



Channel Islands

CALIFORNIA STATE UNIVERSITY

# BIOSCOPE

BRINGING FUN AND INTERESTING FACTS ABOUT THE CSUCI BIOLOGY PROGRAM TO YOU!

5TH EDITION - FALL 2009

## CLIMATE CHANGE *in the 21st Century*

This year our 6th Annual Poe Symposium will be held on April 16, 2010. The title of the symposium is: Climate Change in the 21st Century. Human influence on climate and the resulting global warming scientists are observing in the last decades will be discussed. Each year, scientific discoveries have built upon the understanding of climate change with large amounts of data, more sophisticated analysis, and more extensive exploration of the phenomenon. It has become a globally recognized problem that touches on many aspects of our civilization.

The purpose of this year's Poe Symposium will be to educate the campus and the community at large on the ongoing research on climate change.

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## UNDERGRADUATE ALUMNI



Sidney Pehrson is a 2008 CSUCI graduate with a B.S. in Biology: Emphasis in Cellular and Molecular, and a B.S. In Chemistry: Biochemistry option. He is currently in his last year as a master's student at CSUCI working on an MS

in Biotechnology and Bioinformatics with an Emphasis in Stem Cell Technology and Laboratory Management. Sid is currently a California Institute for Regenerative Medicine (CIRM) funded intern in the Baldwin lab at The Scripps Research Institute, La Jolla, CA. His internship focuses on neuronal development and diseases, while exploiting stem cell technology to generate cell lines from neurons. The generation of these cell lines may lead to model systems for the study of neurological diseases as well as a method for investigating genetic, cellular, and molecular defects which accompany such diseases. His work focuses more specifically on stem cell plasticity, reprogramming, and directed differentiation of stem cells into neuronal lineages; this includes cloning of viral vectors for reprogramming, cell culture, and in-vivo assays for functionality and integration of neurons into the brain. Sid's interests are in stem cell technologies and the potential for regenerative medicine, and the ability for stem cells to repair, rescue or replace damaged tissues in the body.

### **Sid had this to say about his time at CSUCI:**

*"My time at CSUCI was full of learning and hands on training. The faculty were always willing to help and take extra time to make sure the students succeeded. The hands on training I received under my faculty mentors and the excitement they portrayed for the sciences encouraged me to grow and develop into a critical thinker. If it were not for the many opportunities offered for student research I would not be where I am today or love the work I do in the lab. Thanks to the care of the faculty I am succeeding in my graduate studies. I am proud to represent CSUCI as an Alumnus!"*

## GRADUATE ALUMNI



Todd Hager is a 2008 CSUCI graduate with a M.S. in Biotechnology and Bioinformatics with an Emphasis in Biotechnology. Todd works at Amgen Inc, a global leader in human therapeutics. He is currently

working in a protein bioanalytical laboratory, where he is involved in the development of reagents and analytical methods to support therapeutic candidate selection, optimization and commercialization.

His laboratory provides bioanalytical characterization across all development stages, from early discovery to clinical products, and supports a diverse portfolio of Amgen's pipeline including candidates for metabolic and neurological disorders, inflammation and oncology. Prior to joining Amgen, Todd was employed for several years at Invitrogen Corporation, where he worked in various protein purification and assay development roles.

### **Todd had this to say about the M.S. in Biotechnology and Bioinformatics Program:**

*"After working in the biotechnology field for several years I realized I wanted to further my education, with the goal of gaining knowledge that would help advance my career. The M.S. program at CSUCI was a perfect fit for me because it allowed me to strengthen my background in science while exposing me to the business aspects of biotechnology as well. I found the curriculum to be a practical and all-encompassing perspective on the confluence of factors that comprise the biotechnology industry of today. Especially impressive were the wide-ranging backgrounds of the faculty; most were industry veterans that had deep insights into the contemporary issues and applicable solutions, not merely theoretical knowledge. I came away from the program with advanced training in biotechnology as a scientific discipline and a familiarity with relevant business concepts as well."*



