College of Natural Sciences & Mathematics Newsletter

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In this Issue:

Statistican Selected as a National Fellow by Mathematic Peers

On the most excellent news front, it is a great joy to share that our very own Dr. Sam Behseta, Professor Department of Mathematics and Director of the Center for Computational and Applied Mathematics, has been selected as a Fellow of the American Statistical Association. This is a 100-year-old tradition of the Association and by their bylaws, only one-third of one percent of the total association membership can be elected as a fellow in each year. To be selected individuals must have an established reputation and have made outstanding contributions to the advancement of statistical science.
Sam becomes one of the very few ASA Fellows in the entire CSU system and we believe the very first one at Cal State Fullerton. Sam, your accomplishment lifts us all up and makes us very proud of you, the Department of Mathematics and the College of Natural Sciences and Mathematics.

Congratulations,
Marie Johnson, Dean

See more of Dr. Sam Behseta's outstanding accomplishment at:
http://news.fullerton.edu/2017sp/sam-behseta-honor.aspx

NSM in the News

Merri Lynn Casem, center, received a standing ovation from her peers, including President Mildred García and Emily Bonney, chair of CSUF's Academic Senate.

Merri Lynn Casem's mother was a teacher, as were her aunts. There was "no way" the alumna was ever going to be a teacher. But as an undergraduate student, Eugene Jones, professor emeritus of biological science, suggested she help out with a course she had taken previously. "And I caught the teaching bug. It was every experience I had here as a student at Cal State Fullerton that turned me into a Ph.D., a faculty member… and I've always made a promise to myself to give back to the campus the way it gave to me," she says. On May 11, the professor of biological science and director of Non-majors Biology Education received the Carol Barnes Excellence in Teaching Award, which honors faculty members who demonstrate academic rigor in teaching consistent with the University's mission and that of the California State University. High marks from students and peers alike, says Sean Walker, chair and professor of biological science, "reflect her commitment to providing a high-quality learning experience for every student and the intentionality with which she designs activities, exams, syllabi, courses and curriculum." "She is a mentor to not only her undergraduate students and graduate teaching associates, but also our junior faculty members, many of whom wrote letters of support for her to receive this award," said Cal State Fullerton President Mildred García. "She is a true Titan who works incredibly hard to ensure that learning is — and always will be — preeminent at Cal State Fullerton." Casem's peer-reviewed, primary research in the field of biology education and curricular innovation has led to her authoring the first of the "Problem Sets in Biology and Biomedical Science" series, as well as her inclusion in "Case Studies in Cell Biology." Ellie Herrera '13, '15 (B.S. biological science-cell and developmental biology, M.S. biology) credits Casem for changing her life through her mentorship, research opportunities and encouragement. "… She embraces current pedagogy literature and teaching styles. She turns the classroom into a safe place to rehearse ideas and grasp complex concepts, rather than a routine lecture covering what was already covered in the text," says the adjunct professor of biology at Los Angeles Valley College.

See more at: http://news.fullerton.edu/2017sp/Carol-Barnes-Award.aspx

NSM in the News

A Leader in Collegial Governance
University Honors Scholar for Dedication to
Campus, Faculty, Staff and Students

President Mildred Garcia, left, and Academic Senate Chair Emily Bonney congratulate Sean Walker as the 2016-17 recipient of the Faculty Leadership in Collegial Governance Award.

Throughout his 13 years on campus, Sean Walker has served on committees and subcommittees focusing on topics that range from the University Master Plan to student fees, enrollment management and information technology. He has served on the University's Academic Senate as a senator, vice chair and chair, as well as on the Statewide Academic Senate. For all these reasons, the professor and chair of biological science, was honored today as the 2016-17 recipient of the Faculty Leadership in Collegial Governance Award.

"As you all know, one of the most important things we can impress upon our students is to get involved in University life," said President Mildred García in making the announcement. "But we cannot ask this of them if we do not get involved ourselves, and there is no better example for our diverse students in this arena than the recipient of this year's Faculty Leadership in Collegial Governance Award."

