



College of Natural Sciences & Mathematics Newsletter

SEPTEMBER 2016 / nsm.fullerton.edu

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A Welcome Message from Dean Johnson



Hello NSM Nation,

It's mid-September and our 2016-2017 academic year is well underway. After the relative somnolence of summer, our hallways and escalators are thronged with folks heading to class or the lab or to see a professor. Our students are back, and we couldn't be happier to see all of you!

If you are new to our College this term, please know that we are rookies together. I spent the past 21 years teaching at the United States Military Academy, West Point, NY and arrived here at Cal State Fullerton this July. Since then, I've been able to meet with many of you and to learn a little about what you do. It's been a wonderful experience to be immersed in all the amazing work being done by our NSM students, staff and faculty.

While the semester is still young, please take a moment and reflect on what it is you want to accomplish this academic year. Maybe this is the year you start your first lab based research project or the year you travel abroad for the first time or the year you meet the person who will become your best friend and thirty years from now when you look back on these days this person will be in virtually all of your important memories. Whatever your goals, please embrace this start of a new academic year with all of its hope, promise and potential. The New Year gives each of us a clean slate and we can make of the future whatever we want. Here's wishing for everyone in the NSM Titan family a year filled with learning, growth and good friendship. Let's keep reaching higher together.

Marie Johnson
Dean, College of Natural Sciences and Mathematics
Professor of Geology



Welcome New Faculty and Staff

Derdei Bichara
Assistant Professor of Computational
and Applied Mathematics



Nicholas Brubaker
Assistant Professor of Computational
and Applied Mathematics



Wylie Ahmed
Assistant Professor in Experimental Biophysics



Sinan Akciz
Assistant Professor of Structural Geology



Andrew Petit
Assistant Professor of Theoretical Physical Chemistry



Sachel Villafañe-Garcia
Assistant Professor of Chemical Education Research



Michael Groves
Assistant Professor of Theoretical Physical Chemistry



Margaret Tran
Chemical Technician



NSM in the News

Geologist Rocks Into Role as Dean



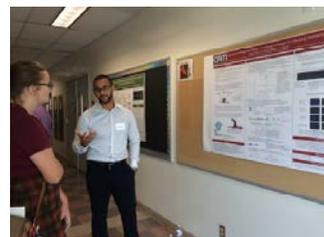
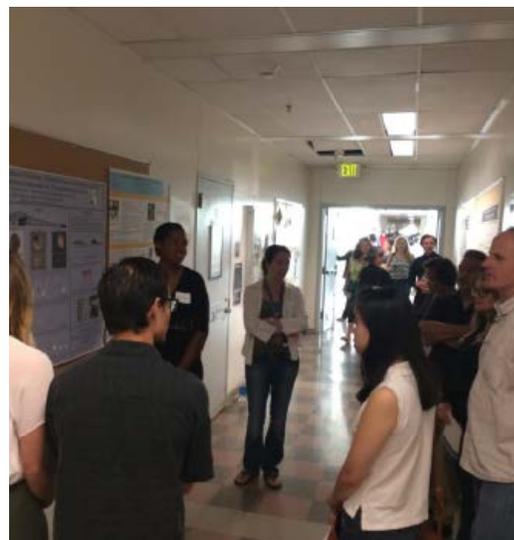
Ever since she was a young girl, Marie Johnson has been fascinated with rocks. Inside her office in the College of Natural Sciences and Mathematics, she displays some of her favorites: franklinite, a mineral found only at Franklin Mine, New Jersey that fluoresces under black light; a giant garnet from Gore Mountain in upstate New York; and a jar of garnets she collected when she was 8 years old. Johnson, the college's new dean, focuses on a branch of geology called petrology — the study and analysis of rocks. “As a small child, I was drawn to nature and all its amazing variety.”

“I’m thrilled to be here. I believe education provides a way forward for all, and I wanted to work for an institution committed to the principles of diversity, inclusion and equity, which Cal State Fullerton certainly is.”

- See more at: <http://news.fullerton.edu/2016su/marie-johnson.aspx>

STEM Summer Research Symposium 2016

The College of Natural Sciences and Mathematics hosted the 2016 STEM Research Symposium on Friday August 15th from 10 a.m. to 12:15 p.m. in Dan Black Hall and courtyard. Eighty-seven students in summer research programs presented their projects and activities during two sessions.



NSM in the News

NSF Award Funds Project to Increase STEM Degrees Targets Student Populations Traditionally Underserved in Science, and Engineering

California State University Fullerton (CSUF) has been awarded nearly \$300,000 from the National Science Foundation for a two year pilot project to scale up an existing program that provides a pathway for underrepresented community college students to earn a bachelor's degree in science, technology, engineering and mathematics (STEM) fields at a four-year university.

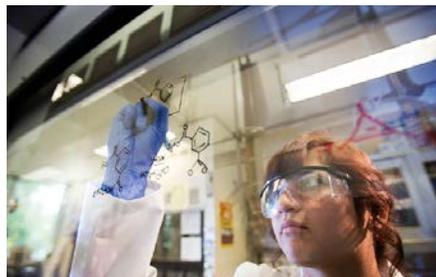
The National Science Foundation on Sept. 12 issued its first-ever awards for the NSF INCLUDES program, a comprehensive initiative to enhance U.S. leadership in science and engineering by broadening participation in STEM. The initial recipients are 37 Design and Development Launch Pilots, funded through two-year grants aimed at supporting projects with the potential to deliver prototypes for bold, new models that broaden participation in STEM. CSUF and San Francisco State are the only California State University campuses to receive the awards.

CSUF's project, (STEM)³: Scaling (STEM)² (Strengthening Transfer and Matriculation in STEM), will build on the University's (STEM)² model, which has a proven track record and documented positive outcomes of graduating STEM transfer students with a bachelor's degree, said Dr. Mark S. Filowitz, associate dean of the College of Natural Sciences and Mathematics and Interim Associate Vice President for Academic Operations, who is principal investigator for the project.

"In this project, we target low income and traditionally underrepresented community college students who have already expressed interest in STEM careers and seek to improve the rates at which they persist in higher education, transfer to four-year institutions and eventually enter the STEM workforce," said Filowitz. Data show that Hispanic students, in particular, are well represented at local two-year colleges, but less represented among STEM bachelor's degree recipients, he added. "In fact, according to the literature, almost 70% of Hispanic students begin their higher education in a community college but less than 10% go on to complete a four year degree."

Collaborators on the two-year pilot project, in which CSUF was awarded \$299,263, are Dr. Susamma Barua, interim dean of the College of Engineering and Computer Science; Dr. Maria V. Dela Cruz, (STEM)² project director; and Dr. Michael Loverude, professor of physics and director of the University's Catalyst Center for the Advancement of Research in Teaching and Learning Mathematics and Science. CSUF will partner with Dr. Winny Dong at Cal Poly Pomona and Dr. Marianne Smith at Citrus College to try and demonstrate that the model developed at CSUF can work at another CSU campus, with the long-term vision of replicating it across the CSU 23-campus system.

See more: <http://news.fullerton.edu/2016su/STEM-grant.aspx>



NSM in the News

This summer, three students from the College of Education are interning at Tucker Wildlife Sanctuary in Silverado's Modjeska Canyon. The Orange County Register caught up with the students who are acquiring skills that will benefit them in their future careers as elementary and middle school math and science teachers. The internships are part of the college's Promoting Resources in Informal Science Education — or PRISE — program, in which students are placed at local informal science institutions for the summer.

See more at: http://news.fullerton.edu/2016su/msclip_ocr_tucker_internship.aspx



Tucker Wildlife Sanctuary Internship for Future Math & Science Teachers



PRISE interns, Bill Guppy, left, Madison Vasquez, center with, Maria Grant, director of PRISE and Meg Sandquist director of Tucker Wildlife Sanctuary.



