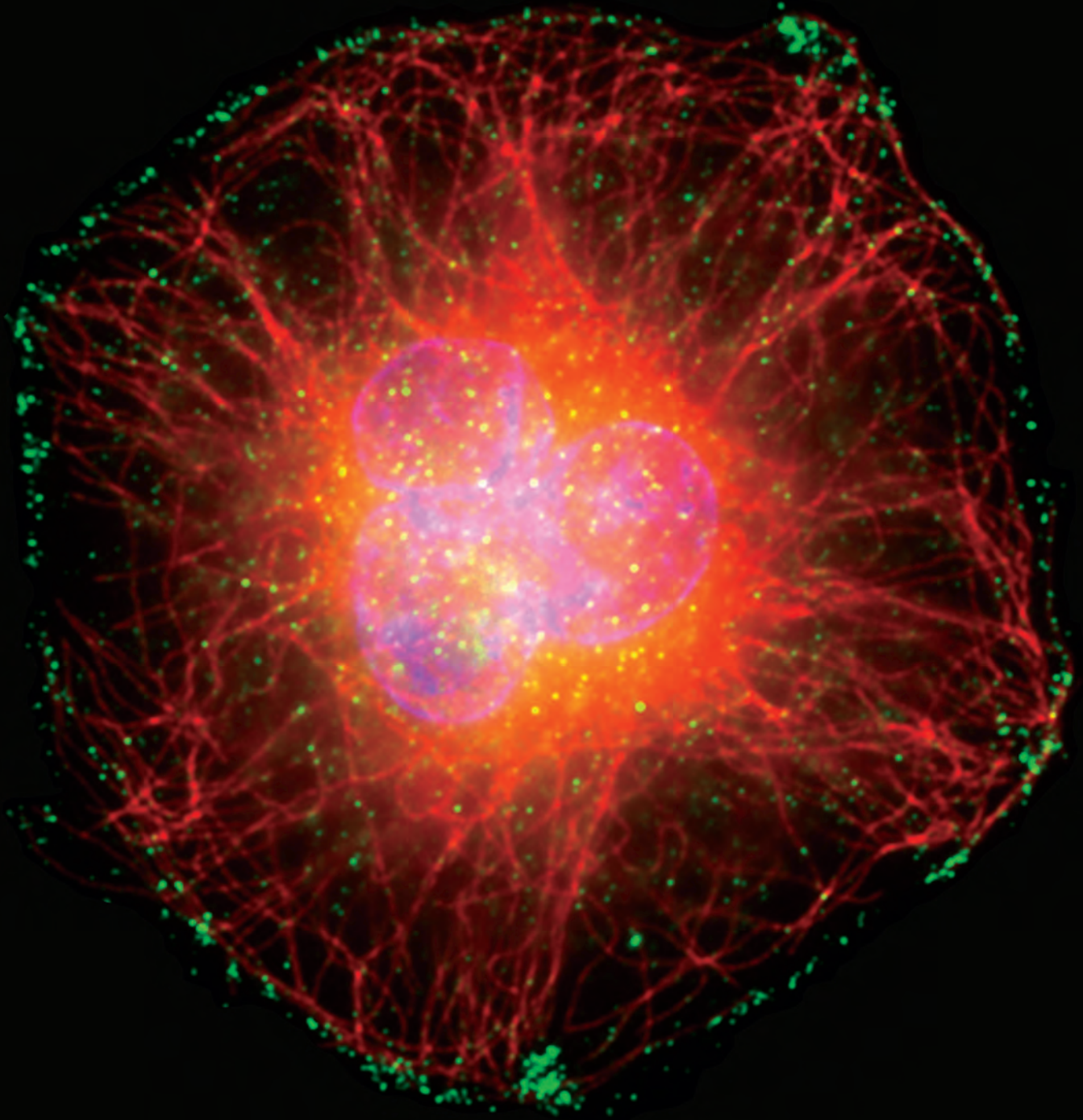


# MCDB NEWS

DEPARTMENT OF MOLECULAR, CELLULAR AND DEVELOPMENTAL BIOLOGY

2008



UNIVERSITY OF CALIFORNIA SANTA BARBARA

## Contents

- 3 Faculty & Staff
- 4 Research Highlights
- 6 Student Achievements
- 9 Historically Speaking
- 10 Graduate Awards
- 12 Alumni and Friends

## Chair's Corner

**E**very year we present the Sinsheimer Award to the student who obtains the best grades in 5 quarters of genetics and biochemistry. The award is made possible by a generous donation from Professor Emeritus Robert Sinsheimer, a distinguished molecular biologist and former UC Santa Cruz Chancellor.

This year we faced a dilemma; two students were nearly tied: one had received 3A+'s and 2A's; the other 4A+'s and 1 A. We decided that the best thing would be to give 2 awards, since the numbers were so close. Much to our surprise, the awardees were identical twins: Cell and Developmental Biology majors Lindsey and Natalie Hohmann. They also tied for another distinction: the highest total cumulative GPA in the entire University with 28 A+'s each! Next stop for the talented twins will be UCSD Pharmacy School, where they will undoubtedly raise the curve to new heights.

It is a privilege and delight to work with such brilliant students! In this edition of our newsletter you will hear about other outstanding scholars, new research achievements, alumni news, and faculty transitions. As we welcome the new kid on the block, Assistant Professor Tony De Tomaso from Stanford, we commemorate the retirement of David Kohl, who is hanging up the spikes after a 40 year run.

Enjoy, and keep in touch!



Dennis O. Clegg, Chair

### About the Cover

The winner of this year's cover contest is **Jonathan Shillingford**: "Immunofluorescent staining of an MDCK cell with beta actin (red) and phospho-STAT3 (green) after short-term stimulation with Interferon gamma".



## Tony De Tomaso Joins MCDB



MCDB is pleased to welcome new Assistant Professor Tony DeTomaso from Stanford University's Hopkins Marine Station. Dr. De Tomaso received his BS in Biological Sciences from Stanford University in 1987, and his PhD from Washington University (St. Louis). Dr. De Tomaso went on to carry out innovative post-doctoral research with Dr. Irving Weissman at Stanford in a very different area: allorecognition in colonial tunicates. Dr. De Tomaso is currently an independent investigator in Stanford's Stem Cell Institute. He heads a large, widely respected and highly productive laboratory that has gained international recognition for its ground-breaking work on the biology of the colonial ascidian *Botryllus schlosseri*. Dr. De Tomaso's work is providing new insights into animal stem cell biology and tissue regeneration.

Dr. De Tomaso is currently an independent investigator in Stanford's Stem Cell Institute. He heads a large, widely respected and highly productive laboratory that has gained international recognition for its ground-breaking work on the biology of the colonial ascidian *Botryllus schlosseri*. Dr. De Tomaso's work is providing new insights into animal stem cell biology and tissue regeneration.

## Morse Named Wilcox Chair in Biotechnology

MCDB Professor Dan Morse is the first scholar appointed to the Wilcox Family Chair in Biotechnology. The Wilcox professorship was established recently with a \$700,000 gift from Gary and Susan Wilcox, who are both distinguished UCSB alumni, volunteer leaders, and longtime campus benefactors. Professor Morse's research is focused on the molecular mechanisms of biomineralization, with additional emphasis on biomolecular materials and biomimetic synthesis of new high-performance composites. He is also director of the Institute for Collaborative Biotechnologies. "I am humbled and deeply grateful to the Wilcox family and to UCSB for this honor," said Prof. Morse.