The recognition left Walker speechless, but later, after a robust Senate discussion on two proposed new courses, Walker called the honor humbling. "To be recognized alongside those who have been honored before. … We have a great community of people here and the only way to make it all work is to work together."

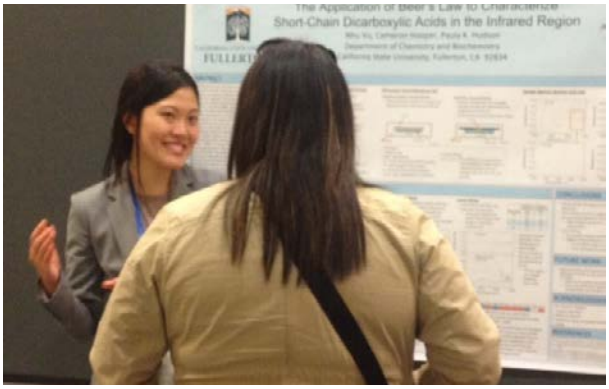
It's that sort of thinking, recognized by both President García, peers and others who have worked with him, that led to this honor. "In the years since joining the faculty, Sean has distinguished himself as a leader within our department, college, University and the CSU. At each of these levels, Sean's priority has been promoting student success, respecting the contributions of our diverse faculty and staff, and ultimately making decisions and plans based on empirical data," wrote fellow biological science professors Kathryn Dickson and Merri Lynn Casem. "Key to his success," they added, "has been his commitment to making decisions after a process that involves consultation, identifying key issues, collecting and analyzing appropriate data and then working to ease any necessary transitions, always with the good of students, faculty, staff and CSUF in mind."

See more at: http://news.fullerton.edu/2017sp/Walker-Collegial-Leadership.aspx

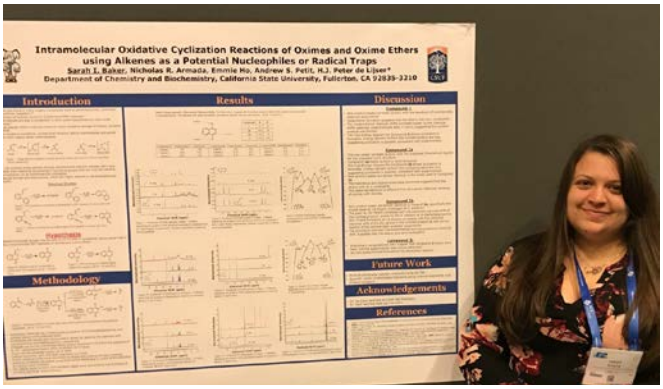
Chemisty in the News

253rd National Meeting of the American Chemical Society April 2 – 6, 2017 - San Francisco, CA

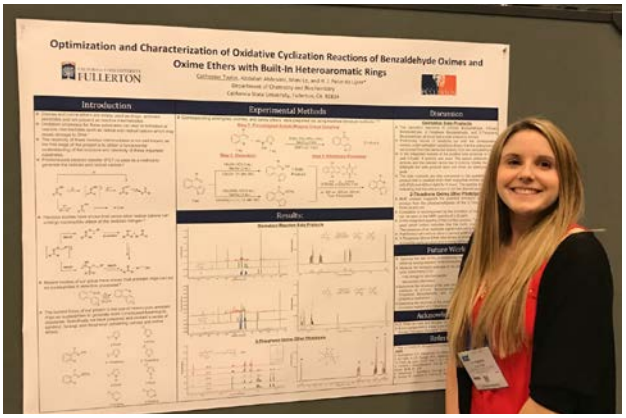
The Department of Chemistry and Biochemistry was well represented at the 253rd National Meeting of the American Chemical Society, April 2 – 6, 2017 in San Francisco, CA with 4 faculty members, 5 graduate students, and 8 undergraduate students participating or presenting.



