



# Biotechnology Times

## Fall 2009

An Annual Newsletter From The UC Davis Biotechnology Program

Marianne Hunter, Editor



**Dr. Judy Kjelstrom,  
Director of the UC  
Davis Biotechnology  
Program**

### A Message From The Director

As Dickens said, "It is the Best of Times; it is the Worst of Times". It has been a year and a half since we published the Biotech Times, because we haven't had a chance to assemble all of the news. We have experienced turn-overs in the program assistant position, so we are in a constant state of hiring and training. In addition to personnel changes, the severe economic downturn has impacted the whole campus, including the Biotechnology Program. Budget cuts have forced us to be more creative in our projects as well as find grants to supplement our base budget. The good news is that the Biotechnology Program is still here and continues to grow educational programs, partner with campus faculty on training grants, expand corporate alliances; reach out to the community and coordinate the DEB, the largest and fastest growing designated emphasis graduate program on campus.

The DEB currently has over 164 PhD students from 28 different disciplines. We have had an explosion of graduates over the last year and many are employed at prestigious organizations. We have listed our recent graduates as well as our award winning students in the newsletter. Their success is our success.....we hope they will stay in touch with our new DEB Linked-in group network. Our innovative graduate program is gaining recognition- the DEB was showcased in Best Practices in Biotechnology Education (Yali Friedman, editor; March 2008). The DEB and ADP programs were also applauded in Nature Reviews Career Profile (March 2008) and Comstock's Business Magazine (Nov 2008). Recently, the DEB was featured as a model program in Creating Alternatives in Science by Nicole Guimond Gravagna, 2009 Palgrave Macmillan 1462-8732 Journal of Commercial Biotechnology Vol. 15, 2, 161-170.

The Biotechnology Program is an active partner on a number of other Training Grants including: 1) NIH T32 Graduate Training Program in Biomolecular Technology; 2) Howard Hughes Medical Institute-Integrating Medicine into Basic Science (IMBS) Graduate Training Program; 3) NSF CREATE-IGERT (Collaborative Research & Education in Agricultural Technologies & Engineering) Graduate Training Program; 4) NIH "UC Davis-China Infectious Diseases Research Training Program", and 5) NIH-NCI UC Davis Nanotherapeutics Center: Targeting , Imaging and Immunotherapy (funding pending). We are honored to be involved in such innovative and diverse educational programs. Please see the newsletter for the names of the outstanding PhD student scholars in the training programs.

The Advanced Degree Program (ADP) for corporate employees is still growing in numbers of participants as well as company affiliates. This is an outstanding example of how we can create win-win partnerships with industry. The newsletter has more details.

Outreach Activities continue to expand. Our Summer Short Courses are in high demand and serve as a training vehicle for both academics and industry scientists. The Biotechnology Exhibit on Picnic Day is always filled with visitors. The BioTech SYSTEM serves the regional high school teachers and students and the Teen Biotech Challenge is exploding in the number of entries. I would like to thank Dr. Denneal Jamison-McClung and Marianne Hunter for their dedication to these efforts. We are also grateful to the many volunteers- DEB students, UCD faculty and staff as well as our corporate sponsors!

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## NIH-NIGMS TRAINING PROGRAM IN BIOMOLECULAR TECHNOLOGY BIOTECHNOLOGY TRAINEE FELLOWSHIP RECIPIENTS

### 2009-2010 NIH Fellows:

**David Dallas**, Nutritional Biology, (J. Bruce German, Preceptor). Binding Properties of Novel Particle in Human Breast Milk; Determination of Existent Peptides After in vivo Digestion of Breast Milk by Newborns to Discover New Bioactive Peptides; Determining a Method for Preparative Separation of Human Serum Lipoproteins.

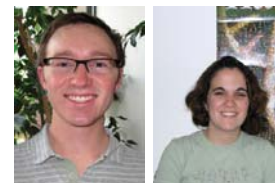
**Rena Goodman**, Chemistry, (Peter Beal, Preceptor). Design of a Disease-Relevant RNA Editing Substrate for Use in High Throughput Screening.

**Rashida Lathan**, Animal Biology, (Juan Medrano, Preceptor). Genomic Isolation of Alleles that Render Infertility in High Growth FVB/NJ Female Mice.

**Daniël Melters**, Cell & Developmental Biology, (Ian Korf & Simon Chan, Preceptors). Large Scale Characterization of Vertebrate Centromeric DNA.

**Raquel Orozco-Alcaraz**, Chemical Engineering, (Tonya Kuhl, Preceptor). Extension and Mechanical Properties of Endothelial Glycocalyx.

**Sunny Shah** (Continuing NIH for 2nd year), Biomedical Engineering, (Alex Revzin, Preceptor). Development of Novel Microsystems For Stem Cell Differentiation Studies.



