

Bios

The Department of Biology Newsletter
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Editor: Paul Wilson

For back issues and more information about the Department: www.csun.edu/biology

Students & microbes

The Microbiology Students Association at CSUN, established in 1984, is the oldest continuously active student chapter in SCASM (Southern California Branch of the American Society of Microbiology). MSA currently has over 50 members and offers all students interested in microbiology a chance to engage in activities to expand their knowledge of the microbial world.

MSA has a full schedule of activities, both educational and recreational. To promote research and professional development, we have events that include attending and presenting student research at the SCASM Student Colloquium and at the national ASM meeting. MSA also organizes meetings at which invited speakers discuss their current research, the role of microbes in medicine, and a wide variety of topics related to microbes. Some speakers scheduled for Spring 2011 include Dr. **David Bermudes** on February 15, who will speak on "Microbiology in the Industry," as well as **Karen Koch** on February 28, who will speak about her work as a clinical microbiologist.

Members have participated in field trips and events that include the Simi Valley Water Quality Control Plant, Kaiser Permanente Microbiology Laboratory, Bowling Tournament/Experiment, and San Antonio Winery/Budweiser Brewery. Each of these events furthers the goals of MSA: increase the appreciation of microbiology, promote professional development of our members, and foster a sense of community among CSUN microbiology students. For more information and updates about the club, visit our website at sites.google.com/site/csunmsa/, or e-mail us at csun.msa@gmail.com.

Summer research

How will you spend your summer vacation? Undergraduate students are encouraged apply to summer research experiences. These 8-10 week programs are offered all over the US and in some foreign countries. The minimum GPA is usually 3.0 in your major. Summer research experiences are sponsored by many federal grants. They allow students to become totally immersed in research for the summer in a broad range of topics. They provide round-trip transportation to the site, support to pay for living expenses and a stipend. Many also provide GRE preparation, the opportunity to present the research at a conference, and educational group excursions. Summer research experiences are important for students who want to enter M.S. or Ph.D. programs. The NIH sponsored programs office (EH2128) has a binder full of announcements. Past CSUN students have participated in programs in public health in Indonesia, plant biology at Cornell University, microbiology at UC Berkeley, and physiology at Cambridge University.

From the complex-systems lab

Recently, marine biologist Dr. **Janet Kübler** presented "Teaching biomimicry in interdisciplinary bioscience courses," in the Biomimicry Institute's Higher Education Webinar. The proceedings will be published soon.

That presentation includes results from her new course AHS 501 Functional Biology and Design Innovation, which is run through the Tseng College at CSUN. Look for Kübler speaking on "Sense in the swarm; Driving like a locust: Biomimicry in the present and future," in the First Fridays Series at the Natural History Museum of Los Angeles County on March 4th (www.nhm.org/site/activities-programs/first-fridays/march-2011) and afterwards on iTunes.

Kübler taught Ecology I and II in the Volunteer Naturalist Training program at Placerita Canyon Natural Area, home of our BIOL 100L field trips.

Kübler and Dr. **Steve Dudgeon**, along with colleagues at University of

South Alabama, presented "Effects of chronic oil spill contaminant exposure on aquatic plant communities of the Mobile-Tensaw Delta," at the National Center for Science and the Environment, 11th National Conference on Science, Policy and the Environment.

Un-under-representing your demographic

Invitations to apply to the Minority Access to Research Careers program and the Minority Biomedical Research Support program will be sent out in early February. The application forms are available in EH2128 and in the Biology Office (CR5101). The completed forms are due by March 4. These programs are open to students who are underrepresented in basic biomedical research (as defined by the NIH) and support students who are interested in subsequently entering a Ph.D. program and conducting basic biomedical research. Students who want to practice medicine or become clinicians cannot be supported by these programs. Students who do not receive an invitation and believe they are eligible should come by EH2128 and pick up an application.

Behavior, Ecology & Evolution

The purpose of the BEER Club is to provide students and faculty a forum for discussing the literature and project ideas in the fields of behavior, ecology, and evolution. Through these interactions, we expand our knowledge and hone our critical thinking and reading skills. All students and faculty with an interest in these areas are encouraged to attend. BEER Club meets Mondays at 12 noon in CR5336. Drinks and snacks are available at the meetings for a small charge, and proceeds sponsor guest speakers, fund student travel, etc. For more information, or if you'd like to be placed on the email list for BEER Club, email nicholas.gutierrez@my.csun.edu.

Science Tutoring Center

We have grad student tutors in LO1327. Some tutor or other is capable of helping with any topic covered in any

100-level Biology, Chemistry, or Physics course, as well as Genetics, Cell, Evolution, Human Anatomy, Human Physiology, and statistics. Hours of particular specialists are posted on the door. It's paid for through your Campus Quality Fee. 🍷

Advice to Biology students

Why should you work less than 15 h/week at a job? Because there is plenty of data showing that students who work more than 15 h/week at a job have lower GPAs than those who work fewer hours.