## New Stem Cell Endowed Chair for MCDB

UC Santa Barbara has received a \$3 million gift from William K. Bowes, Jr. to establish an endowed chair in MCDB for the director of the campus's Center for Stem Cell Biology and Engineering. The professorship will be named in memory of Bowes's mother, Ruth Garland, a distinguished physician who was one of the first women to graduate from the Stanford School of Medicine, where she later taught. Garland was born in Santa Barbara and raised in Ojai.

## Chemicon Fellowship Awarded

Dr. Sherry Hikita, the Director of the UCSB Laboratory for Stem Cell Biology, has been awarded the Chemicon fellowship. Funded through the generosity of Chemicon, a subsidiary of Millipore Inc., the fellowship provides three years of support. As Director, Sherry will oversee renovation of a new CIRM shared stem cell laboratory facility on the third floor of Bio-2 and continue her studies of human embryonic stem cell differentiation.

## Bob Fletcher and Brian Wolf Receive UCSB's "Citation of Excellence" Award

Two staff members of the life science community were recognized by the University for their outstanding service. Bio-shop Supervisor Bob "Fletch" Fletcher and Life Sciences Computing Group (LSCG) Webmaster Brian Wolf both received the Citation of Excellence Award in 2007 and 2008. They were especially commended for their dedication, hard work and exceptional performance. Bob Fletcher thanks Sally Holbrook, Russ Schmitt, and Bob Feitt for composing letters of his nomination. Brian Wolf is especially grateful to Meta Clow, Evelyn Hu, Nancy Kawalek, Hunter Lenihan and Larry Murdock for nominating and endorsing him.

### Learn More About MCDB Faculty

Visit the MCDB departmental web site to find out more about our faculty and their research.

[www.lifesci.ucsb.edu/mcdb](http://www.lifesci.ucsb.edu/mcdb)





Photo: George Foulsham

Douglas Heithoff and Mike Mahan developed a new cross-protective vaccine against *Salmonella* strains.

## MCDB Researchers Develop Cross-Protective Vaccine

MCDB scientist Douglas Heithoff and Professor Michael Mahan believe their recent research suggests that it might be possible in the not-too-distant future to create a vaccine that might protect against 2,500 strains of *Salmonella*. In a paper published in the November edition of the journal *Infection and Immunity*, the researchers detail the path to creating a vaccine that confers protection against multiple strains of bacteria.

## Santa Barbara Supermarket of Sea Squirt

Ascidians (also known as tunicates or sea squirts) are an emerging model system for the study of embryology, gene regulatory networks, chordate evolution and comparative physiology, but they present unique experimental challenges, including dependence of researchers on wild-caught animals. MCDB Professor William Smith has established the first ever ascidian culturing facility at UCSB's marine laboratory to provide a supplemental source of *Ciona* (*C. intestinalis* and *C. savignyi*) adults for research laboratories. Led by Dr. Erin Newman-Smith, the Ascidian Stock Center is generating a set of stable transgenic

animals that carry tissue-specific fluorescent proteins that will allow novel insights into the developmental biology of prechordates and chordates.

## Integrated Microscopy Facility Gets New Tool Set

The UCSB Integrated Microscopy Facility, jointly operated by MCDB and the Neuroscience Research Institute, has some powerful new technology for imaging cells. An NIH instrumentation grant, authored by Psychology Professor (and MCDB affiliated faculty) Ben Reese has funded the purchase of a \$600,000 Olympus Multi-Photon laser scanning Fluoview 1000 microscope. This versatile new instrument is designed for high-resolution imaging deep within thickly sliced or living specimens. The Facility, run by Dr. Brian Matsumoto, has also added a new Olympus DSU spinning disk confocal microscope to its armamentarium. The facility is now gearing up for another national-level microscopy course in February, with continued support from Olympus, Inc.

## Deep Sequencing Comes to UCSB

A new half-million dollar high throughput DNA sequencer, purchased by UCSB's Neuroscience Research Institute (NRI), is now up and running at UCSB. This next generation DNA sequencing device uses a massively parallel, high throughput methodology to allow large-scale genomic sequencing, gene expression profiling, and other analyses. Manufactured by Applied Biosystems, the new instrument is many times faster than earlier models, and includes a computer cluster to handle the massive amounts of data generated. The study of human embryonic stem cells is among the most important ways the sequencer will be applied. "This is a rather novel use for the instrument," according to MCDB professor Kenneth S. Kosik, M.D., Harriman Chair in Neuroscience Research and co-director of the NRI. "This instrument will serve as the cornerstone of genomics research here at UCSB. It allows us to do state-of-the-art work." The new instrument was paid for with funds from the Larry L. Hillblom Foundation, philanthropist Gus Gurley, and the University.

## Ruoslahti Wins DOD Innovator Award

Burnham Institute and MCDB Distinguished professor Erkki Ruoslahti was awarded a \$3.8 M Innovator Award from the Department of Defense for his development of novel cancer therapies. The Innovator Award supports visionary individuals who have demonstrated creativity, innovative work, and leadership in their field. Professor Ruoslahti established the Vascular Mapping Center, a branch of the Burnham Institute for Biomedical Research at UCSB in 2006. The Center focuses on understanding vascular "zip codes" that are associated with particular vascular beds, including those in tumors. Nanomedicine drug delivery strategies are being designed to selectively target and destroy tumors.

## UCSB Awarded \$2.26 M Grant for Stem Cell Lab

Santa Barbara is one of 17 institutions in the state to be awarded a grant by the California Institute for Regenerative Medicine (CIRM) to construct laboratory facilities for stem cell research. The grant, written by MCDB Chair Dennis Clegg and NRI Associate Director Lincoln Johnson, will be used to support the design and development of a shared laboratory to expand existing stem cell studies and to stimulate new investigations of the biology and engineering of stems cells at UCSB and other nearby research institutions on the central coast. The lab will be located in the Bio-2 building and directed by Dr. Sherry Hikita.

## Unusual Materials Properties in Squid Beak

MCDB Professor Herb Waite and colleagues have discovered a unique materials strategy employed by the Humboldt squid in the makeup of its razor sharp beak. As reported in the journal *Science*, the tip of the beak is stronger and stiffer than any synthetic polymer, but stiffness is graded from tip to base. The findings may have applications in the design of novel synthetic materials consisting of mechanically mismatched materials.

## UC Santa Barbara Awarded \$2 Million for Alzheimer's Research

UCSB has been awarded nearly \$2 million from the Larry L. Hillblom Foundation for innovative research in Alzheimer's disease. The grant will support an interdisciplinary investigation of the microtubule associated protein tau, which makes up the neurofibrillary tangles that are found in the brains of Alzheimer's patients. The research effort will be led by MCDB Professor Kenneth Kosik, co-director of UCSB's Neuroscience Research Institute and Harriman Professor of Molecular, Cellular, and Developmental Biology. Other members of the team are MCDB Professor Stuart Feinstein, Frank Doyle, Omar Saleh, and Linda Petzold. Prof. Kosik will head the Larry L. Hillblom Center for Neurodegeneration Research at UC Santa Barbara, which will exist for the duration of the four-year, \$1,970,291 project.

## Scientists Find Clues to Nervous System's Origins

UCSB scientists have discovered significant clues to the evolutionary origins of the nervous system. The discovery came about through study of the genome of *Amphimedon queenslandica*, a sea sponge and member of a group considered to be among the most ancient of all animals. This research, led by Ken Kosik, is highly interdisciplinary and includes EEMB Professor Todd Oakley as well as computer scientists, biologists, and neuroscientists.

