

# BIO SCI BRIEFS



A Newsletter for Alumni and Friends of the School of Biological Sciences

SPRING 2009



## DEAN'S MESSAGE

We have come to the end of another academic year in the School of Biological Sciences. This one has been filled with tremendous accomplishment as well as exceptional difficulty. I am pleased to announce that this past June we awarded approximately 1,000 Bachelor of Science degrees, 16 Master of Science degrees, and 48 Ph.D.'s. This is a truly stellar group of students, of which 36 graduated with Honors in Biological Sciences and 131 graduated with Latin Honors (Summa, Magna, and Cum Laude). Many of these same students also won prestigious external awards, including a Fulbright Fellowship, a Barry Goldwater Scholarship, a Donald Strauss Public Service Fellowship, a Sloan Research Fellowship, a Mathias Research Fellowship and a Merage Institute for the American Dream Fellowship.

Our faculty also continue to be recognized both nationally and internationally by their peers. This past year, the American Association for the Advancement of Science named 20 UC Irvine science and engineering researchers as Fellows, 9 of whom are in the School of Biological Sciences. Dr. Francisco Ayala received honorary doctorate degrees from the Universities of Warsaw and Salamanca and Dr. Georg Striedter was awarded a Guggenheim Fellowship. Additionally, Drs. Sheryl Tsai, Rebecca Aicher, Marcelo Wood and Steve Allison were awarded excellence in teaching awards by their UCI campus colleagues.

I am extremely proud of these and many additional accomplishments accrued by members of our School. However, I am equally concerned about the grave financial situation in which the University of California finds itself due to economic challenges in the State of California. The University of California system is facing an \$800 million cut to its budget in the coming fiscal year. We do not yet know exactly how this will affect the Irvine campus, but the consequences will be significant and painful, including probable reductions in salaries, faculty and staff. It is our utmost priority to preserve our commitment to quality research and education, but difficult decisions lie ahead for our campus and our School. If there were ever a time to show your commitment to and support for your School, now is that time. Our new and returning students deserve the same level of commitment as generations past, and we would welcome the opportunity to partner with our alumni and friends to ensure this happens.

Sincerely,

Al Bennett

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## RESEARCH SPOTLIGHT

### Limb Regeneration – *The Possibilities*

**Dr. David Gardiner**, Professor in the Department of Developmental and Cell Biology, and his team are working towards unlocking the secrets of regeneration in salamanders in the hope of being able to enhance wound healing and regeneration in humans. Salamanders are the only adult vertebrates that can regenerate lost body parts perfectly. The key to this ability is that their limb cells are triggered to dedifferentiate and reinitiate growth and pattern formation in the same way that lead to development of the original limb in the embryo. Since we as humans developed limbs when we were embryos, we have the underlying genetic programs to regenerate them. In fact, we already have the ability to regenerate many of the tissues in our limbs, such as muscle, bone and nerves. What we lack is the ability to coordinate the regeneration of complex structures, such as the entire limb, in the way that a salamander can. Although we could do this when we were embryos, as adults, our ability to regenerate a part of our limb is limited to the tips of our fingers. The goal of the research in the Gardiner Lab is to discover how to reaccess these embryonic pathways in order to regenerate our limbs as adults.

Dr. Gardiner's strategy is to use axolotls (*Ambystoma mexicanum*) to discover the signals that trigger the regeneration response. Because these signaling pathways are shared with all other vertebrates, including humans, an understanding of how they can be regulated will provide insights for future therapies to improve human health. As part of this effort, Dr. Gardiner and his team are involved in the development of genomic resources for identifying the key signaling pathways that control limb regeneration.

The tools and knowledge are in place to attack complex systems, and understanding the complexity of gene regulation leading to regeneration is now possible. In recognition of the importance

of understanding the genetics of regeneration, the U.S. Department of Defense recently awarded a \$6.25M grant to Dr. Gardiner and three colleagues to compare gene regulatory pathways in the axolotl and the mouse with the goal of creating predictive models for ways to enhance regeneration in humans. Dr. Ken Muneoka at Tulane University, a UCI alumnus, is heading the project, which also involves the University of Kentucky. The award is part of a greater \$250M award over 5 years given to academic institutions across the country encouraging multidisciplinary basic science research.





## FACULTY IN THE NEWS



### Steve Allison

Assistant Professor in Ecology & Evolutionary Biology, has received the 2008-09 Golden Apple Award for Teaching Excellence in Biological Sciences.

### Francisco Ayala

Bren Professor in Ecology & Evolutionary Biology, received honorary doctorate degrees from the University of Warsaw in Poland and the University of Salamanca in Spain.

### Tim Bradley

Professor in Ecology & Evolutionary Biology, was awarded the Daniel G. Aldrich Distinguished University Service Award by the Academic Senate.

### James Hicks

Professor in Ecology & Evolutionary Biology, was featured in Daily Variety, for the expertise he lent to the Disney/Pixar film Wal-E. Dr. Hicks provided information on how humans might look if they lived in space for 700 years.

### Anthony James

Distinguished Professor in Microbiology & Molecular Genetics, has been awarded the 2009 UCI Medal, the highest honor the University bestows on an individual who has made exceptional contributions to the vision, mission and spirit of UCI.

### Frank LaFerla

Director of the Institute for Memory Impairments & Neurological Disorders, and Assistant Researcher Matthew Blurton-Jones, were awarded \$3.6M from the California Institute for Regenerative Medicine to study the development of an Alzheimer's Disease therapy involving human neural stem cells.



