Santa Clara BioNews

Fall 2008 Santa Clara University Department of Biology

UPCOMING EVENTS / ANNOUNCEMENTS

Welcome to new and returning students! We hope you had an enjoyable, productive summer. The staff and faculty of the Department of Biology wish you all the best of luck with your courses in biology and the other sciences. Please stop by our main office on the 2nd floor of Alumni Science to introduce yourself. Our newsletter comes once per quarter and provides stories about biology students, alumni, & faculty, information about upcoming special events and timely postings about new courses or programs of interest to biology students.

Are you interested in teaching science after graduation? We are pleased to announce a new scholarship for SCU students, the Robert Noyce Teacher Scholarship Program funded by NSF. Click on www.scu.edu/noyce for more information and apply online. Have questions? Email Teri Chow at tchow@scu.edu.

The Gerald and Sally DeNardo Lectureship

Nobel Laurete Paul Berg speaks
"Moments of Discovery"
Wednesday, October 22
3:30 – 5 PM, DS 207

Please attend this special event for SCU students, presented by Dr. Berg, Nobel Prize -winning biochemist, teacher & research advocate.

Interested in Heatlh Care? Consider this…

SCU Emergency Medical Services and EMT Training

EMS is a student-run organization on campus which provides medical services to those who are experiencing medical emergencies. We average over 200 medical calls per year, one third are generally alcohol calls, one third are generally traumatic injury calls, and the other third end up being medical emergency calls. We have approximately 35 EMT's currently on our program right now. We host an EMT class on campus every year to recruit new EMT's to replace the seniors graduating. Everyone in the program has gone through an EMT class. This is a great experience to get patient contact and handle emergency situations if you are thinking of being a medical doctor or entering any other health related field. It is a good way to give back to the college community that you live in. Sean Brachvogel is the current director (SBrachvogel@scu.edu). Go to www.scuems.com for information on our program. By Dan Stepan (SCU EMS Senior Advisor)

Study Abroad for Science Students: October 29th

Elephants seen from an SFS safari vehicle in Kenya. Numerous SCU students have studied at SFS sites for more than 15 years.

A rumor mill perpetuates the WRONG information about study abroad and science majors. For example, have you heard that science students can't study abroad because they have too many requirements? Or, have you heard that science students only take core courses when they go abroad? These pronouncements are WRONG. SCU science students have earned credit in the sciences by studying abroad for many years through SCU programs, universities in other countries and through other programs such as the School for Field Studies (SFS) and Copenhagen's popular DIS program which includes courses specifically designed for students interested in health careers. Science students can study in fields such as wildlife conservation, marine biology, organic chemistry, evolutionary biology, environmental health, molecular biology, and so forth. Many students also earn research credit that counts toward their science degree. To learn about options (which are many as you can tell) please note that International Programs is hosting a series of events of interest to SCU students wishing to study abroad. Study Abroad 101: Tips on Planning a Successful Study Abroad Experience (Oct 22 at 6 PM in Mayer Theater) is the kick-off event for *Study Abroad Week 2008*. For science students, we also have a special event on Oct 27 at 5:30 in Kenna Hall Rm 216 where Dr. Edgerly-Rooks will describe different options for studying science at sites around the world. Students who recently studied abroad will share their experiences and answer questions. Go to http://www.scu.edu/studyabroad/events/ to see all events for Study Abroad week. Note that the calendar of events lists a number of presentations that relate to science study abroad including SFS, DIS, Organization for Tropical Studies, IES (which has programs all over the world), and others. Please contact International Programs (x6940) and get on their email list so you can receive updates. (By J. Edgerly-Rooks)

DEPARTMENT NEWS

A Note from the Islas Research Team

Their mission: to save the world from the mutagenic agents of evil. Armed with their pipettemen of discovery, they seek to enlist the aid of eukaryotic and prokaryotic polymerases in their quest to further the scientific community's knowledge of DNA repair.

Lab notebooks piled high, the eight members of the Islas League munched dejectedly on brownies and avoided eye contact as Islas launched into a diatribe on Minion #3's lack of progress. "So you ran five gels, cloned two genes, expressed a protein and characterized its non-templated addition capabilities. Okay, so that's thirty minutes of work…what did you do with the rest of your week?"

To say Islas is a cruel, demanding slave driver is to state the obvious. Yet, in the crucible of misery, the ironclad bonds of camaraderie are forged – transforming the members of the Islas League into a cohesive and stalwart force of scientific prowess.

The Islas League Haiku of the Month

working in the lab
examining D.N.A.
sometimes we eat cake

Learn more about SCU students and faculty engaged in science. Explore stories and videos posted on SCU's web pages. Click www.scu.edu/Scustories/sciences.cfm

To help you prepare for Winter 2009….here's a list of BIOL courses

BIOL	3	Fitness Physiology L&L
BIOL	19	Biology for Teachers L&L
BIOL	22	Introduction to Evolution & Ecology
BIOL	25	Investigations in Cell/Molecular Biology L&L
BIOL	25H	Investigations in Cell/Molecular Biology L&L-Honors
BIOL	28	Human Sexuality
BIOL	110	Genetics L&L
BIOL	124	Human Physiology L&L
BIOL	126	Human Cardiovascular System
BIOL	144	Natural History of Baja (Spring break trip required)
BIOL	160	Biostatistics L&L
BIOL	174	Cell Biology L&L
BIOL	176	Biotech Lab 1:Recom DNA L&L