David Dallas &  
Rena Goodman



Rashida Lathan &  
Daniël Melters



Raquel Orozco-  
Alcaraz &  
Sunny Shah

### 2009-2010 Biotech Fellows:

**Dmitry Grapov**, Agricultural & Environmental Chemistry, (John Newman, Preceptor). Targeted Metabolomic Profiling of Signaling Lipids in Tissues and Lipoprotein Particles.

**Huilan Han** (Continuing Biotech Fellow for 2nd Year), Mechanical & Aeronautical Engineering, (Cristina Davis, Preceptor). Chip-based Biosensor for Ion Channel Analysis and Drug Screening.

**Geetika Joshi**, Soils & Biogeochemistry, (Kate Scow, Preceptor). Regulation of Methyl-*tert*-Butyl Ether Degradation by *Methylibium petroleiphilum* PM1 and Application in Whole-cell Based Biosensor Development.

**Thuc Nghi Nguyen**, Biomedical Engineering, (Soichiro Yamada, Preceptor). Cytoskeletal Regulation of Traction Force at Cell-Cell Adhesion Sites.



Dmitry Grapov &  
Huilan Han

### 2008-2009 NIH Fellows:

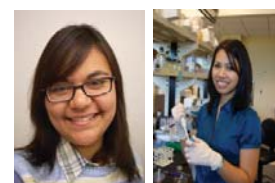
**Kristina Mahan**, Biochemistry & Molecular Biology, (Rebecca Parales, Preceptor). Protein Protein Interactions of Nitrobenzene Dioxygenase.

**Joseph Ramahi**, Cell & Developmental Biology, (Simon Chan, Preceptor). Chromatin Modifications and Centromere Function in Arabidopsis.

**David Sela**, Microbiology, (David Mills, Preceptor). Systems-level Characterization of Human Milk Oligosaccharide Utilization by *Bifodobacterium infantis*.

**Sunny Shah**, Biomedical Engineering, (Alex Revzin, Preceptor). Development of Novel Microsystems For Stem Cell Differentiation Studies.

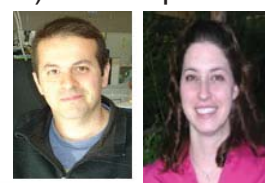
**Erin Tapley**, Cell & Developmental Biology, (Daniel Starr, Preceptor). Characterization of UNC-84, a *Caenorhabditis elegans* Inner Nuclear Membrane Protein that Functions in Nuclear Positioning.



Geetika Joshi &  
Thuc Nguyen



Kristina Mahan &  
Joseph Ramahi



David Sela &  
Erin Tapley

## NIH-NIGMS TRAINING PROGRAM IN BIOMOLECULAR TECHNOLOGY BIOTECHNOLOGY TRAINEE FELLOWSHIP RECIPIENTS (Cont.)



Matthew Hoopes &  
Christina Takanishi

### 2008-2009 Biotech Fellows:

**Huilan Han**, Mechanical & Aeronautical Engineering, (Cristina Davis, Preceptor).  
Chip-based Biosensor for Ion Channel Analysis and Drug Screening.

**Matthew Hoopes**, Biophysics, (Marjorie Longo & Roland Faller, Preceptors).  
Mechanics and Molecular Dynamics of Supported Lipid Bilayers for Protein  
Display.

**Sarah Lockwood**, Biochemistry & Molecular Biology, (David Segal, Preceptor).  
Developing an Allosteric Regulatory Mechanism for Engineered Zinc Finger  
Proteins.

**Christina Takanishi**, Cell & Developmental Biology, (Matthew Wood,  
Preceptor). Development of Genetically-encoded Probe for Detecting Redox-  
regulated Signal Transduction Pathways.

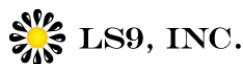
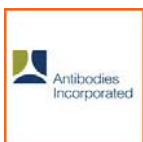


Huilan Han &  
Sarah Lockwood

## BIOTECHNOLOGY INTERNSHIPS (MCB 282)



One of the requirements to receiving a Designated Emphasis in Biotechnology is interning for at least three months at a cooperating biotechnology company, government agency or a cross-college site. Several DEB students have already completed their internships and some are about to start theirs. We want to thank all of our industry partners who offered internships for our DEB students. The following students have completed their internships in 2008 or are currently interning:



Accurion GmbH (Germany) - Michael Howland

Amgen - Rital El-khouri & Jessica Houghton

Amyris Biotechnologies, Inc. - Kevin Dietzel

Antibodies, Inc. - Jimmy Wu

California Dairy Research Foundation (CDRF) - David Sela

Expression Systems - Cui (Tracy) Zheng

Genentech - Honglin Chen, Karen Leung, Jillian Silva, Erin Tapley,  
and Kelly Williams