# CLIMATE CHANGE AND THE ARTIC NATIONAL WILDLIFE REFUGE

The Alaskan arctic may seem an inhospitable snow-covered wasteland, but this often-misunderstood region is a perfect natural laboratory in which to explore climate change. Climate change a global issue bringing together perspectives from many disciplines. In June 2009, Professor of Political Science Scott Frisch, Associate Professor of Biology Amy Denton, and intrepid CSUCI undergraduates Ryane Cox (Biology/ESRM), Mackenzie Douglass (Political Science), Steve Harrison (ESRM), Tim Moran (ESRM), Lisa Myers (Biology), and Aaron Newton (ESRM) traveled to the Alaskan arctic for an intensive field component of Science & Public Policy (BIOL/POLS 345), an interdisciplinary course examining the relationship between science, politics, and public policy. The Arctic National Wildlife Refuge encompasses a vast region of linked arctic ecosystems, which is home to hundreds of species of mammals, fish, and migrating birds, many of which are being pushed toward extinction by warming temperatures. The Arctic Refuge is also the traditional homeland of Inupiat Eskimos and Gwich'in Athabascans. Indigenous Alaskan cultures pursuing subsistence lifestyles, hunting for bowhead whales in the Arctic Ocean and caribou in the Refuge. Because of potential oil reserves within the Refuge, proponents of drilling have been fighting to open it to oil exploration as part of a national energy policy. Arctic ecosystems are extremely sensitive and under a grave threat from anthropogenic climate change. Evidence of environmental change is visible throughout the Refuge.

The CSUCI team enjoyed a rare opportunity to explore a fragile and remote national treasure. Students and faculty spent six days investigating evidence of the impacts of climate change and studying the vegetation, wildlife, and geology of the Arctic National Wildlife Refuge from a wilderness base camp on the Kongakut River. The arctic adventurers slept in tents under the midnight sun, shared cooking and camp chores and hiked across the tussocky tundra as the annual migration of the Porcupine caribou herd began. In addition to numerous caribou, students observed ptarmigan, arctic terns, moose, brown bears and an abundance of colorful tundra plant species. The group also toured the Prudhoe Bay oil fields on Alaska's north slope, talked with residents of the Gwich'in community of Arctic Village and the Inupiat village of Kaktovik, hiked in the boreal forest, and visited the University of Alaska Fairbanks.





## ADVENTURES IN SCIENCE

Two exciting coursework opportunities in the sciences are happening for ALL CSUCI majors!

Have you ever thought about a scientific adventure to Japan? Well look no further. The Biology and Chemistry programs are offering Science and Technology in Japan (UNIV 392). The course will include travel to Japan and engage students in discussions on different case studies in the Natural and Life Sciences.

For more information please call or email Dr. Simone Aloisio, (805) 437-8999, [simone.aloisio@csuci.edu](mailto:simone.aloisio@csuci.edu).

Now, if you are more of a sun and sand person, how about an adventure to Maui, Hawaii for spring break (March 19th to 28th)? The Biology and Chemistry programs are offering a special section of UNIV 391: Habitat Choice in Hawaii's Humpback Whales. The course is a field based research and service learning opportunity, with no pre-reqs for the section; however there is a course fee (\$300-\$500). You will be required to attend bi-weekly meetings prior to the trip that will cover marine mammal biology and behavior, habitat monitoring techniques and field protocol. Post trip, students will be expected to contribute to data analysis and communication of results. To apply visit: <http://www.caringforcalves.org>, browse the website and download application materials under <http://www.caringforcalves.org/thenurseryhabitat.html>.

For more information please contact Dr. Rachel Cartwright, (805) 437-2635, [rachel.cartwright@csuci.edu](mailto:rachel.cartwright@csuci.edu) or Dr. Blake Gillespie, (805) 437-2976, [blake.gillespie@csuci.edu](mailto:blake.gillespie@csuci.edu).







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### DID YOU KNOW?

Leaks from petroleum products (oil) that occur on land will eventually flow into the rivers and oceans. Some examples are gasoline dripping onto the ground when people are filling their gas tanks, motor oil that is thrown away after an oil change, or fuel escaping from a leaky storage tank. When it rains, the spilled products get washed into the gutter and eventually flow into the rivers and oceans. Another way oil can also get into the water is when fuel is leaked from motorboats and jet skis.

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### DEGREE SPOTLIGHT

The Bachelor of Science in Biology with an Emphasis in Clinical Laboratory Science prepares students for further clinical training and California License Exam in Clinical Laboratory Science or for training and certification in Public Health Microbiology.

We'd love to hear from you ! Let us know what you think of our e-Newsletter.  
Please send your thoughts to: Catherine Hutchinson at [catherine.hutchinson@csuci.edu](mailto:catherine.hutchinson@csuci.edu)