

UPCOMING EVENTS/ANNOUNCEMENTS

Welcome Back for Spring at SCU

We hope you all enjoyed a relaxing spring break. We wish you luck with your classes this quarter and hope that if you have any questions you will stop by the Department office (238 Alumni Science). We are especially pleased to announce that our departmental seminar series includes two panels of alumni who will talk with you about their career paths. In addition, we are hosting a number of talks on the topic of aging in recognition of the theme selected by our guest scholar Nobel Prize winner Dr. Prusiner. Read more to find out the where, when and who!

DEPARTMENT NEWS

Let's Focus On Aging & Its Challenges



We are lucky to host this quarter Nobel Prize winning expert in neurodegenerative diseases, Dr. Stanley Prusiner for a lecture from the Gerald and Sally DeNardo Lectureship. Dr. Prusiner is Director of the Institute for Neurodegenerative Diseases and Professor of Neurobiology and Biochemistry at the University of California, San Francisco. He will lecture on *The Scourge of Alzheimer's and Parkinson's and Prion Diseases* and will present a second talk *Discovering Prions* specifically for students on April 16.

Dr. Prusiner's visit to SCU will be held in conjunction with other Seminars and Lectures this quarter, each highlighting the biology of aging.

Date	Speaker	Title	Place and Time
April 15	Dr. Stanley Prusiner	The Scourge of Alzheimer's and Parkinson's Diseases	Recital Hall, Music and Dance Building, 7:30
April 15	Dr. Stanley Prusiner	Discovering Prions	Wiegand Room, A&S, 2:30-4:00
April 22	Dr. Christelle Sabatier	What do Mad Cows say about Parkinson's Disease?	Hot Topics Lecture, Alumni Science 5:00-6:00
May 27	Dr. Anja Rossinni	Immortality: Can it be Achieved?	Hot Topics Lecture, Alumni Science 5:00-6:00
May 29	Dr. Elizabeth Edgerly	Science for Alzheimer's Disease: Help Today or Hope for Tomorrow?	Alumni Science 120, 2:30-3:30

The Department of Biology and Tri-Beta Present:

The Professional Lives of Biology Grads Alumni Panel Discussions

April 17 & May 8
2:30 – 4 pm
Alumni Science Commons



There are multiple opportunities this Spring for students to participate in discussions with Biology Alumni. Our guests were selected to represent a variety of fields and they will discuss what their career paths have been. The format will include conversations followed by a informal reception. Please join us for these sure-to-be fascinating Round Table Discussions. Bring your questions and come meet some exceptional graduates of our department.

April 17th: *Health-Related Careers** Panel of Biology Alumni: careers include pharmacy, naturopathy, hospital nutrition, and physical therapy.

May 8th: *A Biologist After Graduation*: Panel of Biology Alumni in a range fields including a veterinarian, high school teacher, graduate student, specialist in climate change working for a non-profit organization, a former Peace Corps volunteer, and a professor.

A related event that may interest you is on **April 15th: *Health Care Panel**** hosted by the Pre-Health club. Panel includes an M.D., dentist, podiatrist, and physicians assistant. Benson Parlors, 7:30 – 9:00 pm

**Biology and Pre-Health Clubs have coordinated panels to included representatives from different fields.*

Department of Biology
SPRING SEMINAR SERIES
Alumni Science room 120
2:30-3:30 PM

Go to our community group page on Angel (<http://angel.scu.edu/>) called the *Biology Seminar Series* to find readings, biographies of our guest speakers, a calendar, and more.

Date	Speaker	Talk title
April 17	Alumni Panel	Health-related careers (Alumni Science Commons)
May 1	Dr. Lindsay Hinck UC Santa Cruz	Growing a mammary tree: "axon" guidance cues as adhesive factors
May 8	Alumni Panel	A biologist after graduation? (Alumni Science Commons)
May 15	Dr. Beth Basham Schering-Plough Biopharmacy	When your laboratory is a super-computer: Bioinformatics in modern science
May 22	Dr. Mike Hamilton UC Berkeley	Swimming with robots and other adventures of an eco-geek
May 29	Dr. Elizabeth Edgerly Chief Program Officer, Alzheimer's Association	Alzheimer's Up Close & Personal: Hope and hype in science and care