Innovation Access (UC Davis) - Nathaniel Leachman

LS9 - Kseniya Zakharyevich

Monsanto, Calgene Campus - Dmitry Grapov & Pradeepa Gunathilake

Novartis - Laura Gillies & Prasad Gawande

Novozymes - Marina Meyerzon & Meghan Rosen

School of Medicine (UC Davis) - David Garrido & Huilan Han



## DESIGNATED EMPHASIS IN BIOTECHNOLOGY (DEB)

The Designated Emphasis in Biotechnology (DEB) graduate program is an inter-graduate group program that allows Ph.D. students to receive and be credited for training in the area of biotechnology. There are currently 164 students. The UCD Biotechnology Program is the administrative home for this program. The DEB provides a nurturing, interactive environment to promote integration of multiple disciplinary approaches to the conduct of research and to promote learning in biotechnology. The DEB helps:

- To provide well-coordinated, cross-disciplinary training of graduate students in critical areas of biomolecular technology research.

- To promote interdisciplinary research environments that integrate basic biological science, engineering and computational disciplines.
- To allow cross-disciplinary training and trainee experience in a biotechnology company or cross-college laboratory.

This program supplements a student's Ph.D. curriculum and those completing the DEB program will obtain an official designation on their diploma and transcript indicating a qualification in biotechnology.

Course requirements are covered on the DEB website at: [www.deb.ucdavis.edu/coursereqs.cfm](http://www.deb.ucdavis.edu/coursereqs.cfm).

## BIOTECHNOLOGY TRAINING RETREAT

For the past 18 years, the Biotechnology Program has organized a Training Retreat for fellowship recipients and their mentors, industrial affiliates and our DEB students and faculty members. The retreat is held each Winter or Spring Quarter at Christian Brothers Retreat Center in the Napa Valley. At the retreat, the Fellows and the industry affiliates give oral presentations on their research. In addition to these oral presentations, poster sessions (open to all attendees) are held to stimulate one-to-one interactions. All Biotechnology Fellows are invited to the conference. The Retreat has the reputation for outstanding interactions of both academic and industrial trainers in the many and varied disciplines of biotechnology. It also offers new perspectives on how academic research can contribute to advancing industrial biotechnology and vice versa. Considerable time is allotted for casual interactions and discussions and at least one research project has been conceived due to such interactions.



**2008 - 2009 NIH & Biotech Fellows:**

**Front Row:** Kristina Mahan, Sunny Shah, Sarah Lockwood

**Back Row:** Matthew Hoopes, Christina Takanishi, Erin Tapley, Joseph Ramahi, Dave Sela

## ADVANCED DEGREE PROGRAM (ADP)



**Left:** Judy Kjelstrom speaking to Roshan Shrestha, a prospective new ADP student from Genentech in Vacaville

**Right:** Bruce Hammock (UCD mentor for Brooks Hayes) and Associate Vice Chancellor of Research, Bernd Hammann



The Advanced Degree Program is an innovative program that allows the working professional to complete a doctorate in a number of graduate programs within the College of Biological Sciences and the College of Engineering. It is coordinated by the UC Davis Biotechnology Program in conjunction with Graduate Studies, the College of Biological Sciences and the College of Engineering. It is a very successful academic-industry partnership.

One of the highlights of the year is our annual luncheon in which the faculty and administrators interact with ADP students and the corporate mentors. It is also a time to introduce the program to prospective company employees.

### Current ADP Participants and Mentors:

- **Brooks Hayes** (CDB Graduate Group) and Thera mulvania, PhD (Expression Systems, Inc. in Woodland). UC Davis mentor: Professor Bruce Hammock, Entomology.
- **David Kiewlich** (CDB Graduate Group) and (Bayer Healthcare). UCD mentor: Professor Bob Rice, PTX. David Kiewlich will receive his diploma this fall. Congrats David!
- **Shaunese Lambel** (Genetics Graduate Group) and Theodore “Ted” Superak, PhD (Harris Moran Seed Co. in Davis). UC Davis mentor: Professor Roger Chetelat, Plant Sciences.
- **James “Jim” Langston** (BMB Graduate Group) and Kim Brown & Feng Xu, PhD (Novozymes, Inc.). UC Davis mentor: Professor John Labavitch, Plant Sciences.
- **Katherine “Kathy” Tran** (BMB Graduate Group) and Dr. Gordon Parry (Bayer Healthcare). UC Davis mentor: Professor Bruce Hammock, Entomology.
- **Meiye “Mei” Wu** (BMB Graduate Group) and Steven S. Branda, PhD (Sandia National labs in Livermore). UC Davis mentor: Professor kit Lam (Chemistry & School of Medicine).