Even if you could work more hours when you were a sophomore, that might not be true as you take more and harder classes in the Biology major. Labs and field studies require huge amounts of time. The writing assignments deserve long hours pouring over difficult papers.

Don't be pennywise and pound-foolish. Get the most out of college now. 🍷

Our distinguished faculty

Dr. **MariaElena Zavala** presented a seminar at Florida Atlantic University. She is also serving on the Committee of Visitors for the NSF. That's the Committee charged with evaluating the portfolio support by the NSF.

Dr. **Steve Oppenheimer** served on a National Science Foundation review panel for the PAESMEM program.

Dr. **Robert Espinoza** has been appointed book review editor of *Copeia*. For *The Bryologist*, Dr. **Paul Wilson** is book review editor.

Dr. **Steve Dudgeon** gave a seminar at the Moss Landing Marine Lab, "On being and becoming a colonial hydrzoan." 🍷

At meetings

At the 91st Western Society of Naturalists meeting over 20 of our marine biology undergrads, grad students, postdocs, and professors presented their research.

• Dr. **Larry Allen** presented a talk on "How to count barred sand bass in their spawning aggregations." His grad students **Natalie Martinez-Takeshita** and

Katie Gherard also gave talks on their research.

• Dr. **Peter Edmunds'** talk was on "Interactive effects of high pCO₂, heterotrophy and temperature on the calcification and photophysiology of massive *Porites*." His postdoc Dr. **Vivian Cumbo** spoke on research from Taiwan. His grad students **Lianne Jacobson**, **Darren Brown**, and **Aaron Dufault** gave talks on their research from Moorea and Taiwan. New grad student **Chris Wall** gave a talk on work he did as a research assistant in Texas. Undergrad **Sylvia Zamudio** presented a poster on her research from Taiwan, and **Cynthia Ross** gave a talk on research from the US Virgin Islands.

• Dr. **Robert Carpenter** spoke on "Origin-specific responses by the tropical coralline alga *Hydrolithon onkodes* to ambient, elevated and variable pCO₂." His grad students, **Maggie Johnson**, **Stella Swanson**, **Anya Brown**, and **Jenny Gowan** also gave talks on their thesis research.

• Dr. **Mark Steele** and his grad students **Heidi Block** and **Jennifer Granneman** gave talks on their research on kelp fishes. Steele's talk was on "Growth, reproduction, and tissue production of temperate reef fishes on artificial versus natural reefs." Grad student **Barbara Sanchez** gave a poster on her fish toxicology research. New postdoc and former M.S. student Dr. **Mia Adreani** gave a talk on her Ph.D. research.

The following three students presented posters at CSUPERB

• **Ekaterina Kovacheva** "Evolution of anthocyanidin synthase in Hawaiian silverswords and California tarweeds – evidence to support the allopolyploid event."

• **Julianne Dalton** "Looking for variation in flower color genes to help understand evolutionary history of Hawaiian silverswords."

• **Richard Swan** "Investigating genes in the anthocyanin pathway in Hawaiian silverswords and California tarweeds."

The Cohen lab was well-represented at last November's Society for Neuroscience meeting. Four posters were presented by grad students **Brooke Van Kummer**, **Naghum Alfulajj**, **Sanda Oo**, and **Jackie Waier**. 🍷

Free conference on the other complex multicellular life form

The American Society of Plant Biology is holding an outreach meeting at Cal Poly Pomona.

CSUN students and faculty are invited. There is no charge, and the society will pay for one night stay at Cal Poly's Kellogg Center, food and transportation costs. In attendance will be local plant-biology luminaries. There will be workshops for students and faculty. The conference is April 8 and 9.

Dr. **MariaElena Zavala** is the chair of the committee arranging this conference. See her if you want to attend (CS3207). 🍷

New Publications

Amanda Izzo and Dr. **Dave Gray** coauthored, "Heterospecific courtship and sequential mate choice in sister species of field crickets" in *Animal Behaviour*.

Dr. **Gini Vandergon** coauthored a paper entitled, "Computer supported collaborative education—Strategies for using collaborative web-based technologies to engage all learners" in *Proceedings of the 9th Annual Hawaii International Conference in Education*.

Dr. **Randy Cohen** and students have a paper in *Brain Research* about how exercise reduces neurodegeneration in their rat model of ataxia. Other co-authors include vivarium tech **Toni Uhlerdorf** and grad student **Brooke Van Kummer**.