Tucker Wildlife Sanctuary
Bat Night
Saturday October 15th
4:00- 8:00 pm
BBQ DINNER \$5-10
Free Crafts/Games
Face Painting - \$3
Pumpkin Carving - \$6
Wagon Rides - \$3

BAT INTERPRETIVE PROGRAM
Included with Admission
Family Programs at 4:30 & 6.00pm
Post-Event Program-Over 18 only- 8:15pm
Groups of 10+ Require Reservations

ADMISSION
Adults/Children \$5
Under 4yrs - Free
Cash /Check Only

Tucker Wildlife Sanctuary
29322 Modjeska Canyon Road
Silverado, CA 92676
For more information:
call 714 649-2760 or visit www.tuckerwildlife.org

NSM in the News

Gravitational -Wave Grant Supports New Generation of Scientists



A \$937,368 National Science Foundation grant awarded to Cal State Fullerton will fund a new project to recruit and expand the number of underrepresented students majoring in gravitational-wave science and provide a pathway to enter the doctoral program in gravitational-wave astrophysics at Syracuse University.

“Catching a New Wave: The CSUF-Syracuse Partnership for Inclusion of Underrepresented Groups in Gravitational-Wave Astronomy” will be offered through CSUF’s Gravitational-Wave Physics and Astronomy Center (GWPAC). The project focuses on Hispanic students, traditionally underrepresented in astronomy and physics, said Jocelyn Read, assistant professor of physics and project director.

Colleagues Joshua Smith, associate professor of physics, and Geoffrey Lovelace, assistant professor of physics, are helping to guide the program, along with Syracuse physicists Stefan Ballmer and Duncan Brown. Beginning this fall, the project will fund three-year fellowships, including financial and academic support, for CSUF students transferring to doctoral programs at the New York-based university, which will extend the impact CSUF students can make in gravitational-wave astrophysics, Read noted.

The grant will further develop CSUF’s academic program in gravitational-wave astronomy by supporting summer guest lectures from Syracuse University faculty members and fostering academic mentorship between the partner institutions.

“This support will continue the development of a vibrant research community in GWPAC — building on our track record of strong research contributions from student members,” said Smith, Dan Black Director of Gravitational-Wave Physics and Astronomy.

CSUF and Syracuse, which has a well-established gravitational-wave astronomy and astrophysics group, have a six-year history of building a pipeline for advanced studies — and the grant project will strengthen that partnership, Smith added. Four CSUF physics graduates are currently enrolled at Syracuse pursuing doctorates.

“As a result of this grant funding, we hope to recruit and help develop the next generation of leaders in gravitational-wave science,” Smith said.

See more at: <http://news.fullerton.edu/2016su/gravitational-wave-grant.aspx>

NSM in the News



THE COOPER CENTER

PALEONTOLOGY • ARCHAEOLOGY • HISTORY



PREHISTORIC OC

An Annual Family Festival Celebrating Local Archaeology, Paleontology, History, Culture and Science



Exhibits
Demonstrations
Storytelling
Crafts



Junior Scientist Camp

Food

Fun for the whole family!

FREE!



Saturday, October 15, 2016

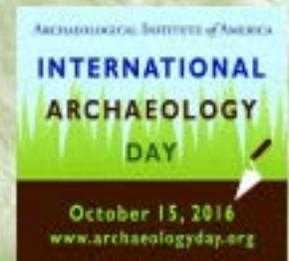
10 AM – 3PM

Ralph B. Clark Regional Park

8800 Rosecrans Ave.

Buena Park, CA

www.prehistoricoc.org



The Dr. John D. Cooper Archaeological and Paleontological Center is a Partnership of:



CALIFORNIA STATE UNIVERSITY
FULLERTON



More NSM in the News

The CSU Council on Ocean Affairs, Science & Technology (COAST) Undergraduate Student Research Support Program for AY 2016-2017

Funds are available from the CSU Council on Ocean Affairs, Science & Technology (COAST) to support faculty-mentored undergraduate research on any topic related to the open and coastal ocean, coastal zones (bays, estuaries, beaches), and coastal watersheds to the extent that the organism, material or process ultimately articulates with the coast. Priority will be given to projects that advance knowledge of California's natural resources and provide a clear connection to COAST goals (see <http://www.calstate.edu/coast/>). Applications are available by emailing Kathryn Dickson (kdickson@fullerton.edu), one of CSUF's COAST representatives. Funds will be managed by faculty mentors on behalf of the students. Funds must be encumbered by May 31, 2017, but may support research projects that extend into summer, and a final report will be due at the end of the year.



COAST faculty and student members work in marine and coastal environments throughout California, all along the west coast of the U.S., and internationally. These environments include the open and coastal ocean, coastal zones (bays, estuaries, beaches), and coastal watersheds to the extent that they ultimately articulate with the coast.

For more information: <http://www.calstate.edu/coast/about/>



Publications and Presentations

Biology

Drs. Maria Ramirez and Marcelo Tolmasky recently published the manuscript: *The Genetic Analysis of an Acinetobacter johnsonii Clinical Strain Evidenced the Presence of Horizontal Genetic Transfer.*

Montaña S, Schramm ST, Traglia GM, Chiem K, Parmeciano Di Noto G, Almuzara M, Barberis C, Vay C, Quiroga C, Tolmasky ME, Iriarte A, Ramírez MS.

PLoS One. 2016 Aug 22;11(8):e0161528. doi: 10.1371/journal.pone.0161528. eCollection 2016

Dr. Erin Paig-Tran's graduate student Raj Bolla just got back from spending the summer at Friday Harbor Laboratories at the University of Washington, creating a new filter that mimics how Manta Rays filter.

Dr. Tran's lab presented three papers at the meeting of the International Congress of Vertebrate Morphologists, two with graduate students. (marked with *)

Paig-Tran, E.W.M., Barrios, A.*, and Ferry, L.A. 2016. Presence of repeating hyperostotic bones in dorsal pterygiophores of the oarfish, *Regalecus russellii*. *J. Anatomy*. 229:4, 560-567.

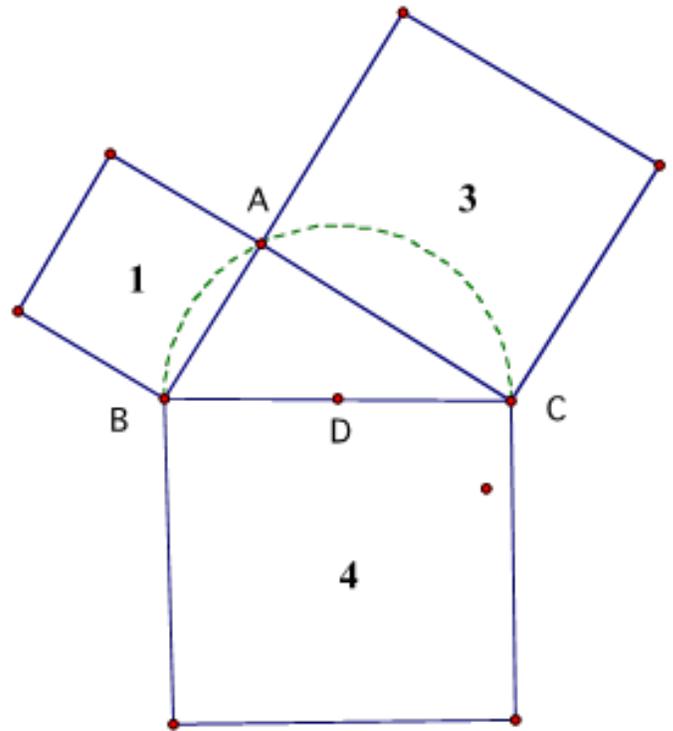
Paig-Tran, E.W.M., Barrios, A.*, and Ferry, L.A., 2016. Evidence of hyperostosis in the oarfish (*Actinopterygii: Regalecus russellii*). International Congress of Vertebrate Morphologists.

Paig-Tran, E.W.M., Bolla, V.*, and Summers, A.P. 2016. Bioinspired design: A novel mechanism based on Manta Ray feeding. International Congress of Vertebrate Morphologists.

Ferry, L.A., Paig-Tran, E.W.M. and Summers, A.P. 2016. Premaxillary protrusion in Lampriformes: innovations and radiations. International Congress of Vertebrate Morphologists.