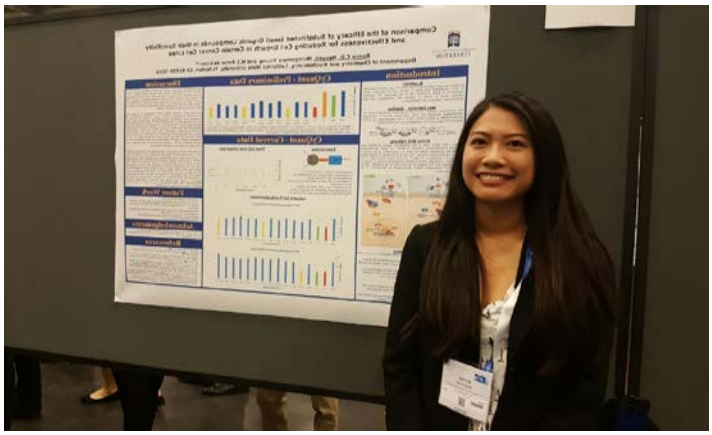
"Characterization of short-chain, dicarboxylic acids in the infrared region using Beer's Law" **Nhu Q. Vu,**Cameron Hooper and Paula K. Hudson* (Analytical Division Poster Session)



"Intramolecular Oxidative Cyclization Reactions of Oximes and Oxime Ethers using Alkenes as a Potential Nucleophiles or Radical Traps" **Sarah Baker,** Nicholas R. Armada, Emmie Ho, Andrew S. Petit, and H. J. Peter de Lijser (Organic Chemistry Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species)



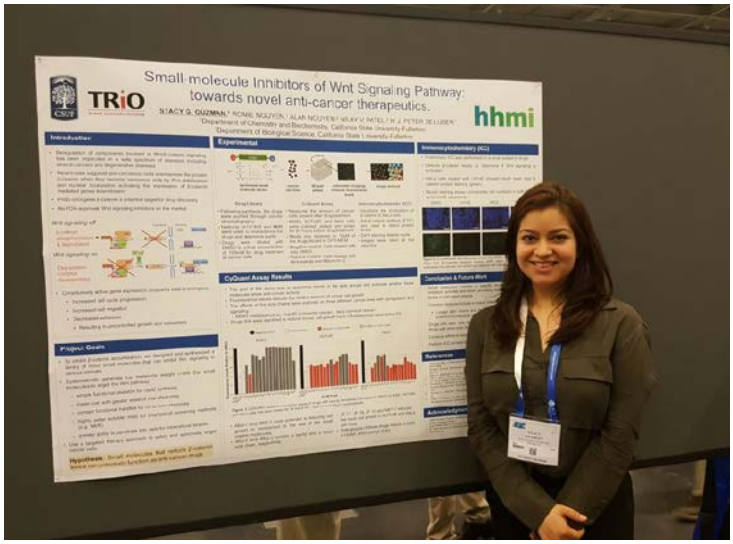
"Optimization and Characterization of Oxidative Cyclization Reactions of Benzaldehyde Oximes and Oxime Ethers with Built-In Heteroaromatic Rings" **Catherine Taylor,** Abdullah Alshreimi, Mimi Le and H. J. Peter de Lijser (Organic Chemistry – Physical Organic Chemistry: Calculations, Mechanisms, Photochemistry & High-Energy Species)