Dr. **Mary-Pat Stein** and students in her lab **Danial Sivalingam** (MARC student), **Sam Amirshahi** (grad student), **Kavitha Thyagajan** (grad student) and **Bobby Tofig** (former undergrad) published, "The small GTPase, Rab1a," as a Molecule Page online at the *UCSD/Nature* gateway. This expert-authored review article was peer-reviewed by Nature Publishing Group.

Drs. **Steve Dudgeon** and **Janet Kübler** have a paper, "Hydrozoans and the shape of things to come," in *Advances in Marine Biology*. **Rebecca Kordas** and Dudgeon have published, "Dynamics of species interaction strength in space, time and with developmental stage" in the

On K-12 the Oppenheimer way

Dr. **Steve Oppenheimer** had two letters published in *Science*, the lead technical magazine in the nation with a million subscribers. “Science standards, value the teachers” was printed in September, and “Mentors for elementary teachers” was printed in November. A longer editorial is appearing in *Acta Histochemica*. Oppenheimer’s assertion is that more researchers should involve K-12 teachers and students in substantive science projects.

Putting his time where his mouth is, Oppenheimer is the editor of *The New Journal of Student Research Abstracts*. Volume 15 was published December. The deadline for the next issue is June 1. Contact Oppenheimer if you have a K-12 student who might be interested in submitting an abstract.

Further putting his time where his mouth is, Oppenheimer is again organizing the K-12 Student Poster Symposium. In April over 100 K-12 students will be presenting their research. Contact Dr. Oppenheimer if you have a K-12 student who might be interested in presenting. ♣

Earth day

April 9th will be an Earth Day celebration organized by Drs. **Gini Vandergon**, Dorothy Nguyen-Graff (Chemistry & Biochemistry), and Matthew D’Alessio (Geology). Students from the Noyce Scholars program, Tomorrow’s Scientists, and College of Science and Math students will be running hands-on workshops for over 250 middle and high school students. ♣

Letter from Maluku

—Maria Elena de Bellard

During my Fulbright in Indonesia, one of my most memorable trips was to Maluku, also known as the Spice Islands. Amazing, amazing, amazing islands! If you love snorkeling, this is the place. Easy access at least around Ambon island and lovely shores to snorkel to your

heart’s content.

I traveled with Dian Saptarini, the Chair of the Biology department at my host institution. Bless her heart for saying, “Yes” to my persistent nagging that she take the trip. She was the perfect hostess and organizer, besides being game for the many requests from this obsessed “American bule” to collect weird ocean critters for evo-devo studies.

Although one more jellyfish is never denied a place in my heart and my buckets, my main concern in traveling to Maluku was to be able to sample *makhluks*.

These islands are different from others because they are part of the Australian continent. The vegetation and cuisine shows it. The food was out of this world. Never tasted fish like here. So delicious I wonder why they insist on eating dogs. Yes, dog sate is a dish in Maluku, but since I was traveling with Dian, we stuck to *halal* meals; dog is not *halal*. Despite all the hurdles of learning to eat with my hands, now I see why Indonesians do “culinary tourism” instead of “sight seeing” as we Americans like to do.

The waters in these islands are crystalline. The corals were sooooo many, so colorful some of them, but the most amazing ones were the soft corals and the sponges. There was a whole village of sponge Bob’s here, not just yellow, but purple, red, blue, green, etc. etc. Eye candy! ♣

Help wanted

Dr. **MariaElena Zavala** is looking for students to participate in her research program. She studies plant roots and hormone metabolism. The ideal student will have completed at least one semester of organic chemistry, cell biology and have an interest in plants.

See Dr. **Steve Oppenheimer** if you'd like to help coordinate the Biology of Cancer course scheduled for fall 2011. ♣

Alumni news

Zara Summers, now at University of Massachusetts Amherst and coauthors have a report in *Science*, “Direct exchange of electrons within aggregates of an

evolved syntrophic coculture of anaerobic bacteria.”

Amanda Izzo, now at University of Michigan, won the prestigious W. D. Hamilton Award for Outstanding Student Presentation at the 2010 Society for the Study of Evolution meeting. Her Ph.D. work is about paper wasp mating behavior.

Former grad student **Vanessa Navarro** has just landed a family practice position in San Diego.

Former grad student **Mark Sussman** is now Distinguished Professor of Biology at San Diego State Heart Institute. ♣

Grants

Dr. **Michael Summers** received \$125,000 from the NIH to study cyanobacterial cell development.

Dr. **Sean Murray** received a Probationary Faculty Grant.

Lena Coleman got \$800 as a thesis improvement grant.

Jason Warner received \$1000 from the Society for Integrative and Comparative Biology.

Beck Wehrle received \$2500 from the Smithsonian Institute. ♣

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