Math

Dr. Martin V. Bonsangue, Department of Mathematics, published "In Search of Archimedes: Measurement of a Circle," in the Delving Deeper section of the Mathematics Teacher, August 2016. This article revisits Archimedes' groundbreaking work on creating an iterative approach to approximate the value of pi, beginning with a rational approximation to the square root of 3 (see picture below). Archimedes concluded his work, Measurement of a Circle, with this famous last line: : "Thus the ratio of the circumference to the diameter is less than $3 \frac{1}{7}$ but greater than $3 \frac{10}{71}$."



Chemistry & Biochemistry Publications

Several faculty recently published their research findings in peer-reviewed journals.

Dr. Michael Groves:

Esben L. Kolsbjerg, Michael N. Groves and Bjørk Hammer (2016). An automated nudged elastic band method. *J. Chem. Phys.* 145, 094107

Drs. Madeline Rasche and Marcelo Tolmasky:

Chiem, K., Jani, S., Fuentes, B., Lin, D.L., Rasche, M.E., Tolmasky, M.E. (2016). Identification of an inhibitor of the aminoglycoside 6'-N-acetyltransferase type Ib [AAC(6)-Ib] by glide molecular docking. *MedChemComm*, 7 (1), 184-189.

Dr. Maria Linder:

Linder, M.C. (2016). Ceruloplasmin and other copper binding components of blood plasma and their functions: An update. *Metallomics*, 8, 887-905

Ramos, D., Mar, D., Ishida, M., Vargas, R., Gaithe, M., Montgomery, A., & Linder, M.C. (2016). Mechanism of copper uptake from blood plasma ceruloplasmin by mammalian cells. *PLoS ONE* 11(3): e0149516.

Dr. John Haan:

Tracy Vo, Krutarth Purohit, Christopher Nguyen, Brenna Biggs, Salvador Mayoral, John Haan (2016). Formate: an energy storage and transport bridge between carbon dioxide and a formate fuel cell in a single device. *ChemSusChem*, 8 (22), 3853-8.10.1002/cssc.201500958

Dr. Fu-Ming Tao:

X. Wang, F.-Y. Bai, Y.-Q. Sun, R.-S. Wang, X.-M. Pan, F.-M. Tao (2016). Theoretical study of the gaseous hydrolysis of NO₂ in the presence of NH₃ as a source of atmospheric HONO. *Environ. Chem.* 13(4), 611-622.
J. Liu, S. Fang, Q. Bing, F.-M. Tao, J.-Y. Liu (2016). Theoretical study of the auto-catalyzed hydrolysis reaction of SO₂. *Comput. Theor. Chem.*, 1076, 11-16.

Conference Presentations:

Several undergraduate and graduate students presented their work at the 251st American Chemical Society national meeting in San Diego:

Dr. John Haan:

Steven Saric - Formate and Energy Storage and Transport Bridge Between Carbon Dioxide and A Formate Fuel Cell in a Single Device

Omar Muneeb - PdCu/C Catalysts for the Electrochemical Oxidation of Renewable Polyalcohols

Linda Pham - A Paper Microfluidic Formate Fuel Cell

Jose Estrada - Pd/CNT Catalysts For Electrochemical Oxidation of Small Organic Molecules in Alkaline Media

Chemistry & Biochemistry Publications

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Dr. Peter de Lijser:

Abdullah Alshreimi – Inducing Oxidative Cyclization Reactions of Benzaldehyde Oximes with Built-In Heteroaromatic Nucleophiles via Photochemical and Metal Catalysis

Jesi Dang – Heterocycle Synthesis via Oxidative Cyclization Reactions of Nucleophile-Containing Oxime Derivatives

Romie Nguyen – Exploration of New Structural Motifs for the Design and Synthesis of Anti-Cancer Drugs that Regulate Intracellular Levels of β -Catenin

Nicholas Armada – Nucleophile, Radical Trap, or Both? The Potential Dual Reactivity of Alkenes in the Intramolecular Reactions of Iminoxyl Radicals and Oxime Ether Radical Cations

Aneta Jelowicki - Design and Synthesis of Drugs that Reduce β -Catenin and Attenuate Cell Proliferation

Dr. Nicholas Salzameda:

Julianne Truong - Novel peptidomimetic inhibitors for the West Nile virus NS2B-NS3 protease.

Tanner Bingham - Peptidomimetic sulfonyl amide inhibitors of the botulinum neurotoxin.

Omar Muneeb and Jose Estrada (Haan lab) presented posters at the 229th meeting of the Electrochemical Society in San Diego.

Omar Muneeb - PdCu/C Catalysts for the Electrochemical Oxidation of Renewable Polyalcohols

Jose Estrada - Pd/CNT Catalysts For Electrochemical Oxidation of Small Organic Molecules in Alkaline Media

Julianne Truong and Tanner Bingham (Salzameda lab) both presented posters at the 44th National Organic Symposium in College Park, MD.

Julianne Truong - Uncovering small molecule inhibitors for the West Nile Virus NS2B-NS3 protease.

Tanner Bingham - The Synthesis and Study of 2nd Generation Sulfonamide Hydroxamic Acid Inhibitors for the Botulinum Neurotoxin A Light Chain.

Students from the **de Lijser**, **Gonzalez**, and **Orchard** labs presented their work at the Western Regional Meeting of the American Chemical Society (San Marcos):

Chemistry & Biochemistry Publications

Oral Presentations were given by Savannah Dalrymple (**Lewis**), Nhu Vu (**both Hudson lab**), and Robert Ontiveros (**Keppetipola lab**):

Dalrymple, S., Carter, S., Daniels, C., and Hudson, P.K.: Examining the oxidation pathway of succinic acid: chemistry in a raindrop. Talk

Ontiveros, R. and Keppetipola, N.: Identification and Characterization of a Minimal Functional Splicing Protein. Oral

Vu, N., Horita, N., Cook, S. and Hudson, P. K.: Characterization of short-chain dicarboxylic acids in the infrared region: implications on climate change. Talk

Le-Pham, A. and Meyer, C.R.: Structure-Function Studies of *Deinococcus radiodurans* ADP Glucose Pyrophosphorylase: Role of Ser48 in Allosteric Regulation

At the SCURC meeting, 6 of the 14 awards were taken by CSUF students:

- Ashley Le-Pham, best oral presentation
- Savannah Lewis, best oral presentation
- Robert Ontiveros, best oral presentation
- Chidinma Abanobi, best poster presentation
- Stephany Kdeiss, best poster presentation
- Stacy Guzman, best poster presentation

Dr. Zhuangjie Li presented his work at Nanotech in Baltimore, MD:

Zhuangjie Li - Cataphotolysis of Rhodamine B in Water Using Nanotechnology. Oral Presentation, Nanotech-2016., Baltimore, Maryland.

Zhuangjie Li - Photocatalysis of Rhodamine B in water using nanotechnology. Poster, 2016 TechConnect World Innovation Conference, National Harbor, Maryland.

Dr. John Haan gave two presentations at the American Chemical Society National Meeting in San Diego:

John Haan - Catalysts for the Electrochemical Oxidation of Renewable Polyalcohols in Alkaline Media.

John Haan- Effect of real samples on student attitude and learning in a chemistry laboratory course.

Dr. Alexandra Orchard gave a presentation at the Western Regional Meeting of the American Chemical Society in San Marcos, CA:

Alexandra Orchard - Novel Amphiphilic Alpha Helix Mimetics.

Seminars:

John Haan presented a seminar entitled Applications of the Direct Formate Fuel Cell at Azusa Pacific University (Host: Jon Milhon)

Maria Linder presented a seminar entitled How the essential trace metal, copper, is used and transported in mammals in the Department of Chemistry and Biochemistry at CSU Long Beach.

Zhuangjie Li presented a seminar Detection and Quantification of Trace organic contaminants in Water Using the FTIR-ATR Technique in the Department of Chemistry and Biochemistry at CSU Long Beach (Host: Katarzyna Slowinska)

Zhuangjie Li presented a seminar entitled Detection and quantification of volatile organic chemicals in water using the FTIR-ATR technique at Cal Poly Pomona (Host: Rakesh Mogul)

Chemistry & Biochemistry Publications

Students from the **de Lijser, Gonzalez**, and Orchard labs presented their work at the Western Regional Meeting of the American Chemical Society (San Marcos):

Hoong, E. and **Gonzalez, B.L.**: First semester general chemistry undergraduates' ability to distinguish variables in the experimental design of a stoichiometry activity in structured and guided inquiry modes.