EVERYONE IS WELCOME

In compliance with ADA/504 please direct your accommodation requests to:
Department of Biology at 408 554-4496

Campus News

The New University Core Curriculum & You

As many of you have probably heard, the new core curriculum for Santa Clara University will be implemented in Fall 2009. For everyone that has been following the old core and for transfer students entering in Fall of 2009, the old core classes will still be offered and should be followed as outlined in the Undergraduate Bulletin that was published in each individual student's entering year. Beginning in Fall 2009 for all freshman students and Fall 2010 for transfer students, the new core will be in effect. For students that have yet to complete old core requirements before the new core is implemented, appropriate new core classes can be supplemented to fulfill these requirements. A complete table listing the entire new Core curriculum is available for students at <http://www.scu.edu/provost/ugst/core2009/>. Also, be sure to keep an eye out for new classes that count for old and new core in the Biology Department such as **Plagues in the Age of Insects** and **Social and Ethical Dimensions of Biotechnology** (these count as Old Core Technology or Natural Science and new core STS).

FACULTY SPOTLIGHT

Dr. William Eisinger

By Emily Scroggs

The talent and depth of the faculty at Santa Clara University never ceases to amaze me. As students, we take courses from these Professors and marvel at their intelligence and experience. However, personally, what I find even more admirable is the special commitment and interest that these professors take in their students. I had the opportunity to talk with one of the faculty members of the Biology department who is a perfect example of this seemingly unique commitment that Santa Clara University professors possess, Dr. William Eisinger. Dr. Eisinger has been a part of the Biology faculty for many years now and as he is entering a phased retirement, it is important that he be highlighted for his dedication to Santa Clara for those students who may not have had a chance to work with him.



Dr. Eisinger specializes in Plant Development and Physiology in the Biology Department. His research focuses on water loss from plants and particularly the highly specialized guard cells that regulate this water loss. Environmental factors lead to the activation of guard cells creating water to enter the cell via osmosis. This causes swelling of the guard cells and allows for the opening of stomata.

Once the stoma is open, CO₂ can diffuse into the cell and oxygen and water diffuse out of the cell by transpiration. Because too much water loss is detrimental to the plant, it is necessary for the guard cells to be able to regulate this opening and closing of the stomata for plant

survival. Dr. Eisinger has focused on this concept and more specifically on the large quantity of radially arranged microtubules present on the inside of guard cells when the stomata are open. Through his research he has found that the numbers of these microtubules decrease dramatically as stomata close leading to his conclusion that the number of microtubules is in correlation with the opening and closing of stomata.

When asked what motivates Dr. Eisinger in his research he responded by saying, "When I was a little kid I always wanted to know how things worked: everything from tractors to car engines...and it's the same for me with plants". He continued by mentioning that the beauty of observing natural processes doesn't hurt either. Being able to work with expensive and advanced microscopes makes taking beautiful pictures of his plants fun and easy and undeniably adds to the joy of his research. Dr. Eisinger also adds that it's the "intellectual stimulation by other scientists" that he gets to work with that continues to push him to explore how and why things work.

The dedication and commitment of Dr. Eisinger to the Santa Clara community has made an impact on anyone that has been able to work with him, but he does not see this as a completely one sided relationship. Looking back at his years at SCU, Dr. Eisinger states that the SCU community has remained his main inspiration in his continued commitment. "The bottom line here is that it's the students that stand out – they are motivated, polite, easy to work with", says Eisinger. He continued by praising his colleagues, supportive staff, and gorgeous facilities as contributing to making Santa Clara, "the ideal place to be". It is also the commitment that Santa Clara has to undergraduate research by starting the first annual West Coast Undergraduate Research Conference and continuing this tradition by anticipating the hosting of the 35th anniversary of this conference next year that makes Santa Clara stand out. He states enthusiastically, "Every year Santa Clara students participate in this conference and are among the top presenters at this conference".

