

# BIOSCOPE



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

2ND EDITION - SPRING 2008

## THE 4TH POE SYMPOSIUM

On April 4th, the 4th Annual Poe Symposium, Coming of Aging in America was held. The topics presented were: an overview of aging, development of therapeutics targeted to aspects of aging, immunological response during aging and HIV infection, research into the basic biology and chemistry of aging, and the mind-body connection in adulthood and aging.

Our society contains an increasing number of individuals who are entering their retirement years. The first members of the Baby Boom generation, which began after World War II (1946), is entering retirement age (age 62) in 2008. Despite extraordinary success during their earning years, a combination of low savings, increasing life spans, and increasingly expensive medical care lead to an urgent need to understand how the aging population will affect our society. Come what may, it is today's college students who will face the challenges posed by the increasing average age of our society. The symposium presented a broad view of the emerging problem.

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## ALUMNI SPOTLIGHT



### UNDERGRADUATE ALUMNI

Thomas O'Grady is a 2004 CSUCI graduate who earned a B.S. in Biology with an Emphasis in Medical Imaging. After graduation he entered the Nuclear Medicine Post Graduate Certificate program at Charles Drew University of Medicine and Science in Los Angeles. Tom also spent a year long clinical internship at UCLA Medical Center. He successfully passed the USMLE (National Boards Required for Medical Licensure) and became board certified in 2006 for Nuclear Medicine. Since then Tom has been employed by Kaiser Permanente as a Nuclear Medicine Technologist. His duty as a technologist is to generate the images of specific human anatomy and physiology by the administration of measured radioactive compounds. Much of what he does enables the physicians to detect and diagnose early signs of cancer.

Tom had this to say about CSUCI: "I loved my time at CSUCI. The college was new and the classes were personal; it seemed that everyone was a friend. I will always be grateful for the education I received as it has opened doors for me that I never would have imagined."



### GRADUATE ALUMNI

Kennedy Ukadike came to CSUCI from South Carolina to enroll in the Professional Science Master's program. Kennedy is part of the first graduating class receiving a M.S. in Biotechnology and Bioinformatics with an Emphasis in Biotechnology in 2007. Three months before he graduated he found a job as a Research Associate at One Lambda Inc, a biotechnology company in Canoga Park, CA that specializes in transplant diagnostics involving development and distribution of an array of human leukocyte antigen (HLA) typing and antibody detection test products utilizing both serological and molecular technologies. He works in the Biochemistry Group where his work involves method development and purification of HLA proteins from lymphoblastoid cell lines, which are Epstein-Barr virus transformed B lymphocytes. These purified proteins are ultimately used in the production of HLA typing and antibody detection tests that are used in clinics to assist in transplant decisions.

Kennedy had this to say about the M.S. in Biotechnology and Bioinformatics Program: "Being a new program, I had doubts about the quality of education that would be provided. Over the course of the two years I was in the program, my doubts were virtually eliminated. The dedication and professionalism of the faculty and staff as well as my fellow graduate students all contributed to make my experience in the program very rewarding, exciting and memorable. In hindsight, joining the M.S. in Biotechnology and Bioinformatics Program proved to be a gamble and adventure I will never regret."



### UNDERGRADUATE ACCOMPLISHMENT

Congratulations to Emily Mazzucchi who was accepted to the PharmD (Doctor of Pharmacy) programs at UC San Francisco, USC and Touro University. Emily has decided to attend UCSF's School of Pharmacy (ranked number 1 in the nation). Emily was one of 122 applicants from thousands of applications to be admitted by this top pharmacy school. Her plan is to pursue a PharmD and PhD dual degree.

"Choosing CSUCI to pursue my B.S. degree in Biology with an Emphasis in Cell and Molecular Biology was one of the best decisions I have made. At CSUCI I was able to establish long term relationships with students, staff and faculty giving me the opportunity to pursue my dream of becoming a Pharmacist. I will never regret taking a chance on such a young and small school and when I look back as an alumnus of CSUCI, I will always remember the great times I had pursuing my degree."