A. Alshreimi, and H.J.P. de Lijser: Oxidative Cyclization Reactions of Benzaldehyde Oximes With Built-In Heteroaromatic Nucleophiles.

A.M. Jelowicki, and H.J.P. **de Lijser**: Wnt Mimetics as Anti-Cancer Drugs- Design and Synthesis of Drugs that Reduce b-Catenin and Attenuate Cell Proliferation.

E. Armenta and A. Orchard: Alpha-Helix Mimetics Targeting HPV.

E. Kroneberger and A. Orchard: Novel Amphiphilic alpha-helix Mimetics.

Students from the **Keppetipola, Linder** and **Rasche** labs presented their work at Experimental Biology, San Diego:

Dinh, L., Juarez, J., Vargas, R., Ramos, D., Mar, D., Ishida, M., & **Linder, M.C.** : Mechanism of copper uptake from ceruloplasmin by cells and the involvement of an additional copper uptake transporter.

Ricarte, A., Gutierrez, Y., Valadez, A., Brito, A., & **Linder, M.C.**: Evidence there are at least three ways for copper to be taken up by enterocytes across the brush border, as investigated in the Caco2 cell model.

Tellez, M., Alsky, T., Dalphin, M., Flynn, S., Munoz, A., Ibarra, D., Truong, H., & **Linder, M.C.**, Lutsenko, S., Weldy, S. Purification and characterization of a small copper carrier found in mammalian blood plasma and in the urine of mice and dogs with copper overload.

Saleh, A., Collazo, M.A, Sawaya, M., Cascio, D., & **Rasche, M.E.** Crystal Structure and Bioinformatics Inferred Function of Protein A2617 from *Methylobacterium petroleiphilum*.

Ontiveros, R., Doan, J., Adams, E. & **Keppetipola, N.** Identification and Characterization of a Minimal Functional Splicing Regulatory Protein.

Students from the **de Lijser, Gonzalez, Hudson, Keppetipola, Meyer** and **Rasche** labs presented their work at the American Chemical Society - Southern California Undergraduate Research Conference in Long Beach, CA:

Abanobi, C., Burton, M., and **Rasche, M.E.**: Characterization of Homologs Showing Evolutionary Relationships with *Methylobacterium extorquens* AM1 Dihydromethanopterin Reductase A (DmrA)

Anda, D., Le, T., Axelrod, H.A., and **Rasche, M.E.**: Crystallization of Orf22 of *Methylobacterium extorquens* AM1 for X-Ray Structure Determination.

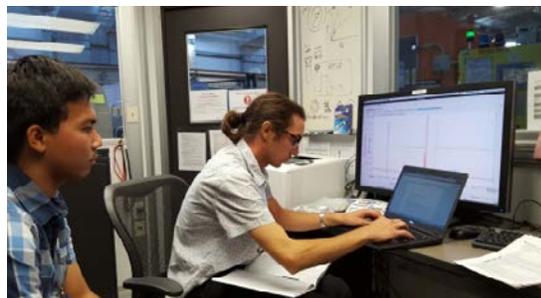
Shankar, A., Ontoveros, R., and **Keppetipola, N.**: Cloning a N-terminal Deletion Mutant of Splicing Factor PTBP1.

Cruz-Campos, A., Sun, J., and **Rasche, M.E.**: Pre-crystallization Procedures For 4-(β - D-Ribofuranosyl) Aminobenzene-5' -Phosphate Synthase Produced by *Methanocaldococcus jannaschii*.

Guzman, S., Jelowicki, A.M., Vis, A., Young, M., Bunye, C., Guglielmo, E., Nguyen, R., Wen, C., Ott, C.M., Patel, N.V. and **de Lijser, H.J.P.**: Synthesis of Small Molecules and Evaluation of their Wnt Signal Inhibitory Activities.

Kdeiss, S. and **Gonzalez, B.L.**: A profile of STEM persistence in a diverse primarily undergraduate institution.

What's happening in... Chemistry / Biochemistry



Oak Ridge National Laboratory Summer 2016

Dr. Allyson Fry-Petit

The week before classes started Loi Nguyen, Daniel Bouman, and I went to Oak Ridge National Laboratory (ORNL) to collect data using the Spallation Neutron Source (SNS). The SNS is the leading neutron science research site in the US. Neutrons are one of three particles that make up atoms that we as chemist can use to understand chemical compounds. For our experiment on the Wide Angular Resolved Chopper Spectrometer (ARCS) at SNS we placed a sample of YAG: Ce, that Daniel and Loi made, in front of a beam of neutrons. We were looking at the inelastic scattering that is produced when neutrons impart their kinetic energy into the solid. This energy transfer is capable of activating vibrations, or phonons, in the solid. Phonons are known to effect technologically important properties in solid materials. In this experiment we were looking at YAG: Ce, because it is the most widely used material in light emitting diodes (LED). LEDs are replacing incandescent light bulbs in our homes and will be going up on our homes in the form of holiday lights in a few months. This study is aimed at understating how very small changes in the amount of the element cerium, Ce, in YAG: Ce effects the atomic motions and thus aid in understanding how to make better LEDs.

This experience was unique for Loi and Daniel for several reasons. First, very few undergraduates ever get the opportunity to do research at ORNL. Second, they had the opportunity to use a one of a kind instrument to take measurements. Third, we are one of the only (if not the only) groups in US who is analyzing this type of data the way we do.

This technique is called dynamic pair distribution function (DPDF) analysis and I would dare say Daniel and Loi are probably the only undergraduates who have ever done this type of experiment and analysis. Fourth, they were able to talk with other researchers at ORNL.

Some of the researchers worked at ORNL and some like us were there to take advantage of the state of the art instrumentation at ORNL. This provided my students a window into what it is like to do graduate research, to be a researcher at a national lab, and to do a post doc. They also got to see what it is like to be part of a community of scientist who do great research together all day and go share a meal together in the evening –bemoaning and celebrating the trials and joys of doing cutting edge research. This experiment will take time to analyze as there is no standard way to such yet. Therefore, publication of results is expected in the next 1-3 years and was funded through my CSUF new faculty start-up.

I also presented other DPDF research we have been working on this year in accepted talks at the American Conference on Neutron Scattering and the Solid State Gordon Conference. Here are the citations for those presentations.

Fry-Petit, A. M. Using Normal Mode Analysis and Dynamic Pair Distribution Function Analysis to Visualize Atomic Motions American Conference on Neutron Scattering, Queen Mary, Long Beach, California, July 11 (2016). (Talk)

Fry-Petit, A. M., Bouman, D. T. Using Normal Mode Analysis and Dynamic Pair Distribution Function Analysis to Visualize Atomic Motions Solid State Gordon Research Conference, Colby Sawyer, New London, New Hampshire, July 18-19 (2016). (Poster)



Chemistry / Biochemistry



Andrew Petit joins CSUF this fall as a new assistant professor of chemistry and biochemistry.

Andrew Petit, assistant professor of chemistry and biochemistry, joined Cal State Fullerton this fall after working as a lecturer in the department last year.

What inspired you to go into your field and what was the defining moment?

From a young age, I've been fascinated by science, beginning with dinosaurs and carnivorous plants and eventually became interested in chemistry and quantum mechanics. As an undergraduate, I studied chemistry with a professor who filled his lectures with amazing and often explosive demonstrations, as well as offering brilliant insights into how the world works. In those classes, amidst all of the calculus, this professor guided us to the physical meaning of it all, and in doing so, inspired me to be both a physical chemist and a teacher.

