

Santa Clara BioNews

Spring 2008

Santa Clara University Department of Biology

UPCOMING EVENTS

Biology Seminar:

Biology Futures

Dr. Melanie Swan

MS Futures Group



Thursday, May 22, 5:30 p.m.

Alumni Science 220

Dr. Swan will examine the current status and ethical issues of key biological areas such as computational neuroscience, personal genomics and synthetic biology.

Biology Graduation Reception!

Graduating seniors and their families and friends are invited to a reception on Friday June 13 from 10-noon. We look forward to celebrating this momentous occasion and meeting your family members.

*CONGRATULATIONS
Graduating Tri-Beta
Members!*

Casey **Butzberger**, Sarah **Cook**, Daniel **Daugherty**, Cindy **Dick**, Daniele **Gardner**, Kathryn **Giebler**, Elizabeth **Iten**, Yvonne **Kelly**, Whitney **Knott**, Amanda **Lieu**, Jennifer **Low**, Katherine **Mahaffy**, Laura **Maitoza**, Gavin **McCann**, Scott **Montgomery**, Cathy **Nguyen**, Misbah **Palla**, Rochelle **Rock**, Deborah **Thurtle**, Vincent **Whelan**

DEPARTMENT NEWS

The **33rd Annual West Coast Biological Sciences Undergraduate Research Conference** took place at Point Loma Nazarene University in San Diego on April 12, 2008. The Plenary Speaker was Dr. Francis S. Collins, Director of the National Human Genome Research Institute in Bethesda, Maryland. **Dr. William Eisinger** of the SCU Biology Department attended, along with three Biology majors: **Kathleen Powers**, **Deborah Thurtle**, and **Scott Montgomery**. The URC was created at SCU three decades ago as a forum for undergraduate students in the life sciences to present their research to peers and faculty, and it has rotated between several colleges and universities in the western U.S. every year since then. The SCU Biology Department will host the 35th conference in 2010.

Dr. Eisinger says that "the Undergraduate Research Conference was a great success. There were 135 presenters; the sessions I attended were very good. Francis Collins, Director of the Human Genome Project, gave a great speech and was very available to students and faculty."





Katie Powers (right in photo above) won a prize for the best presentation on measuring the silk footprint of Embiids, a project she is working on with Dr. Edgerly-Rooks. Debbie Thurtle (middle photo above) gave a presentation on "Regulation of sugar metabolism in *Caulobacter*", a project she is working on with Dr. Stephens. And Scott Montgomery's poster on *C. elegans* gene regulation, a project he is working on with Dr. Miller, was mentioned in Dr. Collins's talk! (Scott is in the left photo above.) All in all, a very successful day for SCU students in the glorious San Diego sunshine!

FACULTY NEWS

Dr. Craig Stephens will be stepping down as Chair of the Biology Department at the end of the summer. He will become the Director of the Combined Science major, and will resume teaching Biology courses in Fall quarter 2008.

Dr. Janice Edgerly-Rooks will assume duties as Chair in Fall 2008. Congratulations, Dr. E-R!

Dr. Ángel Islas will become the new Faculty Director of the Loyola RLC this fall. Dr. Islas is keenly interested in the RLC program's vision to create an integrated residential learning experience for students. He has worked with many undergraduates in his research program, focusing on molecular events that enable biological systems to repair damaged DNA, and has published papers with student co-authors. He will bring this commitment to students, as well as a deeply held conviction in the notion of *cura personalis* to the Loyola RLC. Loyola is home to a diverse group of students who share an active interest in exploring issues of faith and justice in the Jesuit tradition.

Dr. Katherine Preston will be leaving Santa Clara to become Associate Director of the Human Biology Program at Stanford University beginning in Fall 2008. Dr. Preston has been an outstanding lecturer in the Biology Department for two years. We wish her well and will miss her greatly! Dr. Preston will be replaced by **Dr. Carol Kearns**, who has been a Senior Instructor in Ecology and Evolutionary Biology at the University of Colorado for over a decade. Everyone who saw Dr. Kearns' demonstration lecture in April is looking forward to having her enthusiasm and expertise on campus!

Dr. Anja Rossinni wins \$60,000 award from the Glenn Foundation. Dr. Rossinni, a lecturer in the Biology Department, won a major prize from the Glenn Foundation for Medical Research to support her research on aging. The Glenn Foundation for Medical Research was founded in 1965 by Paul Glenn "to extend the healthy productive years of life through research on the mechanisms of biological aging." Glenn Awards assist scientists where funding shortages threaten to impede scientific progress, and award recipients are selected from nominees provided by an anonymous scientific advisory committee. Dr. Rossinni's research uses the little brown bat (*Myotis lucifugus*) as a model organism to examine the role of hormone profile and energy metabolism in determining patterns of longevity and senescence. The little brown bat shows exceptional longevity – often over 30 years! Dr. Rossinni is interested in examining how flight and hibernation may create a physiological state that results in an enhanced ability to cope with physiological stress and damage.