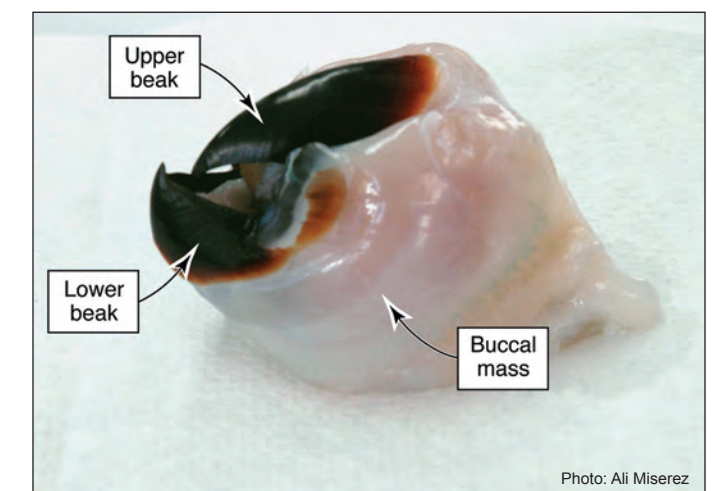


Photo: Ali Miserez

Squid Beak



# STUDENT ACHIEVEMENTS



Photo: Rod Rolle

Benjamin A. Thomas (Biological Sciences B.A.) received UCSB's highest student honor from Chancellor Henry Yang at graduation.

**Benjamin A. Thomas receives the Thomas More Storke Award** The campus's highest student honor, the Thomas More Storke Award for Excellence is bestowed each year to one graduating senior who has demonstrated outstanding scholarship and extraordinary service to the University, its students, and the community. The basic criteria are courage, persistence, and achievement. Nominees must have earned a cumulative GPA of 3.5 or above. This year's award went to Ben A. Thomas, an honors student majoring in the Biological Sciences with an emphasis in molecular biology. Ben is also the recipient of a Research Grant for Undergraduates from the National Science Foundation. He has been working with Professor David Low on identifying the cellular receptor for contact-dependent growth inhibition (CDI), a phenomenon discovered in Low's laboratory in which bacteria contact one another and shut down growth and metabolism in a reversible manner. Ben has worked and volunteered in a number of capacities - as a resident assistant in the residence halls, as an outreach volunteer introducing local elementary school children from diverse backgrounds to the disciplines of biochemistry, and serving as president of the Black Pioneer Renaissance Organization, which brings together African American men from the UCSB campus to work on community service projects, hold diversity and academic workshops, and mentor minority youth in the Santa Barbara area.

**The 18th Annual Undergraduate Research Colloquium Celebrates the Achievements of Students** Honoring outstanding research and creative activities at UCSB is a hallmark of our undergraduates' educational experiences. The following outstanding MCDB students presented their research at the UCSB Annual Undergraduate Research Colloquium: Christopher Mugler, Isaac Schmale, Mikhail Zusmanovich, Colette Harrington, Benjamin Thomas, Alexander Wallash, Anthony Zandian, Chris Atashian, Alyssa Capuano, Erin Schuyler, Catherine Uy, Liane Miller, Marc Zimmermann, Ryan Christensen, Ashley Alker and Racquel Domingo.

## Chancellor's Award for Excellence in Undergraduate Research Goes to Kyle Jacoby

This award is presented by UCSB Chancellor Henry Yang to an outstanding graduating senior with distinction as an undergraduate researcher. Kyle applied for and received an NSF Grant and worked in MCDB Professor David Low's lab investigating a phenomenon called contact-dependent growth inhibition ("CDI"). "One of the best undergraduates I've ever encountered with regard to his potential to be a stellar research scientist," said Professor Low. Already, he has made a major contribution to a collaborative research project involving scientists at UCSB and at the Silhavy Laboratory at Princeton University. Kyle began graduate school in molecular and cellular biology this Fall at the University of Washington.

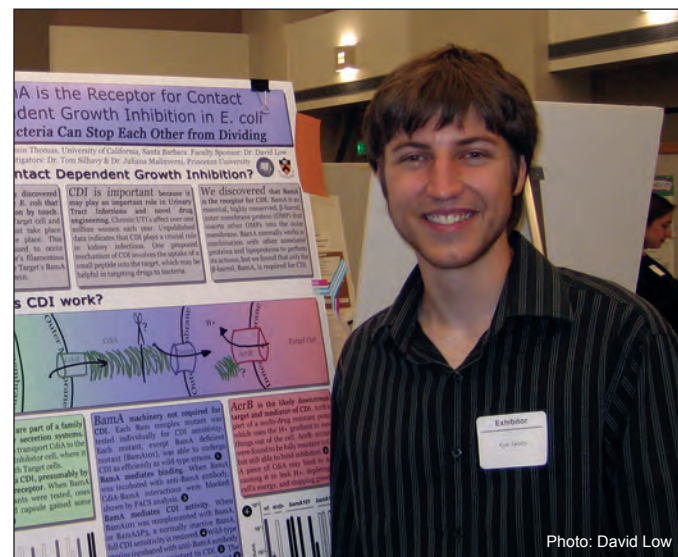


Photo: David Low

Kyle Jacoby at the annual Undergraduate Colloquium exhibiting his research.



Photo: Andrew Kroes

Award certificates in hand, Lindsey and Natalie Hohmann pose with Professor Robert Sinsheimer at the annual MCDB graduating seniors' reception.

## Identical Twins Lindsey and Natalie Hohmann Receive the Robert L. Sinsheimer Award as well as the Mortar Board Award

Through the generosity of MCDB Professor Robert L. Sinsheimer, a prominent molecular biologist and former UCSB Chancellor, this award was initiated in 1997. It distinguishes the graduating senior with the highest academic performance in genetics and biochemistry. In addition, Lindsey and Natalie have tied in receiving the Mortar Board Award, which each year goes to the graduating senior who has the highest total UCSB cumulative GPA in the graduating class. The Hohmann sisters both majored in Cell and Developmental Biology and began attending U.C. San Diego Pharmacy School this Fall.

**Dmitriy Kolodin Receives the Colville and Dearborn Award** The Frances Colville and Terry Dearborn Memorial Award is for outstanding academic achievement as an honor student majoring in the sciences. As a Microbiology major Dmitriy conducted research in Professor Dan Morse' lab and earned distinction in the major with a project titled 'Directed Evolution of Silicatein and Modeling of Silica Deposition Vesicles'. He entered Harvard this Fall where he will be pursuing graduate study in molecular immunology.

**Distinction in the Major is Awarded to 27 MCDB Seniors** Students who have engaged in creative research projects with an MCDB faculty member and have completed a senior honors thesis summarizing their work are awarded this distinction. Congratulations to: Ashely Alker, Jason Ang, Christopher Atashian, Toni Brand, Ryan Cody, G V Sevewandi De Silva, John Didday, Ben Ferguson, Colette Harrington, Nicole Hess, Cali Johnson, Dmitriy Kolodin, David Li, Liane Miller, Bradley Minter, Christopher Mugler, Laura Pashkowsky, Emily Pfarrer, Isaac Schmale, Jason Seidman, DeVonet Taylor, Benjamin Thomas, Matthew Traub, Alexander Wallash, Anthony Zandian, Marc Zimmermann, Mikhail Zusmanovich.