- See more at: <http://news.fullerton.edu/2016su/andrew-petit.aspx>

ACS Posters

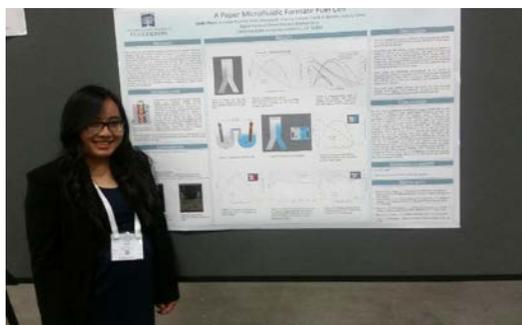
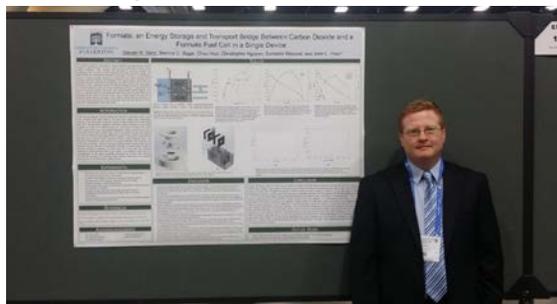
Poster Titles:

Steve: Formate and Energy Storage and Transport Bridge Between Carbon Dioxide and A Formate Fuel Cell in a Single Device

Omar : PdCu/C Catalysts for the Electrochemical Oxidation of Renewable Polyalcohols

Linda: A Paper Microfluidic Formate Fuel Cell

Jose: Pd/CNT Catalysts For Electrochemical Oxidation of Small Organic Molecules in Alkaline Media

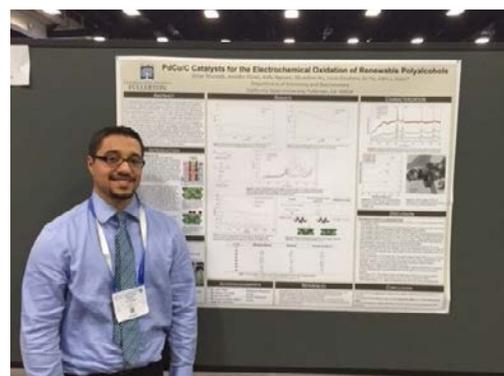


ECS Posters

Poster Titles:

Omar : PdCu/C Catalysts for the Electrochemical Oxidation of Renewable Polyalcohols

Jose: Pd/CNT Catalysts For Electrochemical Oxidation of Small Organic Molecules in Alkaline Media



Geology News



The Department of Geological Sciences

at

California State University Fullerton

Cordially invites you to the

4th Annual Fall Alumni Dinner

RSVP to lhargrove@fullerton.edu

by October 7

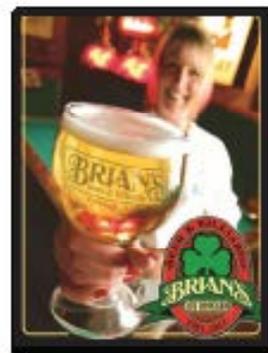
Friday, October 14

6:00 p.m.

BRIAN'S BEER & BILLIARDS

1944 N Placentia Ave

Fullerton, CA 92831



Geology...

NSM's National Bike Challenge Team

Back in April, Geology's Professor Natalie Bursztyn organized a team of bike riders from various departments in CNSM to participate in the **National Bike Challenge** <https://nationalbikechallenge.org/about-us>.

The NSM team is currently represented by all departments and the Dean's office of CNSM. The CSUF-NSM Cyclists are currently sitting at #389, out of over 1300+ teams nationally. Collectively, they have ridden 4100 miles since May! Their team goal was 2500 miles and they crushed it!

The team consist of 16 riders, Dean Marie Johnson, Natalie Bursztyn, Phil Armstrong, Joe Carlin, Carolyn Rath, and Matt Wilken from Geology. From Physics, Leigh Hargreaves and Wylie Ahmed. Bridget Druken, Alison Marzocchi, Matt Rathbun and Adam Glesser represent Math. From Biology there is Bill Hoese, Joel Abraham, and Darren Sandquist, and Peter de Lijser from Chemistry.

The CNSM team of 16 riders finished at #348 rankings!!!

Way to Go Team!!!



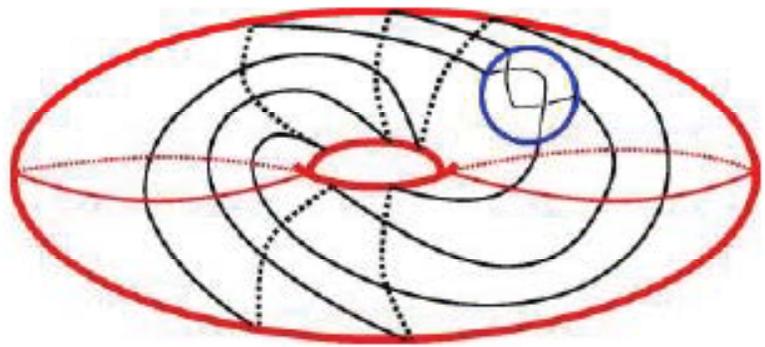
Top row: Joel, Bill, Matt R., Adam, Leigh & Matt W.
Bottom row: Marie, Natalie, Alison, Bridget and Phil.



Biology

Art of My Science

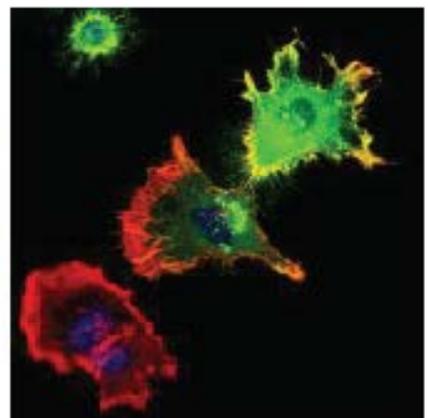
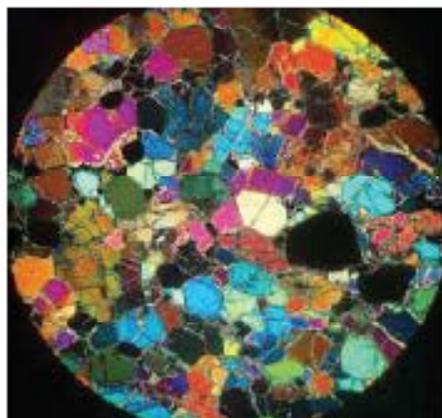
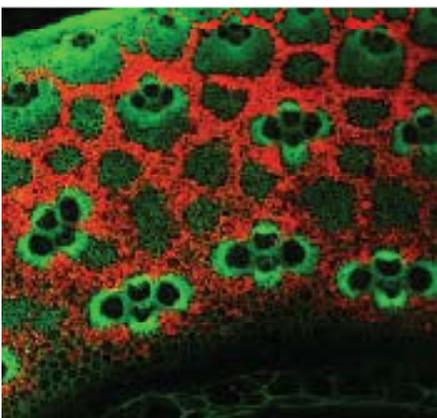
An Exhibit Highlighting the Creative and Artistic Talents of the Members of the College of Natural Sciences and Mathematics



**Location: Terrace Gallery
2nd floor of the Pollak Library**

Dates: Oct 1st – Dec 31st

**Contact: Merri Lynn Casem
mcasem@fullerton.edu**



More on Biology

Dr. Kathryn Dickson traveled to Japan for three weeks in July-August 2016, supported by a Senior Faculty Research Grant, to conduct research on the development of endothermy in juvenile Pacific bluefin tuna with collaborators from Flinders University, Adelaide, South Australia, the University of Tokyo's Atmosphere and Ocean Research Institute, and the Japanese National Research Institute of Far Seas Fisheries. The team traveled to Kaminokae Harbor on the island of Shikoku, where local fishermen collected live juvenile tunas (approximately 3 months old) for the research (Fig. 1 and 2). Tissue temperatures were recorded and samples taken of the blood vessels that function as counter-current heat exchangers and conserve metabolically generated heat used to elevate tissue temperatures above water temperature, an unusual trait known as regional endothermy. Whole tunas were frozen (Fig. 2) and later sectioned to quantify the amount and distribution of the aerobic muscle (Fig. 3) that is used to power sustained swimming and is maintained at elevated temperatures in larger tunas. Muscle samples were also collected for analyses of gene expression and enzyme activity of molecules known to be involved in heat production and conservation, to investigate molecular mechanisms that may control the development of endothermy. The team plans to compare results obtained from these small juveniles with that from larger size classes of Pacific bluefin tuna that can elevate tissue temperatures. It is thought that tunas cannot move from warm waters into cool, more productive waters until they can elevate tissue temperatures significantly. This collaborative project should eventually lead to a better understanding of the distribution of tunas and may inform aquaculture and conservation programs for bluefin tunas. Preliminary results will be presented at the January 2017 meeting of the Society for Integrative and Comparative Biology.