### New ADP Participant for 2010:

- **Joseph Jacobs** (Genetics Graduate Group), (Harris Moran Seed Company in Davis). UC Davis mentor: TBA

## BIOTECHNOLOGY EVENT AT PICNIC DAY

This hallmark event has been designed to showcase and celebrate the richness of campus life, the diverse achievements of UCD students, staff and faculty to provide a day of education, information and entertainment to all who attend. The Biotechnology Program exhibit allows the general public to have a hands-on experience in various biotech related experiments including cheesemaking, DNA extraction and the new developments for stonewash jeans dye. This year about 2,000 visitors came to our Event!

We want to thank all of our industry partners for their donations, as well as the DEB students and the staff of "Biotechnology in the Classroom" for running the experiments!



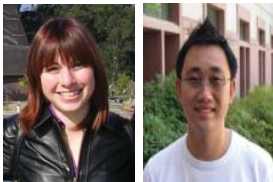
**Left:** Mark Wolf, volunteer for cheesemaking experiment  
**Bottom:** Kseniya Zakharyevich showing how to extract DNA from strawberries



Erin Tapley, Linda Curro & Rashida Lathan helping kids extract DNA from strawberries



## HHMI-IMBS TRAINING PROGRAM



Barbara Bailus & Yun Joon Jung

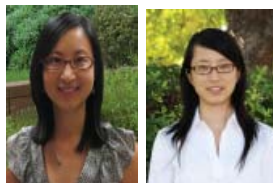
The Integrating Medicine into Basic Science (IMBS) Training Program is a Howard Hughes Medical Institute (HHMI) - sponsored initiative led by Executive Associate Dean of the School of Medicine, Dr. Fred Meyers to provide an innovative, cost-effective, and sustainable model for training a new cadre of Ph.D. biologists and engineers who will have productive careers in clinically-relevant basic research. Dr. Judy Kjelstrom is a co-director and the point of contact for recruitment. Please visit the website at: [www.ucdmc.ucdavis.edu/imbs/](http://www.ucdmc.ucdavis.edu/imbs/). We are pleased to announce that two of our own DEB students has received the HHMI-IMBS scholarship for 2009-10. Congratulations goes to Yun-Jun Jung and Barbara Bailus!



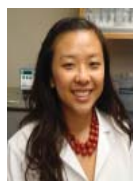
Alan Man & Matthew Soicher

### Welcome to 2009-2010 Scholars:

**\*Barbara Bailus**, Biomedical Engineering, Preceptor: David Segal  
**\*Yun Joon Jung**, Biomedical Engineering, Preceptor: Jan Nolta  
**Alan Man**, Biomedical Engineering, Preceptor: Peter Bannerman  
**Matthew Soicher**, Biomedical Engineering, Preceptor: David Fyhrie  
**Crystal Tjhia**, Biomedical Engineering, Preceptor: David Fyhrie  
**Ying Wang**, Biomedical Engineering, Preceptor: Scott Simon  
**Maelene Wong**, Biomedical Engineering, Preceptor: Leigh Griffiths  
**Melissa Zerofsky**, Nutritional Biology, Preceptor: Charles Stephenson



Crystal Tjhia & Ying Wang



Maelene Wong



Melissa Zerofsky



## HHMBI-IMBS TRAINING PROGRAM (Cont.)



Brett Fite &  
Darren Hwee



Richard Myers &  
Thuc Nguyen

### Saying goodbye to 2008-2009 Scholars:

\***Brett Fite**, Biophysics, Preceptor: Laura Marcu

\***Darren Hwee**, Molecular, Cellular & Integrative Physiology,  
Preceptor: Sue Bodine

**Richard Myers**, Molecular, Cellular & Integrative  
Physiology,  
Preceptor: Wenbin Deng

\***Thuc Nguyen**, Biomedical Engineering, Preceptor:  
Soichiro Yamada

\***Emily Pfeiffer**, Biomedical Engineering, Preceptor: Abdul  
Barakat

\***Erin Schwartz**, Biochemistry & Molecular Biology,  
Preceptor: Wolf Heyer

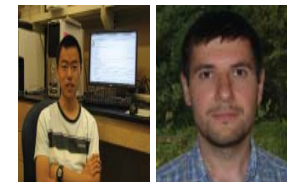
**Siwei Zhao**, Biomedical Engineering, Preceptor: Tingrui  
Pan

**Pavel Zimin**, Pharmacology & Toxicology, Preceptor: Heike Wulff

\* Also a member of the DEB program



Emily Pfeiffer &  
Erin Schwartz



Siwei Zhao &  
Pavel Zimin

## NSF CREATE-IGERT NEWS



The NSF Integrative Graduate Education Research & Traineeship (IGERT) program, entitled Collaborative Research and Education in Agricultural Technologies and Engineering (CREATE) is directed by Prof. Karen McDonald, Assoc. Dean in the College

of Engineering and the Chair of the Biotech Advisory Committee. Dr. Jamison-McClung is the Program Coordinator. The NSF CREATE-IGERT training program supports interdisciplinary research projects in three focus area's of plant biotechnology: Biofuels & Biorefineries; Plant-Made Products; and Environmental Sustainability.