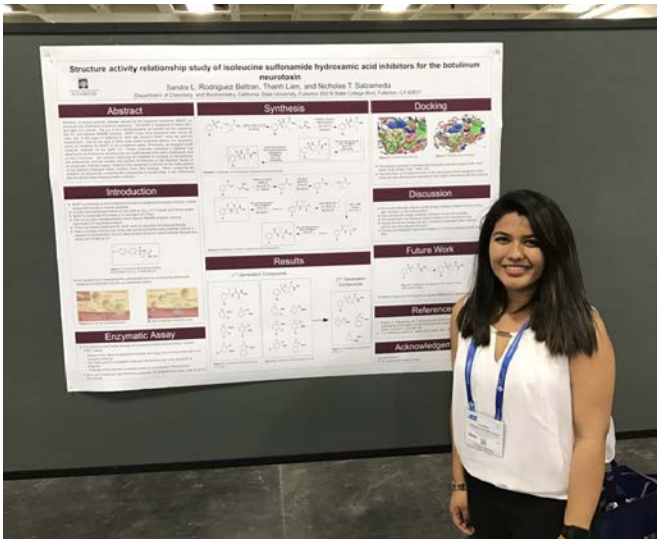
"A Comparison of the Efficacy of Ester Substituents in their Specificity and Effectiveness for Reducing Cell Growth in Certain Cancer Cell Lines" **Romie Nguyen**, Aneta Jelowicki, Montgomery Young, Jesus Flores, Christopher Bunye, Emil Guglielmo, Kim Soriano, Elika Lavassani, Alan Nguyen, Nilay V. Patel, and H. J. Peter de Lijser* (Medicinal Chemistry – General)

Chemistry in the News

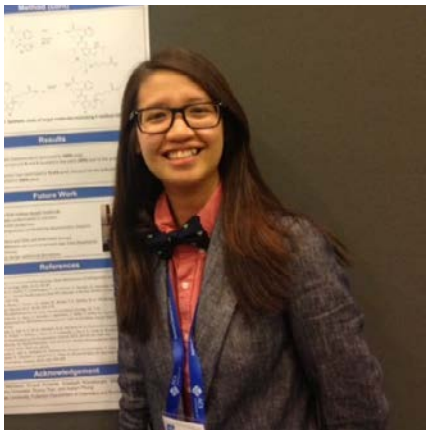
253rd National Meeting of the American Chemical Society April 2 – 6, 2017 - San Francisco, CA



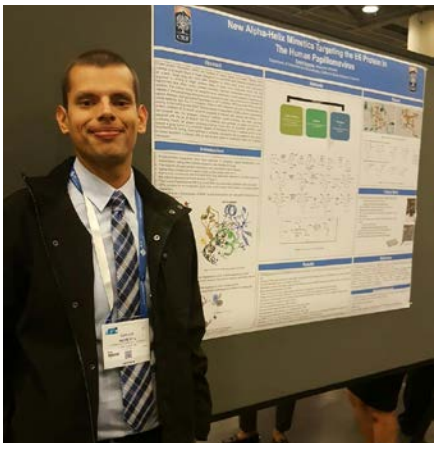
"Structure-based Discovery of Novel Small Molecule Wnt/β-catenin Signaling Inhibitors" **Stacy Guzman,** Alan Nguyen, Nilay V. Patel and H. J. Peter de Lijser (Medicinal Chemistry – General)



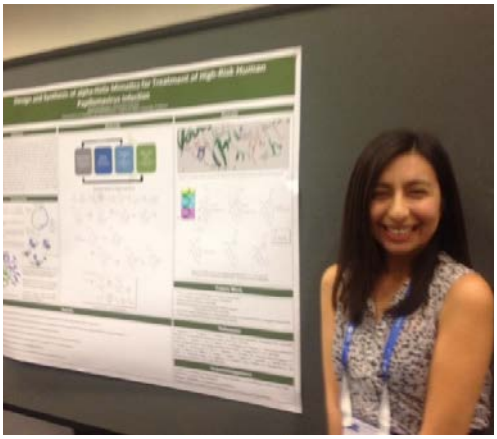
"Structure activity relationship study of amino acid sulfonamide hydroxamic acid inhibitors for the botulinum neurotoxin LC" **Sandra Rodriguez-Beltran,** Thanh Lien, and Nicholas Salzameda (Organic Chemistry – Peptides, Proteins & Amino Acids)



"Alpha-helix mimetics as potential drugs for Human Papillomavirus (HPV)" **Van Do** and Alexandra Orchard (Medicinal Chemistry – General)



"New helix mimetics targeting the E6 protein in the human papillomavirus" **Ernest Armenta** and Alexandra Orchard (Medicinal Chemistry – General)