Figure 1. Tuna fisherman in his boat containing juvenile bluefin tunas in a live well, pulling alongside a net pen to transfer the tunas to scientists preparing to study them. (photo by K. Dickson)



Figure 2. Three juvenile Pacific bluefin tunas that were frozen to be returned to the University of Tokyo laboratory for quantification of the amount and distribution of the aerobic muscle as shown in Fig. 3. (photo by K. Dickson)

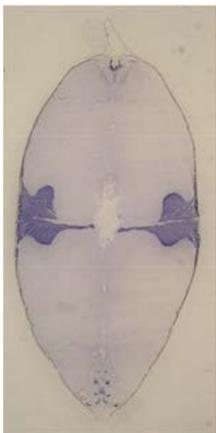
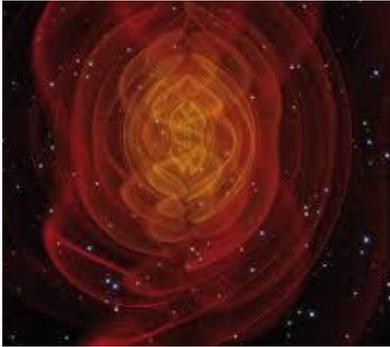


Figure 3. Cross-section of a yellowfin tuna showing the aerobic swimming muscle (stained dark blue). Similar analyses are underway with bluefin tuna. (photo by CSUF MS graduate, Juleen Dickson)

Physics in the News



Geoffrey Lovelace has been renewed at \$135K for three years by the NSF-RUI to continue his work with his students on computational gravitational-wave research. Geoffrey's group uses high-performance computing to model merging black holes and the gravitational waves they emit, focusing both on helping to make sure that LIGO will be able to observe rapidly spinning, merging black holes (if they exist) and on modeling the black-hole binaries that Advanced LIGO does observe.

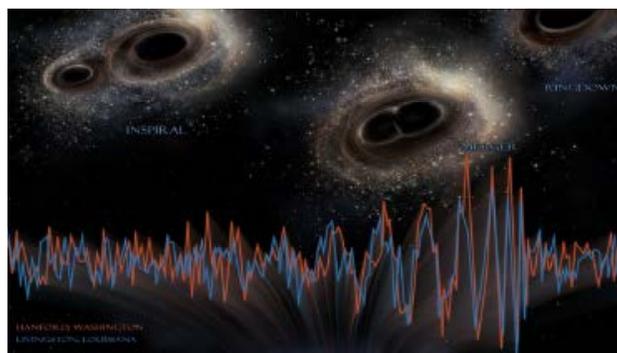
Geoffrey's award also supports a new research direction: numerically modeling thermal noise in LIGO mirrors with crystalline coatings, with the goal of helping LIGO to design next-generation mirrors to increase LIGO's reach, enabling it to detect more gravitational waves from farther away



Josh Smith has been included as part of a recent NSF grant to team Citizen Science with Machine Learning to deepen LIGO's view of the cosmos. The grant gives Josh and one student Isa Patane \$68K of support for three years.

Their collaborators include gravitational physicists and machine learning scientists from Northwestern University in Chicago, the Zooniverse team from the Adler Planetarium, and information scientists from Syracuse University. The group will develop a citizen science project in which thousands of users will help LIGO to search for gravitational waves by identifying and classifying noise artifacts in the instruments.

Josh and Isa are working with the team to prepare time-frequency representations of LIGO data, create a golden set of pre-classified data to start the process, and then use the citizen and computer classified data to improve the LIGO instruments.



More Physics in the News

Wylie Research Assistants



Research assistants left to right, Danielle Posey and Corby Jones and Wylie Ahmed. Corbyn is also a department Dan Black Phys-Bus Scholar

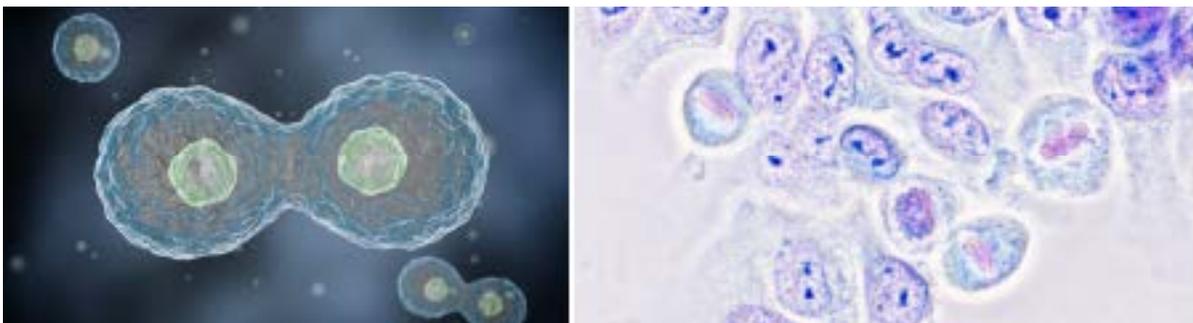
Dr. Wylie Ahmed joins the department this fall and has begun building his biophysics laboratory to study non-equilibrium mechanics of living cells.

Dr. Ahmed received BS and PhD degrees in mechanical engineering from the University of Illinois Urbana and has just finished a three-year postdoctoral Marie Curie Actions Fellowship in nonequilibrium biophysics at the renowned Curie Institute in Paris, France.

Dr. Ahmed's research interests involve understanding how living cells adapt and modify their physical properties to facilitate their function.

During his PhD, Wylie's developed a polymer stretching system to investigate the response of living cells to mechanical strain via state-of-the-art particle imaging and tracking within cells. He applied engineering techniques to characterize the cell response and used statistical physics to quantify active transport in neurons.

His current research continues to develop bionanotechnology using cellular-level, real-time imaging and optical tweezing to characterize the physics of soft and active matter. Even before moving to Fullerton from Paris this July, Wylie began to recruit students into his research and to establish professional ties with faculty in other departments across the college.



Name: : Stacy Schkoda

Major: Molecular Biology and Biotechnology NSM Student Spotlight

Expected Graduate Date:
Spring 2017

Stacy is an undergraduate student working in Dr. Forsgren's laboratory, she is also a Southern California Ecosystems Research Program (SCERP) scholar. Stacy is one of the most enthusiastic and dedicated students we have had the pleasure of working with. She always has a smile and truly loves her research and the academic environment. Over the past two years, we have watched as Stacy has developed into a scientist. Her passion and interest in research and academia were particularly noticeable after her summer internship at Oregon State University. The internship was an amazing opportunity for Stacy – it was the first time she was away from family and friends and “on her own”. The time she spent in Oregon was an excellent lesson in persevering and making things work. She lived several miles from the university and biked into OSU each day. She overcame her intimidation of working in a big lab with PhD students and post doctoral fellows. Stacy returned enthusiastic about her experience and driven to apply to PhD programs and continue with her academic career. We are so proud of Stacy for doing something that was out of her comfort zone. Her summer experience and her experiences at CSUF will have long-lasting impacts on her future. As Stacy's undergraduate mentors, we would be honored to see her acknowledged in the Student Spotlight of the CNSM newsletter.