Sign-up soon for Winter Quarter 2009

SCU's Spring Break Immersion Program

BAJA CALIFORNIA, MEXICO

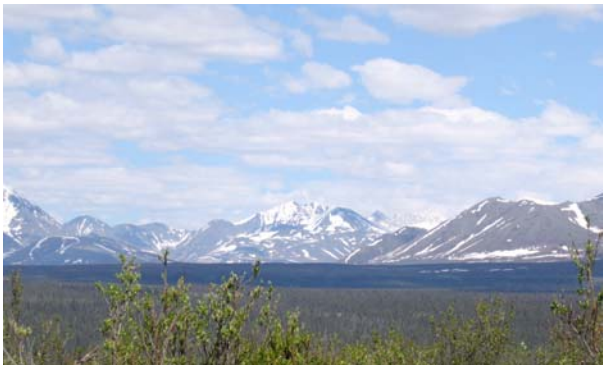
SCU Students in Baja (Photo: E. Dahlhoff)

This 10-unit program includes an advanced writing course (ENGL 174/ENVS 142B: Non-fiction writing/Environmental and Nature Writing- Prof. John Farnsworth) and a Biology/Environmental Studies course (BIOL/ENVS 144: Natural History of Baja- Prof. Elizabeth Dahlhoff), taken in the winter quarter. For Biology majors, BIOL 144 counts as one UD BIOL elective or for the "Ecology/Evolution" emphasis. The two classes meet together (TR 1150-135 PM); students enroll in both classes to participate in the program. At the end of winter term, we will fly to Mexico, and students will spend spring break writing about and investigating, by kayak, snorkel, and on foot, one of the most amazing desert and marine ecosystems on the planet- Isla Espiritu Santo, in the Bay of La Paz. Instructor permission is required for this course; Junior and Senior applicants are given priority. Have questions? Want to apply? Course applications will be available in early November in the Biology office, or by emailing Profs Dahlhoff or Farnsworth (edahlhoff@scu.edu; jfarnsworth@scu.edu).

Ever considered exploring Alaska?

Announcing a New Program in Arctic Biology: From Ecology to Genomics

This Spring Quarter into the summer consider joining Dr. Whittall's Project Lab class in arctic biology that will take you from the expansive tundra to the genes responsible for polar adaptations. SCU students will study fundamental principles (and challenges) of arctic Biology through a combination of lectures and readings in the Spring Quarter, followed by an exciting field excursion. Students will gain first-hand research experience in subarctic and arctic Alaska by developing, executing, interpreting and summarizing original research projects in arctic Alaska. Students will return from their field expedition to SCU with Alaskan students to extend their field experiences to the genomic scale applying quantitative PCR, microarray hybridizations, and "Next Gen" sequencing technologies to questions in Arctic Biology. The field excursion and lab fees will be subsidized by a National Science Foundation research grant to Dr. Whittall. If interested or if you have questions, contact Dr. Whittall (jwhittall@scu.edu).



FACULTY NEWS

What do dogs, flies feeding on flowers, drawings of primates, herbariums and mountain meadows have in common? Carol Kearns, the newest member of the Department of Biology. As you might discern from the lead-in question, Dr. Kearns' biology career took a circuitous route. When asked how she ended up working on fly pollinators, Carol laughed and said that she did not expect or plan to work on any of the projects she ended up working on! Here's a snapshot of her adventures as a student of biology. Upon completing her degree in biology at a liberal arts college on Long Island, New York, she decided to pursue graduate school at the University of New Hampshire. Her undergraduate mentor linked her up with his PhD mentor at UNH and a plan was set for her to study plant evolution for her PhD thesis. Shortly after moving to New Hampshire, her major professor suffered a life threatening accident and left his job, leaving Carol to fend for herself. Because no other plant taxonomists taught at UNH, she was forced to find another degree program. She switched to a Master's Program in Biology and completed a series of courses, earned her degree, and left without becoming the plant taxonomist she had hoped to be. She did, however, emerge with a broad background in biology. Carol went on the serve as assistant curator at UMass' herbarium (plant taxonomy after all!) and at the same time, developed her career as a freelance scientific illustrator. Not only did she serve as an Art Director for a veterinary learning system, but she illustrated numerous articles and a book on primate conservation by John Terborgh.

After reading all this, you still do not know where flies and flowers come into the picture. Back to following Carol's circuitous route as a biologist…before re-entering graduate school, Carol became involved professionally in dog training, breeding and showing. Her love for dogs took her to the next crossroads…she decided to pursue a PhD in canid behavior at the University of Maryland. She worked with a renowned behaviorist (Wolfgang Schleidt) who was trained by Konrad Lorenz (one of three behaviorists to share a Nobel Prize for work in ethology). Maned Wolves and Bush Dogs were her subjects for 2 years at the Front Royal Conservation Center. Even that project did not end with the hoped-for PhD, because her professor was lured away by a prestigious post in Austria, leaving Carol to work on her own again. This time she immediately found a replacement advisor, and now the story leads to flies and flowers. David Inouye became Carol's mentor and finally, she found a project that yielded a PhD. She began studying the ecology of high altitude meadows, where flies surprisingly dominate the guild of pollinators. A puzzle for Carol to solve was that flies are not efficient pollinators compared to bees, but their greater ability to cope with cooler climates leaves high altitude flowers no other option in getting their pollen transported. After completing her degree, Carol taught biology at a variety of colleges, most recently at the University of Colorado. A confluence of events brought SCU and Carol together: her family moved to the Bay Area this year and we had an opening in evolution and ecology. She scanned web pages of local universities and SCU caught her eye. SCU was exactly what she was looking for: a place with small classes, great opportunities for field trips, a liberal arts program, and a strong mission statement. She is already taking advantage of our rich environments; she took her Endangered Ecosystem class out to explore native grasslands and this week they'll be out on the Bay with Discovery Voyages sampling biodiversity and water quality, and examining human impacts on the Bay. Please stop by to introduce yourself, you will assuredly be swept up by Carol's enthusiasm for biology and for her new teaching job at SCU. (By J. Edgerly-Rooks)