## Alyssa Capuano Selected as Stipanich Research Scholar

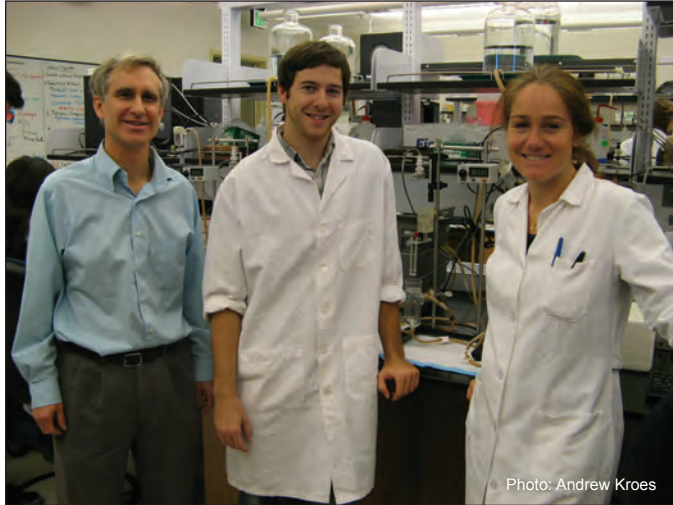
Through the generosity of the Stipanich family, this award is given every summer to a top MCDB undergraduate. Alyssa researches in Professor Thomas Weimbs lab and is working on a project that will contribute to the understanding of uncontrolled proliferation and renal cyst formation in autosomal-dominant polycystic kidney disease (ADPKD). This disease leads to kidney failure and is one of the most common monogenic inherited human diseases. There is currently no treatment. The Weimbs lab is investigating the functions of polycystin-1 which is affected in 85% of the cases of ADPKD. Alyssa is pursuing a major in Biological Sciences with the goal to attend graduate school.



Photo: Andrew Kroes

Alyssa Capuano with her mentor Professor Thomas Weimbs.





Teaching Assistant Ryan Cody (Center), with Pharmacology Lab Instructors Dr. Douglas Thrower and Dr. Tanja Stoyan.

## The Jean Devlin Memorial Award in Pharmacology Goes to Ryan Cody

This award is presented to the MCDB graduating senior with the highest overall academic GPA in the core courses of the Pharmacology major. This award was initiated in memory of Jean Devlin, a Pharmacologist who was instrumental in the development of the Pharmacology major at UCSB, the first such major in the nation. Working in Professor Christopher Hayes's lab, Ryan also earned distinction in the major by researching the effects of pseudo release factors on tmRNA tagging. He plans to attend Pharmacy School.

## Ten MCDB Students Inducted into Phi Beta Kappa this Year

Founded in 1776, Phi Beta Kappa is generally considered the most prestigious American college honor society, and membership is one of the highest honors that can be conferred on undergraduate liberal arts and science students. Congratulations go to: Maribel Munoz, Michael Beccarelli, Michael Chanco, Jeremy Demaartini, John Feusier, Cassandra Kaiser, Christopher Mugler, Dora Friedman, Dmitriy Kolodin, and Jessica Reader for having been selected in 2008.



## Biology Undergraduate Program

The Class of 2008 was awarded over 320 undergraduate degrees in biological sciences, biochemistry-molecular biology, cell and developmental biology, microbiology, and pharmacology.

[www.lifesci.ucsb.edu/undergrad](http://www.lifesci.ucsb.edu/undergrad)

## Cali Johnson receives the Daniel G. Aldrich Jr. Outstanding Senior Award

Cali Elise Johnson, who earned a double major in Pharmacology and Biopsychology, received the Daniel G. Aldrich, Jr. Outstanding Senior Award in recognition of her outstanding scholarship and contributions to the campus community. The award was established in memory of Daniel G. Aldrich, Jr., who served as chancellor and professor of soils and plant nutrition at UC Irvine and as acting chancellor at UCSB. Working in Professor Steven Fisher's lab, Cali studied the molecular events in an inherited form of blindness in humans and worked as a volunteer at St. Johns Medical Center in Oxnard, 40 miles away. Because of her outstanding GPA and her performance in class, Cali was invited to be a Teaching Assistant in an upper division neurobiology course. She was admitted to several top medical schools and in the end had to choose between what many regard as the top two in the country. Rather than move east to attend Johns Hopkins, she decided to remain in California where she now attends the University of California at San Francisco.

"MCDB students consistently win the top academic awards on campus. This reflects the outstanding quality of our students and the education that they receive."

Professor Stephen Poole, MCDB Vice Chair

## David Kohl remembers...

by David Kohl

**W**hen I first arrived at UCSB in 1969, there was no Cheadle Hall, Noble Hall, Girvetz Hall, Buchanan Hall or Broida Hall. These names were attached to professors, not property. Vernon Cheadle who was also a Professor of Biology, sat on the 6th floor of the "Administration Building" as Chancellor. I remember Elmer Noble in particular as a senior member of the BioSci Department and a professor of parasitology. It was a wild time, that first academic year. In the midst of the Viet Nam war, UCSB students and many faculty were active in the anti-war movement. I remember a night in 1970 standing in Isla Vista watching the old Bank of America burn to the ground. Last year, I knew my time to retire was approaching when I was assigned to teach my Human Genetics course in Embarcadero Hall, the old Bank of America building.

My first teaching assignment was to share the developmental biology course with my colleague Ed Triplett. Ed gave the first lecture and I was immediately struck with the fact that he drew on the blackboard (yes there really were blackboards in those days) using both hands to reflect bilateral symmetry. Ed and I became great friends, and all of us were tremendously saddened when he passed away this past year after a courageous fight with pancreatic cancer. When I think of the old BioSci Department from those days and look around me today at our Molecular Biology Department, it is really amazing to see the growth and development in this area of UCSB. Only two faculty members from the old days are still around on a regular basis, Ed Orias and Ian Ross. Both are formally retired, but both maintain research programs. Orias, in fact, was recently recognized for his mentorship of so many undergraduates over the years.

For twenty five of my forty years here, I was privileged to advise a wonderful group of students preparing for professional education in the health field. Yes, I was the pre-med guy. I have stayed in touch with so many of my



former advisees, and currently have one of my old pre-dents (David Dart), messing around in my mouth and other pre-meds touching and feeling other parts of my old body. I still get to meet with many students applying for medical and other health professional schools and continue to be so impressed with

our students and their sincere motivation to serve others.

The growth in our faculty in molecular biology has been truly inspiring. I still remember when that kid, Stu Feinstein came to UCSB. Believe it or not he is one of our senior faculty members now, a leader in our neurobiology program and still teaching in the introductory series. Other senior faculty Chuck Samuel, Steve Fisher and Dan Morse have received so much international recognition for their scientific achievements. Of course John Carbon, who just shut down his lab this year, continues to be recognized as one of the greatest forces in the development of the entire field of molecular biology. He and Louise Clarke established the first gene library to cover an entire organism (*E. coli*). We are in the process of recruiting for the Carbon Chair, endowed by friends of John to honor his contributions.

Last week I received my membership card in the Emeritus Club. It will be a true gift to reconnect with some of my old (I guess I'm old now too) colleagues, Phil Laris, Aharon Gibor, Neil Holmes, George Taborsky, Ellis Englesberg and surely others who I am forgetting. I am so fortunate to have spent forty years associating with such wonderful people as my former and present colleagues on the faculty and in the various administrative posts that I have held. But more than this I will always treasure all of my former students who I have taught and advised. I hope that you will stay in touch by e-mail and let me know how you are doing ([kohl@lifesci.ucsb.edu](mailto:kohl@lifesci.ucsb.edu)). As Bob Hope (remember him??) used to say.....

"Thanks for the memories!"



