<tr>
<th>Participant Benefits</th>
<th>Eligibility Information</th>
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<tr>
<td>• Receive up to $300 scholarship to present at a conference</td>
<td>• Must be a US citizen or Permanent Resident.</td>
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<tr>
<td>• Receive up to $200 scholarship towards purchasing a required STEM textbook.</td>
<td>• Must be working on FIRST baccalaureate degree.</td>
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<td>• Waived graduate school application fee for most graduate programs.</td>
<td>• Must be enrolled at California State University, Fullerton, or be transferring to CSUF from a community college.</td>
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<tr>
<td>• Eligible to apply and receive up to $3,500 scholarship to participate in a fully funded, summer international REU</td>
<td>• Must have a DECLARED SCIENCE (biochemistry, biology, chemistry, geology, microbiology, natural science, or physics), ENGINEERING (civil, computer science, electrical, mechanical, or other) or MATHEMATICS MAJOR</td>
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<tr>
<td>• Eligible to apply for the BD Masters and BD Ph.D. programs that award students an annual scholarship and additional academic support throughout their graduate school education.</td>
<td>• Must be an individual who has faced or faces social, educational, or economic barriers to careers in STEM</td>
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<td>• Exposure to additional research opportunities within LSAMP and beyond</td>
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<td>• Ability to attend LSAMP workshops both here and throughout California</td>
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<td>• Guidance and mentorship through program director, Dr. Ibragimov</td>
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Research Scholar Benefits

In addition to the benefits listed for participants, research scholars receive the following benefits:

• $2,000 scholarship per Academic Year for research
• Priority Registration
• Eligible to apply for free or reduced cost GRE prep course

How to Apply

• Obtain an application online: [http://fullerton.edu/lsamp](http://fullerton.edu/lsamp)
• Completed applications should be submitted in person to our mailbox in MH-166.

Research scholar: submit a letter of support from a faculty member or research mentor at CSUF in a sealed envelope. Alternatively, faculty mentors may email the letter directly to LSAMP@fullerton.edu. The letter of support is only required for Research Scholar applicants.

We accept Participant applications year-round. Application submission window for Research Scholars is between August 20 and September 16.

Visit our website for the most current information about the program. [www.fullerton.edu/LSAMP](http://www.fullerton.edu/LSAMP)

Have questions or concerns?
E-mail: LSAMP@exchange.fullerton.edu
International Research Experience for Students

June 14, 2020 – August 09, 2020

The International Research Experience for Students in Uzbekistan is a National Science Foundation funded program hosted at California State University, Fullerton. The program provides U.S. students with summer research experiences in Uzbekistan, the birthplace of algebra, under the mentorship of prominent Uzbek scientists. The U.S. students will spend 8 weeks at the research institutes of the Uzbekistan Academy of Sciences and at Urgench State University conducting research in Biology, Chemistry, Mathematics and Physics. The program has a rich cultural and professional development component including travel to the ancient Silk Road cities of Samarkand, Bukhara, Khiva, Urgench, Nukus to learn about cultural and scientific heritage of Uzbekistan as well as visiting several universities.

Program Benefits

- Up to $3,500 Stipend
- Roundtrip flight to Uzbekistan (up to $1,500)
- Housing, meals and local transportation provided
- Overseas health and travel insurance provided
- Opportunity to engage in cutting edge research
- Many professional development activities
- Trips to ancient Silk Road cities
- Opportunity to take a short course in Russian and/or Uzbek languages

Program Eligibility

- U.S. citizen or permanent resident
- Current junior or senior undergraduate students
- Must enroll as a college-level student in Fall 2020
- STEM majors with a minimum of 3.0 GPA
- Participants may not take courses during the program for academic credit
- No prior research experience required

How to Apply

Visit www.fullerton.edu/ires-uz for application and more information. Apply by March 2, 2020 for full consideration.

Questions? E-mail ires-uz@fullerton.edu

California State University
Fullerton

Urgench State University

NSF

FA
NSM CAREER EVENTS

FEBRUARY

Thur, Feb 6
• Internships for Science and Math majors @ 1-2pm @ LH 210G
Thur, Feb 27
• An Introvert’s Guide to Job Searching @ 11am-noon@LH 210G

HEALTH PROFESSIONS EXPOSED WEEK
MARCH 16-19

Mon, March 16
• How to be a Competitive Applicant@ 3-4pm, LH 210G
• Princeton Review Test Prep @ 5-6pm, Online

Tues, March 17
• Writing a Health Professions Statement of Purpose @ 10-11:30am, LH 210G
• Hear it from Your Peers: How to get into Professional school @ 5pm-6:30pm, LH 402

Wed, March 18
• Public Health Career Panel @ 5pm-6:30pm, PLN 130

Thur, March 19
• Interview Strategies for Health Profession Schools @ 11am-12:30pm, LH 210G
• Explore Careers in Sports Medicine @ 5-6:30pm, LH 402