Dr. Eisinger's clear love for Santa Clara University has allowed for his continued enthusiasm and influence in our community. It is because of the passion and excitement for learning from professors like Dr. Eisinger that allow us as Santa Clara students to have a unique education that goes far beyond what can be learned in a classroom.

Student Research

A Note To Our Fellow Santa Clara Students

By: Scott Montgomery and Elico Teixeira

One of the best ways to spend your summer, believe it or not, is by staying on the SCU campus. And we don't mean summer school. Spending your summer doing research in a lab, whether it be in biology, physics, chemistry, organic chemistry, engineering, or psychology can provide you with essential skills and experiences that can prove to be invaluable in the future-- whether you're searching for your first real job or acceptance into a top graduate school. Here are a few reasons why: First, you will find that lab research almost always thoroughly prepares you for upper division coursework in that field. Furthermore, you learn to become an expert with time management, as you'll find you're often implementing many procedures or experiments simultaneously. While doing so, you will learn to develop your empirical and non-biased side, and solidify your understanding of science behind the textbook. You begin to appreciate the importance of preparation and planning, and learn how to effectively communicate complicated work in presentations that

non-scientists can understand. Lastly, there is great satisfaction and reward when making new discoveries in a field that hasn't been completely explored. However, we should note that research isn't always glorious. A majority of your time is spent trouble-shooting and trying to make sense of experimental outcomes in accordance to what you already know about science and the vast amount of data that may already exist. A love for problem solving is essential. And of course, it is very time intensive, especially if you want to attain noteworthy results.

Working in the Miller Lab, was a unique experience in its own way. One of the most important aspects of our research was to build strong team cohesion so that we could learn to rely on each others to help to further our understanding of problems, to find original ideas, and to basically split up work to get things done. Research collaboration was not only essential, but enjoyable as well. We found that it was important to have a partner to catch your mistakes, to learn from their mistakes, and to share in the excitement of getting results. Of course, we also enjoyed strong support from Dr. Miller who fueled our curiosity and always provided us with the scientific background and knowledge we needed to understand exactly what we were doing. Armed with this knowledge we were given great autonomy in designing and running our experiments. Occasionally we had to teach ourselves new techniques, but learning how to independently acquire new skills was a lesson within itself. There was great breadth in the work we did. Tasks ranged from maintaining lab supplies and clean dishes to designing mutants for two-hybrid yeast analysis. Of course, there was much fun to be had outside of lab too. Lab lunches were routinely followed by Frozos runs that usually involved a game or two of photo hunt (next time you visit Frozos, look for "Worms" on the high score list). And we can't forget to mention our annual raft trips to the American River which has become a highlight that many of the lab alumni attend.



Research is rewarding, and future potential employers and graduate schools recognize that. In a short time you find yourself going from not knowing much about a topic to having an impressive and useful understanding of the material. However, these valuable positions are never just offered to you. You have to actively go looking for one yourself. So this Spring quarter, if you're still wondering what to do with your summer, go visit some professors! See what research they're doing, and actively pursue the opportunities they might have to offer.

All the best,
Elico & Scott

Scott Montgomery and Elico Teixeira both began working in the Miller Lab after connecting with Dr. Miller in Bio 25.

Biology Courses for Fall 2009

BIOL 3 Fitness Physiology L&L
BIOL 4 Light and Life L&L
BIOL 18 Exploring Biotechnology L&L
BIOL 21 Physiology with Discussion
BIOL 24 Cell/Molecular Biology with Discussion
BIOL 113 Microbiology L&L
BIOL 156 General Ecology L&L
BIOL 160 Biostatistics L&L
BIOL 171 Ethical Issues Biotechnology Genetics
BIOL 173 Evolution L&L
BIOL 175 Molecular Biology L&L
BIOL 189 Topics in Cell and Molecular Biology

Biology Courses for Summer 2009

Session 1

BIOL 5 Endangered Ecosystems L&L
BIOL 104 Human Anatomy L&L
BIOL 116 Medical Microbiology L&L

Session 2

BIOL 28 Human Sexuality
BIOL 124 Human Physiology L&L

Internship and Grant Information

Internship and job opportunities are constantly being updated on our website! Visit www.scu.edu/biology and click on the “Careers and Internships” tab for more information!