### James McGaugh

Professor in Neurobiology & Behavior, is the recipient of the 2009 American Philosophical Society's Karl Spencer Lashley Award recognizing work on the integrative neuroscience of behavior.

### Timothy Osborne

Professor in Molecular Biology & Biochemistry, was interviewed by KCRW for the work he is doing on bitter taste receptors in the stomach.

### Georg Striedter

Associate Professor in Neurobiology & Behavior, was awarded a prestigious Guggenheim Fellowship from the John Simon Guggenheim Memorial Foundation recognizing stellar achievement and exceptional promise for continued accomplishment.

### Sheryl Tsai

Professor in Molecular Biology & Biochemistry, was chosen as the recipient of the School of Biological Sciences Excellence in Teaching Award.

### Marcelo Wood

Assistant Professor in Neurobiology & Behavior, was awarded the Academic Senate's Distinguished Assistant Professor Award for Teaching.

### Paolo Casali, Grandon Gaut, Charles Glabe, James Hicks, Arthur Lander, Laurence Mueller, Diane O'Dowd, Michael Rose, & Adam Summers

were all named as 2008 American Association for the Advancement of Science Fellows for their distinguished efforts to advance science and its applications.





# STUDENT AWARDS



## Students Honored at Annual Honors Convocation Ceremony

On June 2, 2009, the School of Biological Sciences held a ceremony for the Graduate Honors Convocation and Bio Sci Teaching and Faculty Awards. Donors, students and their faculty mentors as well as Bio Sci Faculty gathered to honor the recipients of 15 graduate student awards and 4 teaching and faculty awards. The ceremony was followed by a reception where students were able to meet the donors who generously contributed funds for the scholarships and awards and faculty members were recognized for their excellence in teaching. The Undergraduate Honor Convocation ceremony and reception was held on June 13, 2009 presenting 31 scholarships and awards.

### UNDERGRADUATE AWARDS

#### Brian Atwood Scholarship

- Mamdouh Hanna
- Romela Petrosyan

#### Carol Becker McGaugh Award

- Andreea Marina

#### Dean's Award for Excellence in Research

- Jessica Alvarez
- Sona Ardeshtna
- Marinelle Camilon
- Andrea Marcantonio
- Brent Martin
- Jonathan Melin
- Romela Petrosyan
- Ardeshir Rahman
- Jason Romero
- Kiah Sanders
- Nguyen Tai
- Andrew Treister

#### Edward Mittleman Memorial Fund Scholarship

- Shahriar Irani

#### Jayne Unzelman Scholarship

- Wesley Chin
- Bryan Chow
- Andy Hoang

#### Laurence J. Mehlman Memorial Scholarship

- Stephanie Purnomo
- Jonathan Tucci

#### Michael and Judy Leon Award

- Aaron Mendez

#### M. Marlene Godoy Scholarship

- Monica Tsai

#### Poster Awards

- David Hadiprodjo
- Sandy Liu
- Steven Norberg

#### Robert H. Avnet Memorial Scholarship

- Casey Dzuong
- Yetunde Fatunde

#### Robert Ernst Prize - Biological Sciences

- Michelle Tsukamoto

#### Robert Ernst Prize - Plant Biology

- Teresa Gray

#### William F. Holcomb Scholarship

- Adrienne Tran



Michael Leon with award winner Aaron Mendez



Nina Ernst Luce and David Luce with award winner Teresa Gray



# STUDENT AWARDS

## GRADUATE AWARDS

### Edward Steinhaus Teaching Awards

- Aaron Fay
- Veronica Gomez
- Melissa Malvaez
- Heather McGray

### Fine Science Tools Graduate Travel Awards

- Christine Charvet
- Shyam Srinivasan

### Graduate Fellowship Award

- Molly Burke

### Grover C. Stephens Memorial Fellowship Award

- John Eme

### Howard A. Schneiderman Fellowship Award

- Ruth Barrett



Ann Stephens with award winner John Eme



Elaine Redfield with Dean Al Bennett and award winner Andrew Kodani



Audrey Schneiderman with award winner Ruth Barrett



Ann Stephens with award winner Julie Cridland

### Joseph H. Stephens Memorial Fellowship Award

- Julie Cridland

### Paul H. Silverman Memorial Fellowship

- Piper Hollenbeck

### Robert Warner Award for Outstanding Achievement in Nucleic Acid Biochemistry

- Cristian Aguilar

### William F. Holcomb Fellowship

- Chi-Chung Lee
- Kimberly Romero Rosales

### William D. Redfield Graduate Fellowship Award

- Andrew Kodani



## Bio Sci Mentor Program End of Year Celebration

On May 13, 2009, the Bio Sci Mentor Program celebrated the end of its 8th year with a reception for students and their alumni mentors with a barbecue at the University Club. As you can see from the pictures below, a good time was had by all who attended. Mentoring has become one of the most powerful ways for college students to gain valuable awareness of the rewards and challenges related to different educational and career aspirations.



Mentor, Linda Tran, '88



Mentor, Denis Kitayama, '76



Mentor, Cherri Penne-Myers, '90



Mentor, Joseph Nunez, '93



Mentor, Scott Storms, Ph.D., '95



Mentor, Mike Numamoto, '83



Mentor, Greg Vacca, '71

*If you are interested in making a difference in a student's life by becoming a mentor, please contact Alyssa Cruz at 949-824-4742 or [alysac@uci.edu](mailto:alysac@uci.edu).*

*photos courtesy of Alyssa Cruz*