FEATURED EVENTS

Volunteer Event: Restore and Clean Los Cerritos Wetlands, Sat, March 7, 10:30am-12:30pm @ Off campus, Seal Beach

Biotechnology Bootcamp at Keck Graduate Institute: Sat, March 14, 8:30am-3:00pm
• will provide transportation from CSUF to KGI
• chance for science students to learn about the biotech industry

APRIL

Tues, April 7
• Gap Year: A Life-Changing Opportunity @ 3-5pm, PLS 240

Wed, April 8
• Internships for Science and Math Majors @ 12-1pm, LH 210G

Thurs, April 16
• The Pathway to Teaching at the Community College @ 5:30-7pm, KHS-199

Thur, April 30
• An Introvert’s Guide to Job Searching @ 3-4pm, LH 210G

FROM: CHANDA ISHISAKA
NSM CAREER SPECIALIST

• Student make appointments at: www.fullerton.edu/career
• Drop-in Hours at MH-488: Tuesdays, 10:30 am-noon
• Office: Langsdorf Hall 208
• Email: cishisaka@fullerton.edu

For more information go to www.fullerton.edu/career
NSM STUDENT SUCCESS CENTER PRESENTS

COFFEE & TEA WITH NSM FACULTY

Come to MH-488 and have tea or coffee with Faculty in the College of Natural Sciences and Mathematics.

WEDNESDAY MORNINGS
8AM-10AM
DATES: 2/26, 3/18, 4/15
LOCATED IN MH-488
inclusuSTEM

This series looks to provide culturally relevant discussions that empower people of color, women, and LGBTQ people in STEM. All students are welcome!

02/18
MH-488
5 PM

Black Herstory & STEM
The complicated legacy of Henrietta Lacks.

03/24
MH-488
5 PM

Women in STEM
A panel of women sharing their experiences in male dominated fields.

04/21
MH-488
5 PM

Mental Health Awareness
What does it mean to be a STEM major and balance school/life and other intersecting identities?

Light refreshments provided.
All workshops will be held in the NSM Student Success Center.

Please email Tatiana Pedroza at tappedroza@fullerton.edu for more information.
STUDENT SUCCESS CENTER

Need to make an appointment with our Graduation Specialist? Then you should download the following app!

Navigate Student:

Helps students schedule, view, & cancel appointments with our Graduation Specialist!
Project RAISE – RAISE Transfer Program

The RAISE Transfer Program (RTP) welcomed over 70 students this semester. RTP continues to grow and support STEM transfer students through their transition to CSUF.

RTP Benefits:
• Resources for academic success
• Support from Peer Advisors and Academic Success Coordinator
• Direct connection to academic, graduation, and career specialists
• Assistance with preparing for paid summer internships through the Summer Internship Program (SIP)
• Access to campus resources
• Priority Registration

Spring 2020 RAISE Transfer Program Kickoff

Spring 2020 Workshops and Events
RTP offers various workshops each semester to all students.

RAISEwalks - McCarthy Hall 175
Join us on nature walks or tours on campus. Please meet in front of MH-175.
• Friday, March 13th, 11:30 am – 12:00 p.m. - Career Center
• Tuesday, March 24th, 12:00 p.m. - 1:00 p.m. - Fulleton Arboretum
• Wednesday, April 8th, 12:30 p.m. – 1:00 p.m. - Student Recreation Center
Sharpen Your Soft Skills - the skills your employer will be looking for!
Tuesday, February 18th 11:00 a.m. - 12:30 p.m. - TSU Gabriellino
Lunch will be provided. RSVP by 2/12

Join us in collaboration with Osher Lifelong Learning Institute (OLLI) to improve and learn the importance of soft skills. OLLI mentors will model and teach you the important soft skills needed for workplace success, such as:

- Being a team player
- Learning flexibility
- How to effectively communicate
- Enhance your problem-solving and resourcefulness skills
- Creative thinking
- Learn to accept feedback
- Build your confidence

Come meet OLLI mentors, hear from a panel about the hiring process, using soft skills effectively, and how OLLI mentoring helped one of your peers succeed. Lunch will be provided.

Time Management Workshop - Transfer Resource Center MH-525
Wednesday, February 26th 12:00 p.m. - 12:30 p.m.
Thursday, April 16th 12:30 p.m. - 1:00 p.m.
This workshop will share important tips and strategies on how to manage your time better.

Study Skills Workshop - Transfer Resource Center MH-525
Thursday, March 5th 11:30 a.m. - 12:00 p.m.
Gain helpful tips on how to better prepare for your midterms and exams.

End of Semester Event
Friday, May 1st, 11:30 a.m. - 1:00 p.m. - Transfer Resource Center MH-525
Connect with other RTP students, participate in stress free activities, and learn important tips to get you through finals.