# GRADUATE AWARDS

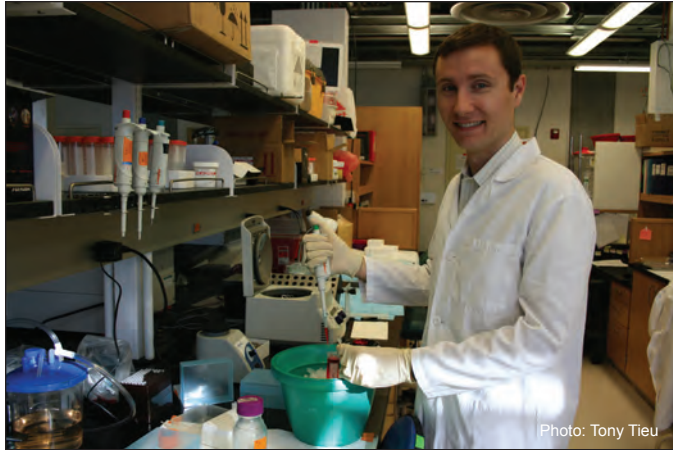


Photo: Tony Tieu

"AJ" Giovannone received the first Shipp Family Graduate Fellowship in Biology. AJ works in the Weimbs lab on SNARE proteins.

## Rathmann Fellowship

The Rathman Fellowship was awarded to Julianne Erickson. After graduating from Harvey Mudd College in 2005, Julianna spent two years at the Stanford Genome Technology Center in Palo Alto, CA, working on sequencing diagnostics for Human Papilloma Virus and Avian Flu. She is currently working in the Feinstein Lab on the Alzheimer's disease protein Tau.

## Dean's Fellowship

This fellowship by the UCSB Graduate Division was awarded to Julia Shimizu, who is a 4th year graduate student in David Low's laboratory. Julia is currently investigating the phenomenon in *E. coli* known as "contact dependent growth inhibition".

## Amgen Fellowships

Provided through the generosity of Amgen, Inc. to assist outstanding doctoral students within the MCDB graduate program, the Amgen Fellowships provide support for research supplies, living expenses and fees. This year's awards go to Ryan Schaub (Hayes Lab) and to Celeste Holz-Schietinger (Reich Lab). Ryan graduated from California Lutheran University in 2007, and is now working on 23S rRNA pseudouridine synthase and its role in enabling efficient translation termination in *E. coli*. Celeste graduated with a BS in Biology and Chemistry from Evergreen State College in Olympia, WA. She is now investigating

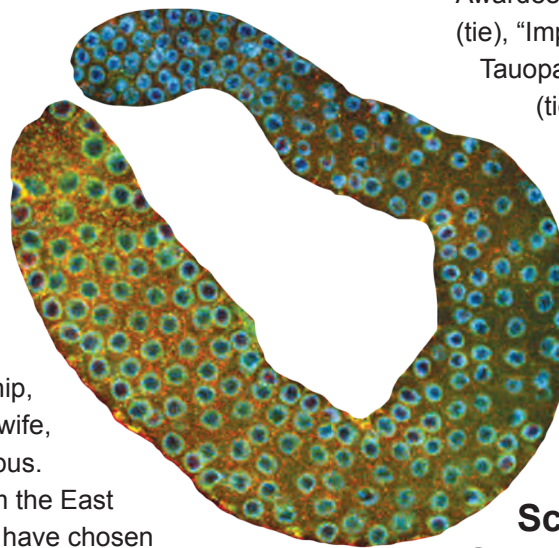
the regulation of epigenetic mechanisms by studying human DNA cytosine methyltransferases.

## Shipp Family Graduate Fellowship

This Fellowship is provided, through the generosity of Dr. and Mrs. Joseph Shipp, to support training of biomedical scientists with interests in molecular cell biology related to diabetes research. Diabetes mellitus is a major worldwide problem and more research is needed in this area. Based on academic standing the MCDB faculty selected first year Ph.D. student Adrian "AJ" Giovannone as the first recipient of the Shipp Family Graduate Fellowship in Biology. The fellowship will provide critical funding for the summer so AJ can begin his thesis research centered on the molecular mechanisms of protein secretion, with particular focus on SNARE proteins. These proteins mediate the interaction of secretory vesicles with the plasma membrane and are crucial in the functioning of pancreatic beta cells during the secretion of insulin.

### A Strong Relationship – UCSB and the Shipp

The Shipp Family Graduate Fellowship in Biology at UCSB is named in honor of Joseph C. Shipp, M.D., FACP, UCSF Professor of Medicine, Emeritus, who has had a distinguished career in academic medicine with emphasis on research and education in diabetes mellitus. UCSB has benefited from the long history, leadership, and friendship both Joseph and his wife, Marjorie, have shared with our campus. Following distinguished careers from the East Coast to Santa Barbara, the Shipp's have chosen to stay active and involved in strengthening the science and arts at UC Santa Barbara and the local community. Both are long-time friends and volunteers to UCSB, and are involved in helping lead UCSB's engagement of the local community through their involvement with the UCSB Affiliates, the Capps Center, and the Sansum Diabetes Research Institute in particular.



## Carbon/Clarke Fellowship

Awarded to an outstanding doctoral student doing research in Biochemistry and Molecular Biology, this fellowship is provided through the generosity of John Carbon and Louise Clarke, emeriti of the MCDB Department. This year's fellowship went to Adrian J. Giovannone who received a B.S. in Natural Science from Loyola Marymount University in 2000. He is investigating the regulation of intracellular trafficking in the Weimbs Lab.

## Chang Awards for Research in Biochemistry and Molecular Biology

To promote excellence in Biochemistry and Molecular Biology, the Shing and Sheng-Yung Chang Awards recognize excellence in research by graduate students in the MCDB and BMSE Graduate Programs. Shing and Sheng-Yung are both graduates of MCDB, and are generous donors to the fund. Awards are based on presentation of research in the student-run seminar series, where students present their dissertation work to their peers. Awardees were: Austin Peck (Feinstein Lab) - 5th year (tie), "Impaired Axonal Transport and the Pathogenesis of Tauopathies"; and Dana Moses (Waite Lab) -5th year (tie), "Structure and Function of Glyceral Jaws;" Erkan Kiris (Feinstein Lab) – 4th year, "Effects of site-specific tau phosphorylation upon microtubule binding, assembly and the regulation of microtubule dynamics: Implications for Alzheimer's and related dementias"; and Nareg Djabrayan (Rothman Lab) – 3rd year, Analysis of genes involved in the switch from pluripotency to committed differentiation in the *C. elegans* embryo."

## Science and Engineering Research Grant (UCSB Graduate Division)

This grant was awarded to Erica Sommermann (Rothman Lab) and directly supports her research of intestinal development in the nematode *C. elegans*. Specifically she is studying how the endodermal stem cell gives rise to differentiated intestinal cells that are assembled into a single, coherently functioning organ.

## Jean Devlin Fellowship (Graduate)

This Fellowship was awarded to outstanding graduate students in MCDB with the best qualifying exam. The fellowship was established in honor of Jean M. Devlin who served as the pharmacology lab coordinator for over 25 years, and touched thousands of lives at UCSB. During Jean's tenure, and with the leadership of Professor Bob Jacobs, UCSB established the first undergraduate major in pharmacology in the country. The fellowship is awarded to Teisha Rowland who is pursuing her Ph.D. in Prof. Dennis Clegg's lab on projects that aim to improve stem cell culturing and directed differentiation.

## CIRM Training Grant

The California Institute for Regenerative Medicine (CIRM) was created by the passage of California Proposition 71 in 2004. CIRM provides funding for training the next generation of stem cell researchers in the State of California. This year's grants are awarded to David Buchholz (Clegg lab) and Nareg Djabrayan (Rothman lab). David received his BS in Biology from Boston College, and is utilizing human embryonic and induced pluripotent stem cells as model systems for the development of the human eye. Retinal pigment epithelial cells derived from stem cells may provide a possible therapy for those afflicted with age-related macular degeneration. Nareg is a 5th year graduate student in Joel Rothman's Lab and is studying mechanisms that restrict pluripotency in the developing *C. elegans* embryo.