Senior trainees continuing in the program in 2009, include: **Tim Butterfield** (Lagarias Lab, Plant Biology); **Dawn Chiniquy** (Ronald Lab, Plant Biology); **Tiffany Glavan** (Dandekar Lab, Microbiology & Immunology); **Ben Lindenmuth** (McDonald Lab, Chemical Engineering); and **Chris Simmons** (VanderGheynst Lab, Biological Systems Engineering).

In 2009, the training program welcomed a second cohort of trainees: **Lucas Arzola** (McDonald Lab, Chemical Engineering); **Elenor Castillo** (Negre-Zakarov Lab, Plant Biology); **Mitch Elmore** (Coaker Lab, Plant Biology); **Rachel Kerwin** (Kliebenstein Lab, Plant Biology); and **Mark Wolf** (Parales



Timothy Butterfield  
& Dawn Chiniquy



Tiffany Glavan &  
Ben Lindenmuth



Chris Simmons &  
Lucas Arzola

## NSF CREATE-IGERT NEWS (Cont.)

Lab, Biochemistry & Molecular Biology).

In 2009, the training program welcomed a second cohort of trainees: **Lucas Arzola** (McDonald Lab, Chemical Engineering); **Elenor Castillo** (Negre-Zakarov Lab, Plant Biology); **Mitch Elmore** (Coaker Lab, Plant Biology); **Rachel Kerwin** (Kliebenstein Lab, Plant Biology); and **Mark Wolf** (Parales Lab, Biochemistry & Molecular Biology). As part of the third cohort, joining the program in the fall, is **Marta Bjornson** (Dandekar Lab, Horticulture & Agronomy).

CREATE-IGERT Development Engineer, Dr. Larry Joh, has developed two short technical courses with inaugural offerings in summer 2009: Plant Transformation Methods and Recovery & Purification of Plant-Derived Products.

All trainees are also members of the DEB.

See the program website for complete details (<http://create-igert.ucdavis.edu>).



Elenor Castillo & Mitch Elmore

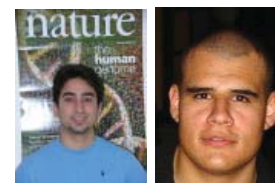


Rachel Kerwin & Mark Wolf

## 2008 - 2009 ACADEMIC YEAR ACCOLADES

### Bayer Fellows Program:

Last year, 10 minority graduate students from California Universities were selected by Bayer Healthcare LLC scientists to be recipients of the Bayer Fellows program which advises them on pursuing careers in biotechnology (most likely at Bayer). Of the six students chosen from UC Davis, four were DEB graduate students! Congratulations to **Lucas Arzola**, **David Olivos**, **Raquel Orozco-Alcaraz** and **Mary Saunders**!



Lucas Arzola, David Olivos &

### Big Bang Competition:

Two DEB students, **Matthew Hoopes** and **Alan Szmodis**, won second place as well as the People's choice at the 2008 Big Bang Competition. They received \$5,000 for second prize and \$3,000 for the People's Choice Award for their team's (called Arcus), technology that is able to easure the blood sugar levels in people who have Diabetes. To read the full story written by Alan Szmodis, click on: <http://sandtiger.dbs.ucdavis.edu/ggc/bph/news/>.



Raquel Orozco-Alcaraz

### 2008 Outstanding Graduate Student Teaching Award:

**Vannarith Leang** received the 2008 Outstanding Graduate student Teaching Award. Van's nominator, Professor Brian Higgins said, "Van worked very hard and well deserved this award." Van was presented the award by past Chancellor, Larry Vanderhoef.



Alan Szmodis & Matthew Hoopes

**Mary Saunders** was awarded a \$10,000 Genentech Scholarship for 2009-10 to continue education in the field of Biotechnology!



Vannarith Leang



## 2008 - 2009 ACADEMIC YEAR ACCOLADES (Cont.)

**Emily Pfeiffer** was awarded a prestigious 3 year NSF Graduate Research Fellowship in 2009!



Emily Pfeiffer

### **Internship Accolade from DEB Graduate:**

**Ting Kuo Huang** recently graduated with his Ph.D. in Chemical Engineering along with his Designated Emphasis in Biotechnology and had this to say about the DEB Program, "This is a valuable opportunity and wonderful experience that can not only enrich my research ability and professional specialty but also expand my viewpoint. Moreover, I understand more about how a great biopharmaceutical company runs business for life improvement. Again, I would like to express my deep thanks to Novartis for this opportunity and the Designated Emphasis in Biotechnology Program at UC Davis for providing interdisciplinary graduate training. It is GREAT!"