"Design and synthesis of alpha-helix mimetics for treatment of high-risk human papillomavirus infection" **Stephanie Rendon** and Alexandra Orchard (Medicinal Chemistry – General)

Biology in the News

Students enrolled in BIOL 400: Seminar Biology Education participated in a service-learning experience in partnership with local elementary and middle schools. Each student group designed lesson plans aligned with Next Generation Science Standards and worked with teachers to run the lessons with students in their classrooms or at Tucker Wildlife Sanctuary. Lesson plan topics included energy flow and matter cycling in ecosystems, plant and animal adaptations to environmental stress, and microscopy. With generous support from Edward Read at the CSUF greenhouse, Meg Sandquist and Marcella Gilchrist at Tucker Wildlife Sanctuary, and Chris Tracy, Paul Stapp, and Dawn Hendricks in the Department of Biological Science, the BIOL 400 students had access to the resources to lead interactive, hands-on lesson plans. The final lesson plans will be shared with our partner teachers for use in their own courses.

Tiffany Rivas teaches 7th grade students how to adjust the compound microscope.

Rosa Chairez leading a group of 7th grade students through the nitrogen cycle.

Gina Ortega helps guide 4th grade students through a discussion of animal and plant adaptations.

Biology in the News

BIOL 400 Seminar Biology Education Service Learning Experience

5th grade students learn about desert plants from Eddie Pena-Ojeda.

Melissa Jernigan shows 5th grade students a large breadfruit tree leaf.

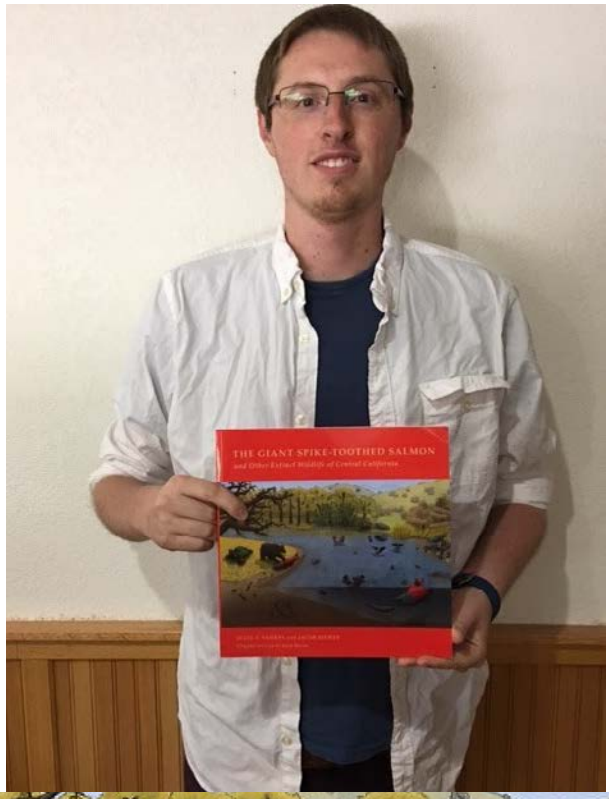
BIOL 400 students brought plant and animal specimens to demonstrate trophic levels.