Dr. Michelle Marvier published a Policy Forum in the April 25, 2008, issue of the prestigious international journal *Science*. A modified version of the press release from *Science* is reprinted below.

Scientists Call for More Access to Biotech Crop Data

Access to maps of biotech crops on a county and township level will give researchers greater ability to analyze the effects of biotech crops on wildlife, water quality, and on pest and beneficial insects.

"Since 1996 more than a billion acres have been planted with biotech crops in the U.S.," said Michelle Marvier of Santa Clara University. "We don't really know what are the pros and cons of this important new agricultural

technology. People on both sides of the debate about genetically engineered crops have been making a lot of claims," said Marvier, an associate professor of biology and environmental studies. "One side has been saying that biotech crops reduce insecticide use, reduce tillage and therefore the erosion of top soil. People on the other side say that biotech crops could hurt native species."

The scientists' call is published as a Policy Forum in the April 25, 2008, issue of the journal *Science*. Marvier's co-authors are Yves Carrière and Bruce Tabashnik of The University of Arizona in Tucson; Norman Ellstrand of the University of California at Riverside; Paul Gepts of the University of California at Davis, Peter Kareiva of Santa Clara University and The Nature Conservancy, Emma Rosi-Marshall of Loyola University in Chicago and L. LaReesa Wolfenbarger of the University of Nebraska in Omaha.

The article, "*Harvesting Data from Genetically Engineered Crops*", illustrates the distribution of crop fields in Arizona township by township. Tabashnik, UA head and professor of entomology said, "Putting Arizona's biotech cotton on the map has allowed us to be a leader in assessing the environmental impacts of biotech crops." In Arizona, a unique collaboration between researchers and farmers has made detailed crop data available to researchers at The University of Arizona. Tabashnik said, "It's a win-win situation. We analyze data they collect, so they can control pests better and make more money. It helps us obtain fundamental information about what's going on in the field that we could never get without them." One of the UA's analyses, for example, showed that adoption of biotech cotton in Arizona helped to reduce insecticide use while sustaining yields.

The team of scientists call for the U.S. government to make available data it is already collecting. At the present time, the team writes, the U.S. Department of Agriculture collects data at the scale of individual farms, but the data are only available to researchers at the scale of entire states. Answering key questions about the environmental impacts of genetically engineered crops requires finer spatial resolution. "The analyses could be about quality of water, quality of soil, non-target effects, regional population density of pests, and economic aspects such as yield improvement, said Carrière." The findings could be useful to a wide range of people."

The U.S. Department of Agriculture's National Agricultural Statistical Service annually collects data documenting acreage planted to various crops in all 50 states, the researchers write in their paper. In addition, the NASS annually interviews more than 125,000 farmers about their land use and the acreage planted in various biotech crops. According to Tabashnik, "We're already spending the money to have these data collected. Let's make them available in the right format for researchers to use. It would be a relatively inexpensive additional step with enormous scientific and public benefit."

ANNOUNCEMENTS

Remaining Hot Topics in Biology (BIOL 100) presentations:

June 2 - Dr Christelle Sabatier: Stem Cells and Spinal Cord Injury

THE NEWSLETTER WOULD LIKE YOUR HELP!

If you are interested in writing an article or contributing in some way to the newsletter, please send an email to biology@scu.edu, or contact Gratia Rankin, the Biology Department Administrative Assistant, at grankin@scu.edu or 408-554-4496. We'd love to hear from you!

Biology Courses for Summer 2008

<i>Summer Session I</i>	<i>Summer Session II</i>
Bio 2 Human Health and Disease Murray TR 6:00-9:00 PM Bio 112 Pathogenic Microbiology L+L Murray MTR 8:00-10:00 AM Bio 124 Human Physiology L+L Courtney TWR 3:20-5:30 Bio 124 LAB TR 12:00-3:00 PM or TR 6:00-9:00 PM	Bio 18 Exploring Biotechnology L+L Sabatier MWR 10:20-12:30 , LABS WED or THURS 1:00-4:00 Bio 104 Human Anatomy Rossinni L+L MTR 3:20-5:30 Bio 104 LABS TR 12:00-3:00 PM ALMSC 310