Ting Kuo Huang

**Marisa Wong-Medina & Edwin Hagnazari**, both DEB graduates (Genetics, Biochemistry & Molecular Biology respectively) came back to campus as guest speakers this past year for the Biotechnology Program's MCB 294 Seminar Series. Dr. Wong-Medina is an Assistant Staff Scientist at the Children's Hospital Oakland Research Institute and Dr. Hagnazari is a scientist at DiscoverX in Fremont, California.

## DEB STUDENTS VOLUNTEERISM

Many of our DEB students donate their "spare time" to the Biotechnology Program and BioTech SYSTEM's outreach activities. These include the annual activities such as: Picnic Day, Teen Biotech Challenge, under-represented minority recruitment, high school e-mentoring for designated students, etc.

Our thanks go out to them for lending us their expertise, time, hard work, and dedication to these activities. Students that have helped us out this past year, include: Lucas Arzola, Barbara Bailus, Tim Butterfield, Patricia Castillo, Shannon Ceballos, Jeffrey Chan, Astra Chang, Chris Cunningham, Mitch Elmore, Laura Gillies, Tiffany Glavan, Rena Goodman, Dmitry Grapov, Dominik Green, Pradeepa Gunathilake, Huilan Han, Victor Haroldsen, Laura Ho, Rashida Lathan, Ben Lindenmuth, Michelle Lozada, Daniël Melters, Mary Moore, Thuc Nguyen, Maria Ogunyankin, Alanna O'Leary, Patricia Oliveira, Raquel Orozco-Alcaraz, Warren Place, Joseph Ramahi, JohnPatrick Rogers, Meghan Rosen, Juan Sanchez, Erin Schwartz, Andres Schwember, Gail Sckisel, David Sela, Sunny Shah, Chris Simmons, Padmini Sirish, John Strum, Christina Takanishi, Erin Tapley, Vu Trinh, Breanna Wallace, Mark Wolf, Kseniya Zakharyevich, and Tracy Zeng.

Sunny Shah and  
Erin Schwartz were  
the TBC Host and  
Hostess



## CONGRATS TO RECENT DEB GRADUATES!

Throughout the 2008 - 2009 academic year, there were many students in the DEB Program who received their PhDs with a Designated Emphasis in Biotechnology. These exemplary students took the full DEB coursework, including the 3 - 6 months internship (MCB 282). The Biotechnology Program is very proud of the hard work they put in to achieve their goals and would like to recognize them below.

**Suzanne Barber** received her PhD in Chemical Engineering and is now a Postdoc at the Institute Charles Sadron laboratory in Strasbourg, France.

**Sandra Bennun Serrano** received her PhD in Chemical Engineering is now a Postdoc at John Hopkins University in the department of Chemical & Biomolecular Engineering.

**Craig Blackmore** received his PhD in Comparative Pathology and is currently the Assistant Director of a public health lab in Solano County.

**Monica Britton** received her PhD in Genetics, she was a Postdoc in the UC Davis Plant Sciences department and is now an analyst with the UC Davis Bioinformatics Core at the Genome Center.

**Honglin Chen** received her PhD in Genetics and is a Senior Research Associate at Genentech.

**Ying Chen** recently received a PhD in Statistics.

**Allison Dickey** received her PhD in Chemical Engineering and is a Postdoc in a catalysis simulation group at Northwestern University.

**Kevin Dietzel** is graduating and will receive a PhD in Microbiology. He has accepted a position with Amyris Biotechnologies.

**Corey Dodge** received a PhD in Chemical Engineering and has accepted a position with Synthetic Genomics in San Diego.

**Rita El-khouri** received her PhD in Chemistry and is now a Postdoc fellow at the University of Strasbourg in France.

**Wen-Ying Feng** received a PhD in Statistics and is a Risk Analyst for eBay.

**Kristina Herzberg** received her PhD in Biochemistry & Molecular Biology and is employed at Hoffmann Egle, a patent law firm in Munich, Germany.

\***Laura Higgins** received her PhD in Molecular, Cellular & Integrative Physiology and is a Postdoc at UC Davis' Department of Pathology, Vet. Med.

**Kevin Holden** received his PhD in Microbiology and is now a scientist at LS9.

**Jessica Houghton** received her PhD in Pharmacology and Toxicology.

**Ting-Kuo (TK) Huang** graduated with a PhD in Chemical Engineering.

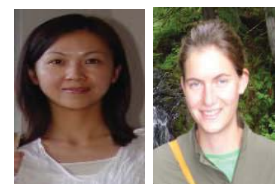
**Kou-San Ju** graduated with a PhD in Microbiology.