Need a place to study? All students are welcomed at the Transfer Resource Center (TRC)! The Transfer Resource Center offers a place to study, electrical outlets, white boards, break area with microwave, information about campus resources and access to Project RAISE Peer Advisors.
Spring Hours: Monday – Thursday 9 a.m. – 7 p.m. and Friday 9 a.m. – 12 p.m.
McCarthy Hall-525 | (657)-278-8398

Please contact us at raise@fullerton.edu if you have any questions.

Undergraduate Research Experience 2020 Faculty Recruitment

Project RAISE Recruiting Faculty Mentors for URE20 (June 15-August 7, 2020)

Benefits of serving as a faculty mentor:

• Student is dedicated for up to 40 hours per week to your research project for the duration of the program; most students wish to continue in their mentor’s lab after URE.
• Personal and professional satisfaction; a sense of accomplishment in shaping future scientific minds; reputation for talent development.
• $1,500 research supply funds for each student mentored (can mentor up to six students).

Goal: To place 30 students in NSM this summer!

Interested in serving as a faculty mentor?
Contact César Montenegro at cmontenegro@fullerton.edu | x3808

Stephanie Harchenki in Dr. Melanie Sacco's lab
Jesus Torres in Dr. Danielle Zacherl's lab
Estefanie Hernandez in Dr. Nilay Patel's lab
Contact any of the organizations below to find out their meeting and activity information.

American Association of Petroleum Geologists (AAPG) is an organization focused on educating and connecting students of any major to the oil industry through the use of key speakers and student expositions. AAPG@fullerton.edu

American Medical Student Association (AMSA): Committed to improving health care and healthcare delivery to all people. Promotes active improvement in medical education. Involves its members in the social, moral and ethical obligations of the profession of medicine. Assists in the improvement and understanding of world health problems. Contributes to the welfare of all pre-health professional students. AMSA@fullerton.edu

Beta Psi Omega Professional Biology Fraternity is a student organization with the primary purpose of helping students help themselves. Our overarching mission is to provide a supportive brotherhood for students pursuing the biological sciences professionally and academically and to further the advancement of biology as a science and as a profession. It is committed to serving the needs of students and thereby the community. Beta Psi Omega aims to provide passionate students with opportunities, insights, and guidance to success. beta@bpsiomega.org

Biology Graduate Club (BGSC): Offers opportunities for association and interaction between CSUF students, faculty, and administration. 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. Conducts community outreach. csuf.cbc@gmail.com

CSUF Pre-Dental Society - Through general club meetings, guest speakers, dental school visits, and much more, our pre-dental members can gain the knowledge they need as well the necessary tools to be a competitive dental applicant and apply to dental school. csuf.predentalsociety@gmail.com

CSUF Pre-Optometry Club - Aimed to accommodate students interested in the field of Optometry in order to educate themselves more about the healthcare profession and network with other students and professionals with similar interests. csufpreoptometryclub@gmail.com

Flying Samaritans - Our purpose is to provide health care to people living in the rural areas outside of Tecate, Mexico. Volunteers have the opportunity to assist in administrating, translating, taking vital signs, shadowing health care providers, and working in the pharmacy. Also, our members get the opportunity to experience medicine and another culture first hand. flyingsamselhongo@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 (LMSAPLUS): 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 Promotes involvement for students and faculty in the mathematical community. The club encourages students to start joint research projects with faculty and attend conferences nationwide for observation and/or presentation. Its activities bring together all levels of math majors in one setting, such that new students can be involved. Most Math Club members continue their education as a graduate student. csufmathclub@gmail.com

NSM Inter-club Council (NSM-ICC): NSM clubs and students collaborate 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 lecturers from guest speakers as well as several events a year. All CSUF students are welcome. Physicsclub.csuf@gmail.com

Pre- Veterinary Club - The Cal State Fullerton Pre-Veterinary Club is an organization on campus that is open to all students who have interest in pursuing veterinary medicine. The club provides exposure to various aspects of veterinary medicine including hands-on experience, veterinarian speakers, social events, and community service opportunities throughout the semester. prevet.csuf@gmail.com

SMART Girls Support Group (Sisters in Mathematics and Academic Relations in Teaching): Holds monthly meet-ings, 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: Builds a community with your peers. Forms study-groups. Gets involved in the community. Helps promote science. And much more! ALL MAJORS WELCOME! csufmentor1@gmail.com.

Student Health Professions Association (SHPA) - Informs students about the opportunities available in the various health professions. Furthermore, the club provides volunteer opportunities for students to get involved in the community, campus life, American Red Cross blood drives, and work closely with the Health Professions Advising office which is dedicated to assisting students in getting admitted to health profession graduate schools. csufshpa@gmail.com

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