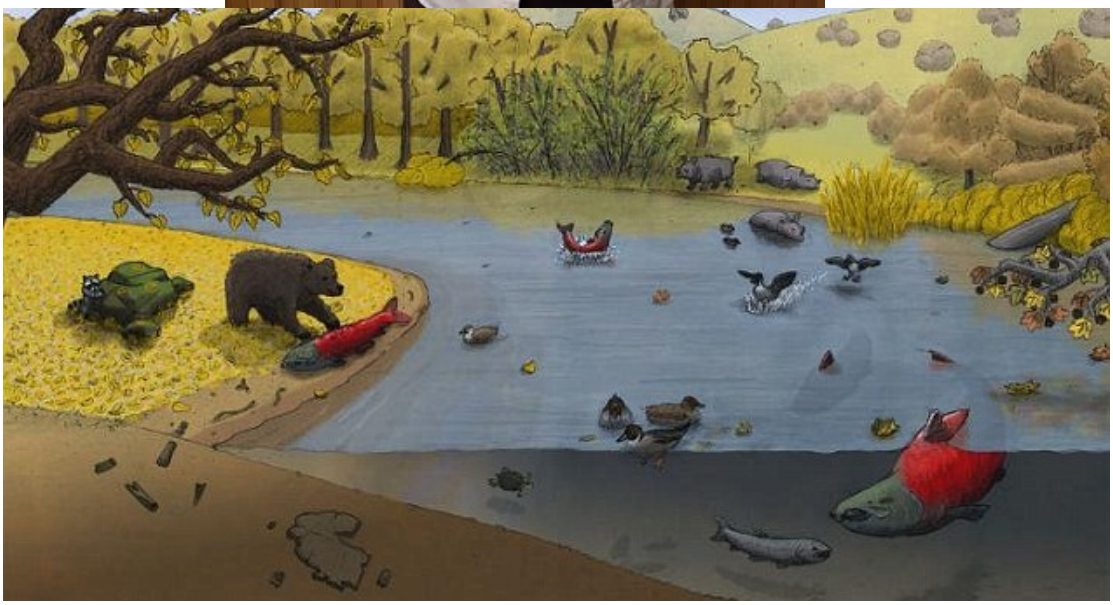
The Biology 400 Student Group

Publications and Presentations

Geology

Dr. James Parham's graduate student, Jacob Biewer (Geological Sciences) co-authored and illustrated a book ***"The Giant Spike-Toothed Salmon and other Extinct Wildlife of Central California"*** from Dowitcher press with Julia Sankey (CSU Stanislaus).





NSM Student Spotlight

Name: Raj Bolla
Major: M.S. in Biology

Tell us a little about yourself.

I am an M.S. student in Dr. Paig-Tran's Functional Anatomy, Biomechanics, and Biomaterials (FABB) lab. I graduated from University of California, Merced (UCM) with a B.S. in Bioengineering and I developed an interest in marine biology during my brief service as an interpretive park aide for the California State Park service. My engineering training and my interest in marine biology led me to pursue a career studying the mechanics governing the lives of marine species to develop biologically inspired designs that address practical problems.

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

I have been fortunate enough to receive the Sigma Xi grant from The Scientific Research Society and the Stephen and Ruth Wainwright Fellowship from Friday Harbor Labs to help fund my research. Additionally, I would say my biggest accomplishment as a CSUF student was learning how to be a resourceful scientist. In addition to learning how to effectively glean and apply knowledge from peer-reviewed articles, I have also learned how to develop simple experimental designs to help answer difficult questions in the biomechanics field. This ability to improvise an experiment built only from simple items from the hardware store will be something I will continue to develop as I progress in my career.

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

My current research focuses on understanding the physical variables that allow an SUV-sized fish called manta rays to continuously filter out plankton that are a fraction of a millimeter in size from sea water for consumption.
My research has led to the development of a clog-proof industrial filter that works using the same mechanics that allows manta rays to filter out their prey.

NSM Student Spotlight

Name: Raj Bolla
Major: M.S. in Biology

What advice would you give to your fellow NSM Students?

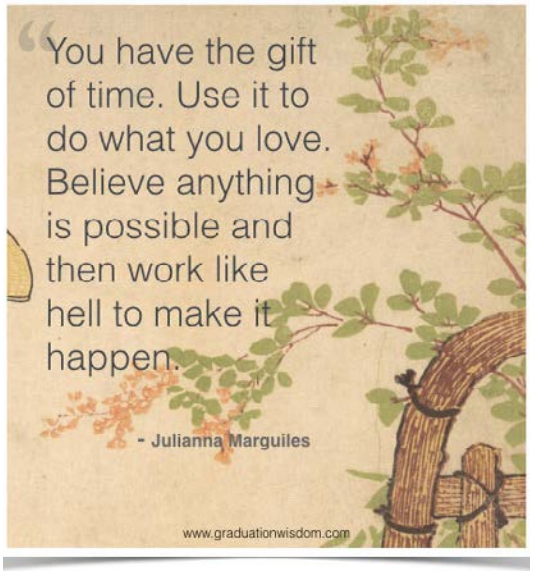
Learn as much math as you can. Math simply makes it easier to measure things and measuring things is all we do in science. Don't be afraid to take on advanced math classes, because it'll only make you a better scientist.