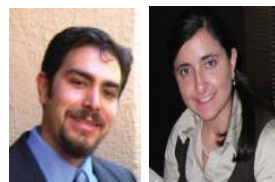
Suzanne Barber &  
Sandra Bennun  
Serrano



Monica Britton &  
Honglin Chen



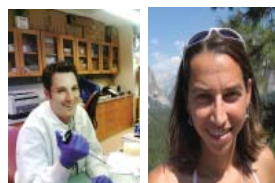
Ying Chen &  
Allison Dickey



Corey Dodge &  
Rita El-khouri



Kristina Herzberg &  
Laura Higgins



Kevin Holden &  
Jessica Houghton

Ting-Kuo Huang



Kou-San Ju



## CONGRATS TO RECENT DEB GRADUATES! (Cont.)

**Pavan Kumar** graduated with a PhD in Plant Biology. He is a Research Scientist with Somagenics in Santa Cruz.

**Vannarith Leang** is graduating with a PhD in Chemical Engineering.

**Young Lee** is graduating with a PhD in Biochemistry & Molecular Biology.

**Karen Leung** graduated with a PhD in Genetics.

**Riccardo LoCascio** graduated with a PhD in Microbiology. Riccardo was awarded a prestigious Kauffman Postdoc Fellow research position. He will receive support from mentors, internship experience in learning how to take discoveries from lab to market.

**Artem Loukoianov** graduated with a PhD in Genetics.

**Robin Merod** graduated with a PhD in Civil & Environmental Engineering.

**Marina Myerzon** graduated with a PhD in Genetics. She accepted a position as a Postdoctoral researcher at UC Berkeley.

**Gian Oddone** graduated with a PhD in Chemical Engineering. Gian now works at Novozymes in New Jersey.

**Ying Peng** graduated with a PhD in Genetics. She is at Monsanto, Calgene Campus.

**Warren Place** graduated with a PhD in Microbiology and is now a Postdoc with UC Davis' Department of Viticulture and Enology

**Michael Plesha** graduated with a PhD in Chemical Engineering and has a BPO Graduate Position in Manufacturing Technology at Novartis Pharma.

**Rowena Romano** received a PhD in Biological Systems Engineering and works as an Environmental Engineering Associate with the City of Los Angeles' Bureau of Sanitation on alternative technologies for organic waste management.

**Andres Schwember** graduated with a PhD in Plant Biology. He has applied for a faculty position at the Pontificia Universidad Católica de Chile.

**David Sela** is graduating with a PhD in Viticulture & Enology.

**Jillian Silva** received a PhD in Biochemistry & Molecular Biology.

\***James Stice** received a PhD in Molecular, Cellular & Integrative Physiology. He accepted a Postdoc position with Duke University.

**Alan Szmodis** received a PhD in Biophysics and works with a consulting firm/startup company.

**Dong Wang** received a PhD in Agricultural & Environmental Chemistry.

\*Recipients of the Loren D. Carlson Prize in Physiology



Pavan Kumar & Vannarith Leang



Riccardo LoCascio & Marina Myerzon



Gian Oddone & Ying Peng



Warren Place & Michael Plesha



Rowena Romano & Andres Schwember



Dave Sela & James Stice



Alan Szmodis



## BIOTECH PROGRAM'S SUMMER SHORT COURSES

The Biotechnology Program puts on several technical, intensive short courses each year (<http://www.biotech.ucdavis.edu/SummerCourses/courses.cfm>). This past summer included Flow Cytometry, Proteomics and Next Generation DNA Sequencing Data Analysis for Genome Wide Research. We would like to extend our thanks to the lead instructors for helping us have another successful year with outstanding course evaluations!



Carol Oxford

Flow Cytometry - Lead Instructor: Carol Oxford, Director UCD Optical Biology Shared Resources

Proteomics - Lead Instructor: Dr. Brett Phinney, Director UCD Proteomics Core Facility

Next Generation DNA Sequencing Data Analysis - Lead Instructor: Dr. Dawei Lin, Director UCD Bioinformatics Core Facility



Brett Phinney



Optical Core Facility, FloCyte & Biotech Program Group Photo



Proteomics Core Facility Group Photo



Bioinformatics Core Facility Group Photo



Dawei Lin

## 2009 GENENTECH OPEN HOUSE

Genentech opened its South San Francisco facility to the UC Davis Biotechnology Program's DEB students and selected postdocs on June 9th. From 9:30 in the morning until after 4:00 in the afternoon, participants learned how research is conducted at Genentech and were able to informally meet with their scientists and postdocs. Since Genentech's campus is quite large, comfortable walking shoes were definitely a requirement! The tour included an overview of the research done there, a look at their Imaging Facility, Medicinal Chemistry at Genentech, and a nice lunch. Thanks Genentech!



**Top Left:** Dr. Judy Kjelstrom (Director, Biotechnology Program) & Host, Dr. Joan Greve (Biomedical Imaging, Genentech)

**Top Right:** Group shot of tour participants at Genentech campus



## BIOTECH SYSTEM NEWS



The BioTech SYSTEM is a regional consortium for support and promotion of life science education in K-14 classrooms. Events and activities include tours, hands-on activities, classroom presentations, professional development workshops and the administration of two student competitions.