## Charles A. Storke II Graduate Fellowships

This award is given to a doctoral student(s) with the highest grade point average in the MCDB core courses. This year two awards were made to Julianna Erickson (Feinstein lab) and Rebekah Ashley (Waite lab). They posted GPAs of 3.66 and 3.72 in challenging courses in protein chemistry, cell biology, signal transduction and development. Rebekah's is studying the composition of the thread of a local species of mussel, *M. californianus* with the goal to synthetically mimic this natural glue.



# ALUMNI AND FRIENDS

**Mike Dowler** (BA Chemistry '63, PhD Biochemistry '67) was in the first group of doctoral students from the department. After continuing postdoctoral studies with Leslie Orgel in prebiotic chemistry at the Salk Institute, he spent 32 years on the faculty at San Diego State University. He retired from SDSU in 2003.

**Charles Escoffery** (BA Zoology '65) went into the Peace Corps to teach 7th and 8th grade Science in Malaysia for three years post-graduation. He has been teaching at Wright Middle School for the last 37 years where he is now the Science Department Chairperson and the Coordinator for Graduation ceremonies.

**Malcolm Leo** (BA Biological Science '66) began working as a director of an art gallery before beginning to produce documentary films. In 1983 he formed his own production company and boasts several television specials dedicated to some of TV's classic shows, movies, and music, including "Bradymania: A Very Brady Special", "Happy Days Reunion Special", "E.T. & Friends: Magical Movie Visitors", Rolling Stone - 20 Years of Rock", "Heroes of Rock n Roll", and "Disney's All-American Army. Malcolm Leo has also directed several feature films and is currently working on one documenting the life of Jerry Garcia.

**Jack Slayton** (BA Biological Science '66) entered the U.S. Army after graduation. He served 2 years in Vietnam, 7 years in Germany, and several stateside assignments as a health care and hospital administrator. 26 years, 2 Masters degrees, 3 Bronze Star Medals, the Legion of Merit and many more military citations later, Jack retired from the military. After some time as a regional director of assisted living facilities and nursing homes, he has served the state of Texas as Director for State Veterans Cemeteries.

**Terry Oleson** (BA Biological Science '67) continued on to receive a M.A. in Psychology (CSULB) and a PhD in Psychobiology (UCI) which he uses in his private practice in West Hollywood. In addition he is the Chair of the Department of Psychology at the California Graduate Institute and enjoys the success of an internationally recognized book on auricular acupuncture, based on research done during his post-doc at UCLA.

**Peter Bresler** (BA Biological Science '68) graduated from UCLA Medical School and trained as a family physician. He has worked for the Department of Corrections for the past 15 years, and is currently chief physician at Coalinga State Hospital. He has three grown children, the youngest of whom has joined the Peace Corps in Africa after completing her degree at Cal Poly.

**Gene Sorkin** (BA Cellular and Organismal Biology '72) received his Pharm. D. degree from the University of Utah. After working as a clinical pharmacist at Ceders Sinai in Los Angeles he moved with his family to New Zealand where he served as editor of two international drug therapy journals. He returned to the U.S. in 1999 and now serves as Associate Editor of the Annals of Pharmacotherapy, one of the top clinical journals in the world.

**Karen Talentino** (BA Biology '72) continued to receive an M.S. in Zoology and a Ph.D. in Biology (both Univ. of Nevada, Reno) before joining Simmons College where she quickly moved up the ranks from Assistant to Associate Professor, to Department Chair and Dean of the Faculty. In 2002 she joined Stonehill College in Easton, MA as Dean of Faculty and Professor of Biology. Since 2008 she is serving as Vice President of Academic Affairs at Saint Michael's College. In her long career, Karen has received numerous grants and awards, and she has published her work on Environmental Science Education (EnviroNet)

extensively. Her strongest memories of her undergraduate Biology education at UCSB include the botany courses she took with Dr. Haller, especially the Plants of California course which involved a number of field trips throughout the state. "I loved my years at UCSB. I often tell my students that I had the privilege of studying at the most beautiful campus in the country, with dynamic faculty and a very strong academic program".

**Tad Reynales** (MA Biology '73) spent many years studying MSI at UCSB after graduating, and continued working as computing services manager for the College of Engineering at Oregon State University. Ted recently returned to UC System in 2002 as director of the Network and Telecommunications Services for UC Santa Cruz and is currently employed at UC San Diego in the California Institute for Telecommunications and Information Technology.

**Dale Graham** (BA Biological Sciences '74) has worked for the Federal Food and Drug Administration for over 35 years. He currently manages the Houston office of the FDA, and oversees the FDA's biologics program inspectional activities for Texas, Oklahoma and Arkansas. When not busy cruising the Caribbean with his wife he enjoys sharing his love of science and nature with his grandchildren.

**John Hirsh** (BA Biology '74) attended pharmacy school at UC San Francisco where he received his Pharm.D. degree. He practiced clinical pharmacy in New England, Michigan, Virginia and Pittsburgh. For the past 13 years he has worked in the pharmaceutical industry on the medical side of things. He lives with his wife in Pittsburgh, PA.

**Paul Kurth** (BA Biology '74) went on to Albany Medical School and graduated in 1978. After graduating from Med School, Paul returned to Santa Barbara and did a three year internship and residency at Cottage Hospital and County General Hospital and a two year fellowship in Cardiology at the Kaiser Sunset Hospital. Paul started a Medical Device company called Pressure Products Medical Supplies Inc and is now working as full time CEO of this company.

**Larry Totaro** (BA Biological Sciences '74) served in the Peace Corps, after graduation teaching high school biology in El Salvador. He later returned to school to become a respiratory therapist and has been working at Loma Linda University Medical Center for over 25 years.

**Susan Hooten** (BA Biological Sciences '75) rowed with UCSB crew for her last two years at UCSB, then went east to row with the National Team for three years including the 1976 Olympic Team. Susan graduated from Temple University Medical School in 1982 and is practicing as a pediatrician in Roseville, California.

**David Lee** (BA Biochemistry, Molecular Biology '76) currently works as an Associate Professor of molecular microbiology and immunology at the University of Virginia. He is also Director of Graduate Studies for the Pathobiology Graduate Program and teaches advanced undergraduate/basic and advanced graduate courses in Immunology. He earned his Ph.D. in Microbiology in 1980 at University of Virginia, Charlottesville.

**John Mahoney** (BA Biological Sciences '76) manages the Global Product Support Department at LifeScan, Inc., which provides worldwide scientific and technical consultative expertise for LifeScan and Johnson & Johnson. He works with sales, marketing, customer service, regulatory affairs, in addition to a number of worldwide institutional clients. Mahoney has co-authored over 14 scientific articles, abstracts and book chapters and was on the editorial board of Clinical Chemistry.

**Gary Peyrot** (BA Biochemistry, Molecular Bio '76) continued his studies through the physics department at UCSB, achieving his MS degree in Scientific Instrumentation. He presently works as a Field Applications Engineer for Intel.

**Carol McCutcheon** (BA Biological Sciences '79) directly entered dental school at the University of Washington and graduated in 1983. Carol has been working as a dentist in the Bay area for twenty-four years.

**Curtis Edwards** (BA Cell Biology '79) attended medical school at the University of Washington. He went on to become a general and vascular surgeon which he practiced for seventeen years. He is now semi-retired and is working as a senior FAA medical examiner, living in Olympia Washington.

**Debra Cudkowski** (BA Biological Sciences '81) finished her Family Medicine residency at Medical University of South Carolina in Charleston, S.C. and was the Medical Director of the University of Minnesota's Student Health Services.