## UNDER THE SCOPE: MARINE MAMMAL RESEARCH PROGRAM

The CSUCI Marine Mammal Research Program is off to a flying start. Students from the Biology Program recently spent a day at the Santa Barbara Natural History Museum, assisting in the necropsies of four recently stranded dolphins and porpoises. The purpose of the necropsies is to establish the cause of death in each animal and to collect as much relevant and useful information as can be gathered from the remains.

After taking detailed measurements of the body morphology, such as length and girth, Michelle Berman, Assistant Curator of Vertebrates at Santa Barbara Natural History Museum, showed our students how to prepare the internal organs for examination and how to look for signs of parasites, or other clues to the cause of the mortality of the dolphins. The students also harvested muscle tissue and blubber samples, which are being analyzed here at the University. Dr. Blake Gillespie has a team of chemistry students looking at the fatty acid signatures of the blubber, as these can provide valuable insights into the diet of the dolphins. Dr. Rachel Cartwright is working with biology students to look at myoglobin levels in the muscle tissue. Myoglobin acts as an oxygen store within the muscle cells, allowing whales and dolphins to tolerate extended periods of apnea (without breath). The study is focusing on neonates (newborns) and how stores of myoglobin build up as the young animals mature. Dr. Charles Sackerson and his students are assisting Dr. Cartwright in looking at the molecular mechanisms that lead to the increase in myoglobin during maturation. They will be exploring whether the increase is due to developmental changes, or is a consequence of training, much as would occur in a human marathon runner.

Since the first trip to the museum our students have also been able to assist in beach side necropsies of other local strandings which provides opportunities to harvest samples. Tissue samples from recently stranded blue and humpback whales have also been acquired, allowing us to extend the study to include baleen whales.

The field portion of our marine mammal research is also up and running in the waters offshore of Maui, Hawaii, where humpback whales from across the Pacific congregate each spring to mate and raise their young. These waters comprise a critical nursery region and in this area we are again combining our efforts in the Biology and Chemistry Programs, in a study that looks at how water quality may impact patterns of habitat choice in mothers with young calves. This will be one of the first studies conducted in the region that examines the links between the abiotic (non-living) features of the local marine environment and the dynamics of the wintertime whale population. We hope to offer students the opportunity to assist with this portion of the study in the years to come. Watch for updates in future newsletters or talk to Dr. Cartwright, [rachel.cartwright@csuci.edu](mailto:rachel.cartwright@csuci.edu) or Dr. Gillespie, [blake.gillespie@csuci.edu](mailto:blake.gillespie@csuci.edu) for more details.



# Biology Staff 2008



*From top and lft. to rt.: Amy Denton, Jessyka Dalton, Kenneth Diffenderfer, Kimberly Gardner, Emily Mazzucchi, Charles Sackerson, Tom Schmidhauser, Angela Wirsching, Angela Chapman, Michael Mahoney, Lorna Profant, Parissa Keshavarzian, Melanie Kathan, Catherine Hutchinson, Rachel Cartwright, Shannon Andreoli, Tamara Payes, R. Craig Seabaugh, Ching-Hua Wang and Nitika Parmar*

## DEGREE SPOTLIGHT

The Bachelor of Science in Biology with an Emphasis in Ecology, Evolution and Organismal Biology allows students to explore biodiversity at multiple levels of organization, from molecules to the biosphere. Students will gain an understanding of the complex interactions among organisms and between organisms and their physical environments. The emphasis prepares students for environmental studies, conservation, research, or education. It also provides preparation for graduate study in biology.

## DID YOU KNOW ?



The average life expectancy for humans in the United States is continually increasing. According to a report published in December 2007 by the CDC (Centers for Disease Control and Prevention) and NCHS (National Center for Health Statistics) "in 2004, the overall expectation of life at birth was 77.8 years, representing an increase of 0.4 year from life expectancy in 2003." Meaning, the younger generation needs to be prepared for the older age groups to grow more rapidly than the total population.

We'd love to hear from you ! Let us know what you think of our e-Newsletter.  
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