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

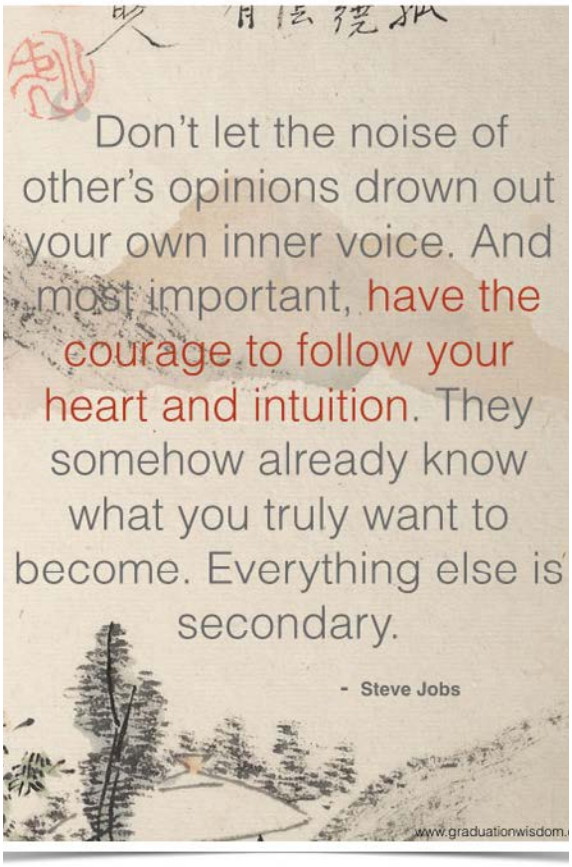
I plan to work in the engineering industry for a year or two after graduation while I pay down some student loans and take the GRE. After that I plan to pursue a PhD in bio-inspired robotics. I haven't quite narrowed down the practical problem(s) that I would like to address with my PhD but I still have time for that. Robots and automation are the direction I see the future progressing in and I plan to be at the forefront of that future.

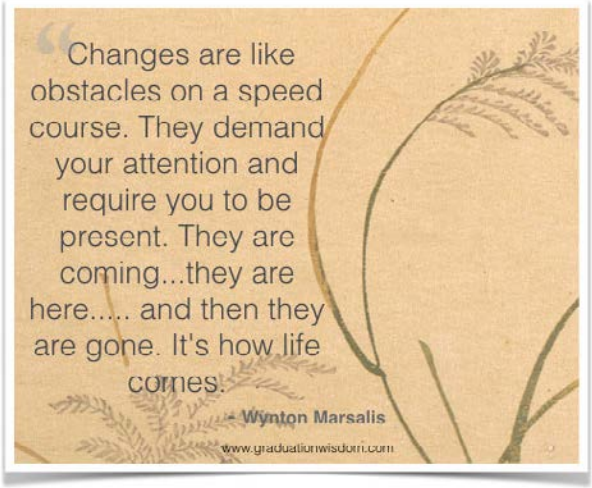
Congratulations
CNSM 2017 Graduates!

Graduation Wisdoms



ELLEN DEGENERES
Actress
"Follow your passion, stay true to yourself, never follow someonelse's path unless you're in the woods and you're lost and you see a path then by all means you should follow."





Thank you!
Faculty & Staff of the College of Natural Sciences and Mathematics for an outstanding commencement ceremony.