**Ken Forbes** (BA Physiology, Pharmacology '84) managed an air pollution testing laboratory in Los Angeles primarily looking at emissions from refineries and other heavy industry. He has completed clinical laboratory training at the University of California, Irvine Medical Center. Forbes is currently an analytical chemist and laboratory manager for Ashland Inc. in the San Francisco Bay Area. He has been managing a Quality Assurance Laboratory for 11 years.

**Debra (Alexander) Alimento** (BA Biological Sciences '85) attended UC Berkeley School of Optometry. She is now in private practice in optometry in Torrance, California.

**Darrell Lavin** (BA Biology '85) is a chiropractor and has had a private practice in Castro Valley, CA since October 1989.

**Kelly Svedberg** (BA Zoology '86) went on to attend the UCSB Graduate School of Education and obtained two NCE teaching licenses in High School Life Sciences. Kelly moved to Charlotte, NC and worked as a Med Tech until 2003. In 2003 Kelly attended East Carolina University and achieved a Master of Science in Physician Assistant Studies in 2006.

**Tony Smale** (BA Biological Sciences, Economics '87) continued on to San Diego State University, receiving his masters in Public Health in '89. Tony works for Kaiser Permanente Medical Program as the Planning Director for the Orange County Service Area.

**Marjorie Longo** (BA Biochemistry, Molecular Bio. '88) is a full professor in the Department of Chemical Engineering and Materials Science at UC Davis. Marjorie is also the Chair of the Biophysics Graduate Group at UC Davis.

**Dana Vaughan** (PhD Biology '88) completed her work with Steve Fisher in the early years of the Neuroscience Research Institute. Since graduation she has held faculty positions in Utah and Wisconsin and is now Associate Professor of Biology at University of Wisconsin, Oshkosh. She still maintains a research program on the mammalian visual system.

**James Andrews** (BA Biology '90) worked in a biology lab for several years before attending medical school in Maine. Andrews was awarded a military scholarship to pay for medical school and subsequently did a psychiatry residency and child/adolescent psychiatry fellowship at Tripler Army Medical Center, HI. He is now fulfilling his Army obligation at Fort Knox, KY.

**Elizabeth Whiteman** (BA Biological Sciences '90) went on to obtain her MD at the University of Illinois in '96 and was recently promoted to Associate Professor of Medicine UCLA in 2007. Elizabeth works with elderly patients and also teaches medical students and residents in UCLA.

**Troy Zabel** (BA Zoology '90) attended medical school at UC San Francisco. He completed a residency in internal medicine at University of Colorado and a nephrology fellowship at Mt. Sinai in New York. He is now in private practice in Denver, Colorado

**John McAuliffe** (BS Pharmacology '91) went to work for COR Therapeutics, a small biotech company on Oyster Point in South San Francisco, CA to develop a new drug called Integriilin. He had a short stint at Glaxo Wellcome then later worked at Athena Diagnostics in 1998, where he is still currently employed. His responsibilities include corporate accounts, sales training, biomedical research, and market segmentation.

**Sam Halabo** (BA Biology '92) went on to dental school at Boston University's School of Graduate Dentistry. He graduated top ten percent of the class in '96 and proceeded to dental residency at VA hospital. Sam currently runs his own practice in San Diego and was voted one of the best dentists in San Diego.

Continued next page





# ALUMNI AND FRIENDS

**Chris Heid** (BA Microbiology '92) went to work with Genentech in South San Francisco after graduation and spent 5 years there before enrolling in the MBA program at UC Berkeley. Since graduating from Berkeley in 1998, he has been involved in a number of BioTech companies using both his scientific background from UCSB as well as his business acumen from Berkeley. Most recently he served on the Board of Directors of HumanZyme while serving as Director of Marketing at Fluidigm Corporation. He recently left Fluidigm to pursue other interests outside of the life science field. Chris, along with brother Mike ('95) remain avid followers of the UCSB men's soccer program.

**Marlene Warda** (BA Biological Sciences '92) following graduation, worked at a dairy lab as a control technician for two years. Marlene returned to school to pursue higher education, and cleared her professional secondary credential in English from UCLA and her English degree from CSU in 2006. She presently teaches for Modesto Junior College.

**Todd Kirschenmann** (BA Biochemistry Molecular Bio '93) graduated from medical school in 2001 and currently practices as an anesthesiologist.

**Laura Ritenour** (BA Biological Sciences '93) upon graduating at UCSB moved to San Francisco Bay Area to work for the San Mateo Health Department. In 1997 she and her husband joined the Peace Corps and served in New Guinea for one year. After the Peace Corps service, she moved to Oregon and has worked for the Lane County Court for about eight years now.

**Alexandra Haessler** (BA Zoology '94) went to medical school at Dartmouth. She completed a residency in obstetrics/gynecology at UCLA and is just finishing a fellowship in female pelvic medicine and reconstructive surgery at Harbor-UCLA. Alexandra will be moving back to the Bay area where she will be going into practice.

**Bobby Massoudian** (BS Microbiology '95) received a Masters in Physiology and Biophysics at Georgetown before completing his medical degree at the Medical College of Virginia. He continued with his post graduate training in emergency medicine at Cook County Hospital in Chicago and Harbor UCLA. After working for six months in search and rescue in Sydney Australia, he currently is an emergency medicine physician at Long Beach Memorial Medical Center.

**Daniela Matson** (BA Biological Sciences '95) has been involved in sales and marketing since graduation with a focus on the biopharmaceutical industry. She received an MBA from the Wharton School in 2003 with a dual emphasis on marketing and healthcare management. She is currently a senior marketing manager at Amgen in Thousand Oaks where she oversees the marketing of Neulasta, a drug prescribed to reduce the risk of infection (initially marked by fever) in patients with some tumors receiving chemotherapy that may decrease the number of infection-fighting white blood cells.

**Christie Miller** (BS Microbiology '95) moved to New York six years ago and currently works for Impact Communications, a medical education and communication company based out of Manhattan, whose clients are the pharmaceutical companies that put together educational activities for physicians.

**Sean Delaney** (BA Zoology '96) attended the UC Davis School of Veterinary Medicine after graduation where he received his doctorate in Veterinary Medicine in 2000. He has been part of the faculty at UC Davis in the Department of Molecular Biosciences as an Associate Veterinarian and Assistant Clinical Professor. He has also managed a pet nutrition

consulting firm named Davis Veterinary Medical Consulting wherein software and supplements that are offered help pet lovers make homemade pet food.

**Jeanne Hunter** (BS Biological Sciences '96) landed a job at Eli Lilly and Company in Indianapolis as a microbiologist in the quality control laboratory for pharmaceutical parenteral manufacturing. Four years later, she moved into clinical trial operations and became manager for Phase III global studies which includes over 1,100 patients in 20 countries. Last year, Hunter became a quality consultant for clinical trial operations, interpreting federal and global regulations and ensuring trials are conducted following these regulations.

**Leigh Mueller** (BS Biochemistry Molecular Bio '96) went on to earn a masters in Health Administration from Chapman, then continued on to Medical school at Western University of Health in Pomona and earned a Doctor of Osteopathy degree in '04. Leigh plans to join the Lakenhealth Air Force Base in the United Kingdom to serve as an AF pediatrician for the next three years.

**Jennifer (Caldwell) Milam** (BS Biological Sciences '97) lives with her family in Orange County and owns two chiropractic clinics in the area. She looks back at the developmental neurobiology course as sparking her interest in the nervous system.