Sincerely,

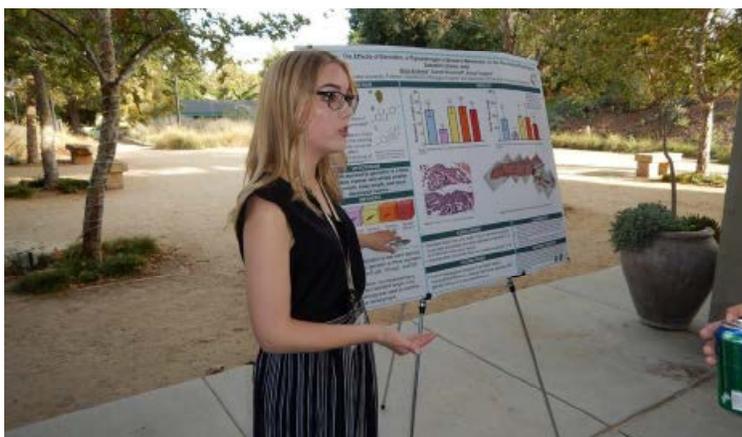
Kristy Forsgren and Bill Hoese
Dept. Biological Science



Tell us a little about yourself...

My name is Stacy Schkoda, and I will be graduating this spring with my Bachelor of Science in Biological Sciences with a minor in Health Promotion and Disease Prevention. I transferred from Cypress College to CSUF in Fall 2014 with the amazing support of the STEM² Program. I love the academic environment, and I hope to earn my PhD in Environmental Toxicology and to build a career as university professor.

Enjoying nature is a true love of mine, and I believe that through science we can protect and preserve it for later generations. I live with the motto, “leave things better than you find them”, which inspires me to advocate for environmental education, research, and conservation in my community. As much as I love enjoying nature through camping or hiking, I wish to ensure all persons can live in a safe, healthy environment.



Student Spotlight:

Name: Stacy Schkoda

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

CSUF and the College of NSM have considerably enhanced my interpersonal, academic, and professional development. As a community college student, I had no idea what opportunities were available and just how much I can contribute to the university community by becoming involved. In the three years I have been at CSUF, I have experienced a positive change and a surge of motivation to continue with my educational goals beyond my undergraduate degree.

The Southern California Ecosystems Research Program (SCERP) has been a tremendous source of support and encouragement. Faculty mentors Dr. Kristy Forsgren and Dr. Garrett Struckhoff and co-directors of SCERP, Drs. Bill Hoese and Darren Sandquist have given me everything I could ask for in a research program and scientific community. My independent undergraduate project examines the effects of plant-based hormones (i.e. phytoestrogens) on the reproductive development of zebrafish. The open-mindedness and enthusiasm of the program helped shape a hybrid project between environmental engineering and biology and has allowed me integrate an interdisciplinary approach when approaching new questions.

In my final year as a Titan, I am honored to serve as the Director for Associated Students Incorporated (ASI) for the College of NSM. Being on the Board of Directors is certainly not an average experience, and it has considerably shaped my outlook as a young professional and taught me leadership skills, accountability, and advocacy. It is a responsibility which I do not assume lightly, and I am inspired every day by the outstanding students, faculty, and staff of the College and University.

CSUF has allowed me to grow in nearly every facet possible, and I am incredibly grateful for the outstanding mentors who have nurtured enthusiasm and challenged me to be a better person and scientist. I often am overwhelmed with the support from and gratitude for communities within the College. Although I am excited to be graduating, I already miss daily life at CSUF. Due to my relationship with CSUF, I can see why many people consider their time in college the best years of their life.

What kind of research have you done?

In addition to my independent undergraduate research as a SCERP scholar at CSUF, I was awarded a summer research internship at Oregon State University (OSU) over summer 2016. I worked with Dr. Robert Tanguay and examined the developmental toxicity of polycyclic aromatic hydrocarbons (PAHs) in zebrafish. PAHs can exist in gaseous or particulate states and are found in a variety of sources like cooking or wood fires, asphalt, or incomplete combustion of gasoline. Most people are exposed to mixtures of PAHs on a daily basis, yet the effects of the compounds are understudied in developing systems.

I am passionate about ensuring public and environmental health, and my summer project accomplished just that by assessing our risk of exposure to PAH compounds and their environmental relevance. I was the only undergraduate student working in a laboratory with six PhD graduate students and three post-doctoral fellows! At first the experience was intimidating, but I was eager to step up to the challenge. I worked closely with the graduate students and took every opportunity to learn from their experiences and about their paths to graduate school. I left the internship a different person with considerably improved technical skillsets, mindset, and self-confidence.

A long-standing dream of mine is to attend OSU for a PhD in Environmental Toxicology, and for eight weeks this summer, I experienced a small portion of that dream. The internship reinforced my ambition to enter a PhD program, and to continue on my path to achieve my goals.



CAREER CENTER

Welcome to the Fall 2016 semester!



The Career Center has developed 5 ways that you can take advantage of the Career Center to impact your career success.

1. Sign up for an account on Titan Connection Job Database.

Make sure to log in and create your account on Titan Connection. Titan Connection is your one stop shop to look for on campus, full/part time, and internship positions available to Cal State Fullerton students. Go to the Career Center's Website (www.fullerton.edu/career) and click on "Students," "Jobs and Internships" and click on "View Jobs and Internships on Titan Connection"

2. Visit NSM Drop In Office Hours (Tuesdays, 11am-12:30pm, MH-488) or Make A Career Center Appointment.

Visit MH-488 every Tuesday from 11am-12:30pm to meet with Michelle Levy, NSM College Career Specialist, for a quick 10 minute walk in appointment.

You can also schedule 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.



News from (STEM)²



Director's Message

As we publish the last edition of "(STEM)² Today" and close out the (STEM)² grant, I am excited to share (STEM)² was recognized as one of 12 nationwide programs selected as an example of a "cutting-edge best practice" and is included in the national report "From Funding to Practice A Status Report on Federal Funding and High Impact Programs Among Hispanic Serving Institutions. "This is part of the White House Initiative on Educational Excellence for Hispanics' 25th anniversary of the Commitment to Action program (please see "Staff on Road" for recognition picture).

We at (STEM)² are proud of our accomplishments over the duration of the grant:

Transfer Resource Center (TRC) has had close to 14,000 students visits.

Academic Transition Program (ATP) assisted over 300 students in the transition from our partner community colleges (Citrus, Cypress and Santiago Canyon) to CSU Fullerton.

Summer Research Experience (SRE) hosted 139 students from our partner community colleges and will host another 39 this summer 2016.

Peer Mentors outreached to an average 1200 students yearly at the partner community colleges via workshops and advising sessions.

Early Warning System provided to about 300 CSU Fullerton students' academic advising.

Most of all we are proud of our students and their accomplishments. I want to thank all the (STEM)² staff and peer mentors (past and present), CSUF administrators and campus partners, and Citrus, Cypress and Santiago Canyon College staff and administrators for ensuring the success of our (STEM)² students. We all played a role in "Strengthening Transfer Education and Matriculation in Science Technology Engineering Mathematics"

- (STEM)².

By Dr. Maria V. Delacruz, (STEM)² Director



FALL 2016



TRANSFER RESOURCE CENTER (TRC)

McCarthy Hall 525

Services We Offer:

- Study Tables
- White Board
- Break Area with Microwave
- Electrical Outlets Available for Laptop use
- Peer Mentors for Student Assistance

Your Partner for
Transfer Student Success

Contact & Location:

800 N State College Blvd.

McCarthy Hall 525

Fullerton, CA 92831-3599

(657)278-8398

stem2.fullerton.edu

TRC Hours of Operation:

Monday—Thursday

9:00 am—7:00 pm

Friday

9:00am—12:00 pm



WELLNESS WORKSHOPS

Counseling & Psychological Services, CSU-Fullerton
 fullerton.edu/shcc/caps/
 657-278-3040



❖ **“Stress”:** *Identify how stress impacts you and increase skills/ tools to decrease stress.*

Date	Time	Location	Facilitator
9/12/16	1 - 2 p.m	SHCC Main Conference Rm	Dr. Jill Kapil
9/13/16	11am-Noon	Juniper 150 (Housing)	Dr. Annie Petrossian
9/16/16	2-3pm	Student Success Center in Humanities 113	Dr. Lauren Fournier

❖ **“Mood”:** *Learn how to understand and accept your emotions. Develop skills to increase positive emotional experiences.*