Many of the DEB students have served as judges for the annual Teen Biotech Challenge's website competition as well as became e-mentors for students at Sheldon High School in Sacramento.

Dr. Denneal Jamison-McClung, Director of the BioTech SYSTEM & Associate Director of the Biotechnology Program

The Teen Biotech Challenge (TBC) is a webpage design competition for high school students, that:

- exposes students to the latest biotech research breakthroughs
- introduces webpage design and development skills
- reinforces basic research and presentation skills
- conveys information on regional STEM-related academic programs and career options

Over 450 students from sixteen high schools participated in TBC 2009. View the winning webpages at <http://teenbiotechchallenge.ucdavis.edu/TBC09/tbc09winningwebsites.cfm> and photos of the 2009 TBC Symposium & Award Banquet at <http://teenbiotechchallenge.ucdavis.edu/TBC09/tbc09pics.cfm>.

Thanks to the TBC sponsors for helping make the event possible. Sponsors are listed on the Teen Biotech Challenge's website at: <http://teenbiotechchallenge.ucdavis.edu/sponsors.cfm>

In addition to the Teen Biotech Challenge web design competition, we inaugurated the Biotech Expo Middle School Poster Competition in February 2009. The event was hosted by our event partners, the North Valley Biotech Center at American River College.

For more information on these and other K-14 biotech outreach programs, contact the BioTech SYSTEM consortium website <http://biotechsystem.ucdavis.edu> or Dr. Denneal Jamison-McClung [dsjamison@ucdavis.edu](mailto:dsjamison@ucdavis.edu).



Dr. Jamison-McClung with Staci Chant (Sheldon High e-mentee) and her mom.



TBC09 Volunteers (DEB Grad Students), Meghan Rosen, Michelle Lozada, Maria Ogunyankin, Tiffany Glavan, Tim Butterfield & Elenor Castillo. Many more not pictured.

## FALL QUARTER'S MCB/ECH 294 SPEAKERS

One of the DEB course requirements is the successful completion of at least two quarters of MCB/ECH 294 (Current Progress in Biotechnology Seminar Course). This seminar course is also open to the public. Here is a brief summary of the lecturers for fall quarter (held in 1022 LS from 11:00 am - noon).

Oct. 2, 2009	"Introduction to the Little Bang/BiG Bang Business Competition", Nicole Starsinic, Assoc. Dir., Center for Entrepreneurship, UC Davis
Oct. 9, 2009	"New Advances in Cancer Therapeutics", Paul Hastings, President & CEO, OncoMed Pharmaceuticals, Inc., Redwood City, CA
Oct. 16, 2009	"Predicting Patient Response to Cancer Chemotherapy", Paul Henderson, PhD, Founder, Accelerated Medical Diagnostics LLC, Asst. Prof., Div. Hematology & Oncology, UCD Medical Center
Oct. 23, 2009	"Automated Solutions for Life Sciences and Diagnostics", Paul Richardson, PhD, VP Research & Development, Progentech USA, Inc., Emeryville, CA
Oct. 30, 2009	"PARP Inhibitors in Cancer Therapy", Hoyoung Huh, MD, PhD, President & CEO, BiPar Sciences, Inc., Brisbane, CA
Nov. 6, 2009	"Getting a Drug Into Clinical Trials: A Case Study in the Translation of a Novel Epilepsy Drug", Michael Rogawski, MD, PhD, Professor & Chair, Dept. Neurology, School of Medicine, UC Davis, CA
Nov. 13, 2009	"Engineering and Development of XOMA 052, a Novel anti-IL-1b Antibody", Steve Doberstein, PhD, VP, Research, Xoma, Berkeley, CA
Nov. 20, 2009	"In vitro Selection: Creating New Tools for Molecular Biology", Jennifer Ong, PhD, Staff Scientist, New England Biolabs, Ipswich, MA
Dec. 5, 2009	"The Magnitude and Phase of Genentech Biomedical Imaging", Joan Greve, PhD, Director Biomedical Imaging, Genentech, South San Francisco

## BIOTECHNOLOGY PROGRAM CONTACT INFORMATION

**Judith A. Kjelstrom, PhD**  
Director  
jakjelstrom@ucdavis.edu

**Denneal S. Jamison-McClung, PhD**  
Associate Director  
dsjamison@ucdavis.edu

**Marianne Hunter**  
Program Manager  
mahunter@ucdavis.edu

**Program Assistant**  
(530) 752-3260

**Office:**  
301 Life Sciences  
Davis, CA 95616  
(530) 752-3260



**Websites:**  
[www.biotech.ucdavis.edu](http://www.biotech.ucdavis.edu)  
[www.deb.ucdavis.edu](http://www.deb.ucdavis.edu)