**Bill Stasiewicz** (BS Pharmacology '97) has been working with IBM since his graduation, managing some of their pharmaceutical accounts. He currently lives in New Jersey and is the Research and Development lead responsible for the Johnson and Johnson accounts.

**Leo Varshavsky** (BS Biological Sciences '00) worked in a laboratory after graduating from UCSB. Currently Leo is selling Surgical Equipment to hospitals all through out the West Coast.

**Tali Menachem** (BS Biological Sciences '01) entered physician assistant school at USC and received a master's degree in May of '04. Tali began working in family medicine and has transferred to urgent care/emergency setting in Los Angeles.

**Jessica Paulsen** (BA Biological Sciences '01) works as Scientific Associate for The Genomics Institute of the Novartis Research Foundation in La Jolla, CA, and is part of the Protein Sciences group performing high-throughput small-scale protein expression in E.coli as a means of screening for successful clones.

**Erin Meri Hildebrand** (BS Microbiology '02) has moved away from the sciences and now lives in New York working for Picturehouse, the specialty arm of New Line Cinema and HBO.

## We Would Like to Hear From You!

Send a brief news story of a personal or professional nature. If you would like us to include your "story" in the next newsletter, email the department at: [mcdb-newsletter@lifesci.ucsb.edu](mailto:mcdb-newsletter@lifesci.ucsb.edu). Watch for more alumni news on our website!

## Change of Address?

Send an email to the following address to update your contact information: [mcdb-newsletter@lifesci.ucsb.edu](mailto:mcdb-newsletter@lifesci.ucsb.edu)

# Thank You Donors!

## Friends of the George and Joy Rathmann Fellowship Program

### Individuals

Paul Abrams  
N. Kirby & Janice M. Alton & the Alton Foundation  
Bruce & Carolyn Altrock  
Anonymous  
Anne & Ray Baddour  
Bob Baltera & Holly O'Campo  
Timothy & Pamela Bartley  
Gordon & Adele Binder  
Ed & Wendy Bjurstrom  
Glen & Sherri Bodman  
Mike Borun  
Bill & Ute Bowes  
Marguerite & Jeff Browne  
Bruce Carter & Jean Enersen  
Paul Clark  
Drew & Fusa Coleman  
Kevin & Susie Egan  
Joan Egrie  
Steve & Beth Elliott  
Dennis & Linda Fenton  
Ken & Michele Ferguson  
Lacy Fitzpatrick  
W. Michael Gallatin & Brenda Sandmaier  
Patrick Gray  
Anthony J. Gringeri  
Harry F. Hixson  
Thomas Horlan  
Franklin "Pitch" & Catherine Johnson  
William C. Kenney  
Mark Kessel & Symphony Capital  
Janice LeCocq  
Fu-Kuen Lin & Yun-Jiuan Lin

Jim & Kelly Lisbakken  
Ted & Joyce Love  
Frances & Christine Martin  
Eugene & Armeia Medlock  
Alan Mendelson  
David & Susan Milligan  
Brent & Faith Mori  
George & Rosa Morstyn  
Margery Nicolson  
Steven & Linda Odre  
Stelios Papadopoulos  
Robert & Stephanie Pangia  
Vann & Carol Parker  
Bill & Sandy Puchlevic  
Tom St. John  
Lowell & Cindi Sears  
Cuneyt & Susan Serdar

David Snitman  
Larry & Sharon Souza  
Joseph & Laura Staines  
Clifford & Renee Stocks  
Cindy & Brian Tiefenbach  
Dr. & Mrs. Daniel Vapnek  
Dr. & Mrs. David Vetterlein  
Bernard & Kelly Weber  
Robert & Sally Weist  
Keith R. Westcott  
Gary & Sue Wilcox  
Kathleen Wiltsey & John LaValle

### Organizations

Amgen Foundation  
Day Casebeer Madrid & Batchelder LLP

## Jean Devlin Initiative

### Individuals

Dana Aftab  
Richard A. Auhll  
Michael & Diane Bigler  
Kevin & Linda Cannon  
Pam Dellea  
Roy & Janet Hardiman  
Perri V. Heinz-Harcourt  
Vimerald Hernando  
Christine & Paul Johnson  
Kenneth Malcolm  
Douglas & Kimberley Mayes

Patricia McNamee  
Noel & Anne Messenger  
Wayne & Denise Montgomery  
Wallace Murdoch  
Jerry & Charlene Schulz  
Barnaby & Elizabeth Sheridan

### Organizations

Bergen County United Way  
Exelixis

## Friends of the Department (MCDB & Biology)

### Individuals

Carolyn Sherman & W. C. Adams  
Catherine Arnold  
Margaret Bazzi  
Encarnacino & Christine Becerra  
Gordon J. Block  
Nancy Bogart  
Howard Buhse  
Vincent Burke & Corito Tolentino-Burke  
Shing & Sheng-Yung Chang  
Renee Chen  
James Cooper & Robin Zierau-Cooper  
Corey Wilson & Susan Cosso  
Kathryn Coulter  
Karen Bedrosian-Coyne & Theodore Coyne  
Alexandra Craig  
Mark Da Re  
Lai Dea  
Charles Dunn  
Deborah Dunn  
Robert Dyer  
Leslie Edwards  
Mr. & Mrs. Rick Finkelstein  
Julius & Marcela Ibanez  
Oleg Kichaev & Tatyana Kichayeva  
Barbara & Stephen Komp  
James Lichter  
Peter & Janice Lorber  
Kenneth Luehrsen  
Tomas Machin  
Julie Maderazo  
Sandra Malmstrom  
Roy Mankovitz  
Mr. & Mrs. Richard Markell  
Craig Martin

Alan Matsumoto  
Erin McCaskill  
Joseph McNamara  
Virginia & John Merriam  
Bradley Minter  
Richard & Michelle Morrissey  
Raymond Mueller  
Christopher Francklyn  
Helga George  
Richard & Gail Gin  
Doreen Grech & Stephen Brand  
Arthur W. Grix, Jr. & Linda Grix  
William & Martha Mowry  
Mark Newman, MD  
Stanley & Susan Olsufka  
Stephanie & Seth Porter  
Paula Power Mark & Valerie Rieder  
Ian & Muriel Ross  
Dr. & Mrs. Joseph Shipp

Donald Slaughter  
Karen Talentino  
Brenton Taylor  
Daphne Traeger  
Nancy Vassallo  
Robert Voice  
Wendy Walker-Livingston  
Timothy & Laureen Yoshino  
Dale Wilson

### Organizations

Alternative Graphics  
Alzheimer's Association  
Applera Corporation  
Biomol Research Laboratories  
Claremont Colleges  
Merck Company Foundation, Inc.



## Department of Molecular, Cellular and Developmental Biology

University of California, Santa Barbara  
Santa Barbara, CA 93106-9610

NONPROFIT ORG.  
U.S. POSTAGE  
PAID  
SANTA BARBARA, CA  
PERMIT NO. 104

Website: [www.lifesci.ucsb.edu/mcdb](http://www.lifesci.ucsb.edu/mcdb)

Department Information: (805) 893-3512

Giving Opportunities: (805) 451-4875

Chair: Dennis O. Clegg

Editors: Tanja Stoyan, David Kohl, Andrew Kroes, Tony Tieu

Design/Production: Tanja Stoyan, Brian Wolf

### Photos

Page 10/11: *C. elegans* gonad stained for the apoptosis inhibitor protein ICD-1 (in red); the nuclear envelope is outlined by staining for nucleoporins (green); nuclei are stained with the DNA dye DAPI, by Pradeep Joshi (Rothman lab)

Page 12/13: "Pelican" by Gary Wilcox

Page 15: by Alumni and Friends of the Department 2008



UCSB