Date	Time	Location	Facilitator
9/19/16	1 - 2 p.m	SHCC Main Conference Rm	Dr. Jill Kapil
9/20/16	11am-Noon	Juniper 150 (Housing)	Dr. Annie Petrossian
9/23/16	2-3pm	Student Success Center in Humanities 113	Dr. Lauren Fournier

❖ **“Thought”:** *Learn how your thoughts impact your mood and behavior. Gain skills to modify negative thoughts and beliefs.*

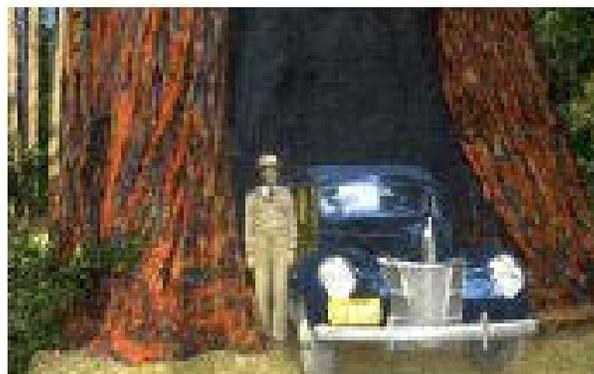
Date	Time	Location	Facilitator
9/26/16	1 - 2 p.m	SHCC Main Conference Rm	Dr. Jill Kapil
9/27/16	11am-Noon	Juniper 150 (Housing)	Dr. Annie Petrossian
9/30/16	9-10am	Student Success Center in Humanities 113	Dr. Lauren Fournier

Note: You are welcome to attend one or more of the workshops in this 3-part series.

NSM Student Success Drive-Thru



August 23 & 24, Thank you to the 150 Students who came out to the NSM Student Success Drive Thru Days in the McCarthy Hall Breezeway with Sam Barrozo, Retention Specialist, Tatiana Pedroza, Graduation Specialist, Michelle Levy, Career Specialist and Dr. Colleen McDonough, Assistant Dean.



COLLEGE OF NATURAL SCIENCES & MATHEMATICS

RETENTION & GRADUATION SPECIALISTS

Your partners for NSM student success
Mon-Fri 9am-5pm, McCarthy Hall 488

GE ADVISING GRADUATION
REQUIREMENTS ACADEMIC
PROBATION STUDENT
SUCCESS ADVISING

Walk-Ins Welcome
Appointments Available

For Freshman/Sophomore standing students (0-59 units): Go online to <https://sbarrozo.youcanbook.me> and you can set up an appointment with Sam, the Retention Specialist.

For Junior/Senior standing students (60+ units): Go online to <https://nsmgradspecialist.youcanbook.me> and you can set up an appointment with Tatiana, the Graduation Specialist.

You will receive an email confirming your appointment.



SAM BARROZO



TATIANA PEDROZA

Welcome CNSM's New Graduation Specialist, Tatiana Pedroza

Hello NSM Students,

I am the new Graduation Specialist for the College of Natural Sciences and Mathematics. The primary role of my position is to support juniors and seniors to help you plan and work towards graduation. You can meet with me one-on-one for advising or I will be hosting group advising sessions throughout the year to review your Titan Degree Audit (TDA). My specialties includes general education advising as well as reviewing overall degree requirements to ensure accurate selection of courses. I also serve as the liaison between faculty and students in communicating the graduation requirements related to general University policies, procedures, and petitions.

I look forward to meeting you all. Please feel free to stop by my office located in the Student Success Center/Opportunity Center in McCarthy Hall-488C. If you would like to set up an appointment to meet with me, you can book an appointment here: <https://nsmgradspecialist.youcanbook.me> or by email at tapedroza@fullerton.edu.

STUDENT SUCCESS CENTER

OPPORTUNITY CENTER FOR SCIENCE AND MATHEMATICS STUDENTS



McCARTHY HALL 488

(657) 278-7082

FACILITATING SUCCESS FOR STUDENTS IN THE SCIENCES AND MATHEMATICS

FALL 2016 TUTOR SCHEDULE

SCHEDULE IS TENTATIVE AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00AM - 8:30AM	Gordon, Collin, Loi	Gordon, Loi	Gordon, Loi	Loi	N O T U T O R I N G
8:30AM - 9:00AM	Gordon, Collin, Loi	Gordon, Loi	Gordon, Loi	Loi	
9:00AM - 9:30AM	Gordon, Collin, Loi	Gordon, Kimberly, Loi	Gordon, Loi	Kimberly, Loi, Phylis	
9:30AM - 10:00AM	Gordon, Collin, Loi	Gordon, Kimberly, Loi	Gordon, Loi	Kimberly, Loi, Phylis	
10:00AM - 10:30AM	Gordon, Collin, Kimberly	Gordon, Kimberly, Loi	Gordon, Kimberly	Kimberly, Loi, Phylis	
10:30AM - 11:00AM	Gordon, Collin, Kimberly	Gordon, Kimberly, Loi	Gordon, Kimberly	Kimberly, Loi, Phylis	
11:00AM - 11:30AM	Gordon, Kimberly	Gordon, Kimberly, Loi	Gordon, Kimberly	Kimberly, Loi, Phylis	
11:30AM - 12:00PM	Gordon, Kimberly	Gordon, Kimberly, Loi	Gordon, Kimberly	Kimberly, Loi, Phylis	
12:00PM - 12:30PM	Kimberly	Jorge, Kimberly	Kimberly	Kimberly, Paris, Phylis	
12:30PM - 1:00PM	Kimberly	Jorge, Paris, Brian	Kimberly	Paris, Phylis, Brian	
1:00PM - 1:30PM	Kimberly, Collin	Jorge, Paris, Brian	Kimberly, Collin	Jorge, Paris, Brian	
1:30PM - 2:00PM	Kimberly, Collin	Jorge, Paris, Brian	Kimberly, Collin	Jorge, Paris, Brian	
2:00PM - 2:30PM	Kimberly	Jorge, Brian, Paris, Susan	Kimberly	Jorge, Paris, Brian	
2:30PM - 3:00PM	Kimberly	Jorge, Brian, Paris, Susan	Kimberly	Jorge, Paris, Brian	
3:00PM - 3:30PM	Kimberly	Jorge, Brian, Susan	Kimberly	Jorge, Brian	
3:30PM - 4:00PM	Kimberly, Susan	Jorge, Brian, Susan	Susan	Jorge, Brian	
4:00PM - 4:30PM	Collin, Kimberly, Susan	Jorge, Marlene, Paris	Collin, Susan	Jorge, Marlene, Paris, Brian	
4:30PM - 5:00PM	Collin, Kimberly, Susan	Jorge, Marlene, Paris	Collin, Susan	Jorge, Marlene, Paris	
5:00PM - 5:30PM	Susan	Marlene, Paris	Susan	Marlene, Paris, Susan	
5:30PM - 6:00PM	Susan	Marlene, Paris	Susan	Marlene, Paris, Susan	
6:00PM - 6:30PM	Susan	Marlene, Paris	Susan	Marlene, Susan	
6:30PM - 7:00PM	Susan	Marlene	Susan	Marlene	

**OCSAMS
Closed**

	BIOLOGY	CHEMISTRY	PHYSICS
BRIAN	101, 102, 151, 152	100, 115, 120 A/B, 123, 125, 301 A	101, 211
COLLIN	101, 102, 151, 202, 274	100, 115, 120 A/B, 123, 125, 301 A/B, 315, 421	101, 211, 212
GORDON*		100, 115, 120 A/B, 123, 125	101, 211, 212
JORGE		100, 115, 120 B, 125	101, 211, 212, 225, 226
KIMBERLY	101, 102, 151, 273	100, 120 A, 123, 301 A/B, 423 A	
LOI		100, 120 A/B, 123, 125, 301 A/B, 315, 325, 371 B	101, 227
MARLENE	101, 102, 151, 152, 273, 303	100, 115, 120 A/B, 123, 125, 301 A	101, 211
PARIS		100, 115, 120 A/B, 123, 125	101, 211, 212, 225, 226, 227
PHYLIS*			101, 211, 212, 225, 226
SUSAN	101, 102, 151, 152		

*Volunteer (OLLI)



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 lecturers 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. SUCCESSatCSUF@gmail.com