

University of California Santa Barbara  
Department of Chemistry and Biochemistry

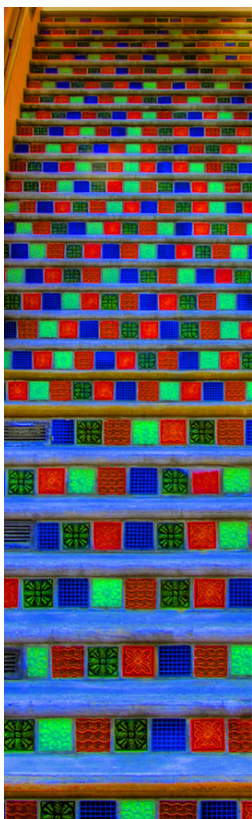
2nd Annual  
Chemistry Graduate  
Student Symposium

Thursday, April 25, 2013

2:30 - 6:00 pm

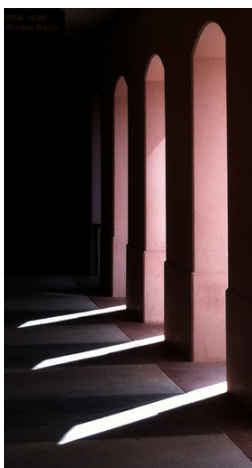
Engineering Sciences Building 1001





## Schedule of Events

- 2:30 - Refreshments provided
- 2:50 - **Welcome by DCB Chair**  
Dr. Fredrick Dahlquist
- 3:00 - **Grad Keynote** - *Photosensitized Release of Biologically Relevant Small Molecules Using Nanoparticle Antennas*  
**Peter Burks**
- 3:25 - **Grad Keynote** - *Towards Environmentally Friendly Processing in Organic Semiconductors*  
**Zac Henson**
- 3:50 - **Presentation of Awards**  
Best Scientific Communication Presentation
- 3:55 - **Mingle & Coffee Break**
- 4:05 - **Alumni Keynote** - *What I've Learned since Grad School: A Recent Alum's Experiences in Industry and Teaching*  
**Scott Price, Ph.D.**
- 4:30 - **Poster Wine & Cheese Event**  
ESB Courtyard

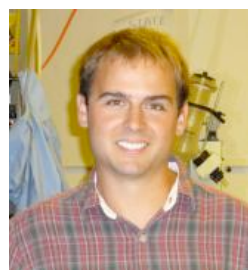


## Speaker Bios



### **PETER BURKS, Ph.D.**, Graduate Student

Peter is a newly minted Ph.D. in Inorganic Chemistry. He completed his research in the Peter Ford group on nanoparticles. Peter received his Bachelor of Science in Chemistry UCSB. At UCSB, Peter has been a very active member of the Chemistry Graduate Community. In addition to his participation in Graduate Students for Diversity in Science, during his fourth year at UCSB he started the Chemistry Student Seminar Series, where students from various chemical backgrounds present their research to a general audience. This Seminar Series led to the creation of the Best Scientific Communication Presentation Award.



### **ZACHARY HENSON**, Graduate Student

Zachary Henson is a graduate student in Materials Chemistry. He is completing his research in the Gui Bazan group on the synthesis and design of organic semiconducting chromophores that can be processed via environmentally friendly protocols. He graduated from Indiana University with a Bachelor of Science in Chemistry and minors in Mathematics and Business. Through the CEEM research program at UCSB, Zachary trains and mentors undergraduate students to develop solutions for critical energy challenges. He is also involved in the interdisciplinary group of scientists, Graduate Students for Diversity in Science (GSDS), whose goal is to foster a peer-to-peer mentorship atmosphere to promote research excellence.



### **SCOTT PRICE, Ph.D., Class of 2011**

Scott has always been interested in teaching and mentoring. After receiving his undergraduate education at Northwestern University, he completed his Ph.D. at UCSB in the Buratto Group. While working as a graduate student, Scott was nominated to be Lead Teaching Assistant for the General Chemistry laboratories, in addition to serving as a Teaching Assistant for

undergraduate and graduate-level physical chemistry courses. His dissertation focused on physical chemistry: surface and science analysis. After graduating from UCSB, Scott worked in the Analytical Sciences Division at the Dow Chemical Company before returning to lecture at UCSB, where his engaging and passionate style of teaching is appreciated by all of his students. As one student explains, "Dr. Price is truly a wonderful teacher; he teaches in a way that is more understandable for students. As a chemistry major, I am grateful to have had Dr. Price as my Gen Chem professor for 2 quarters in a row now. Thank you Scott!"

### **Best Scientific Communication Award**

This award was created in 2013 to honor students who effectively gave general research presentations during the Chemistry Student Seminar Series. The Seminar Series allows graduate students an opportunity to present their research to a general science audience. Audience members are invited from campus and the surrounding community, and have backgrounds in Chemistry, Engineering, Materials, Computer Science, Physics, and Biology.

Eligibility of this award requires the student to be in the Department of Chemistry & Biochemistry, hold graduate standing at the time of voting, and had presented during the Seminar Series in the current school year. All of the eligible students are then voted for by their Graduate peers, faculty, and staff members. Voters were encouraged to think of who best presented their research to a general audience for broad understanding.

This year we are honoring two students from the past two Seminar Series to present all of our graduates an equal opportunity for the award. Peter Burks presented during Winter 2012, and Zac Henson presented during Fall 2012.

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### **UCSB DCB Symposium Committee thank the following participants for their support in underwriting this event:**



C'est Cheese

Dr. Frank Brown

Dr. Steven Buratto

Dr. Irene Chen

Dr. Frederick Dahlquist

Dr. Bruce Lipshutz

Dr. Daniel Little

Dr. Horia Metiu

Dr. Martin Moskovits

Dr. Stanley Parsons

Dr. Kevin Plaxco

Dr. Scott Price

Dr. Norbert Reich

Dr. Javier Read de Alaniz

Dr. Ram Seshadri

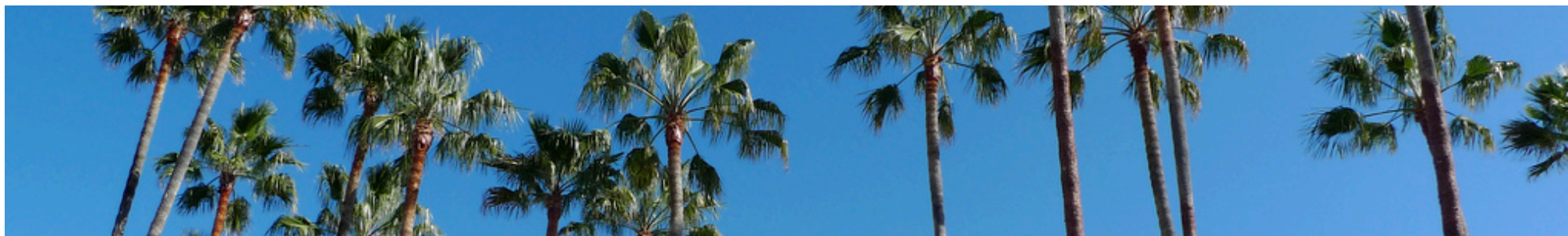
Dr. Joan Shea

Dr. Galen Stucky

Dr. Liming Zhang

Department of Chemistry &  
Biochemistry





## Poster Titles

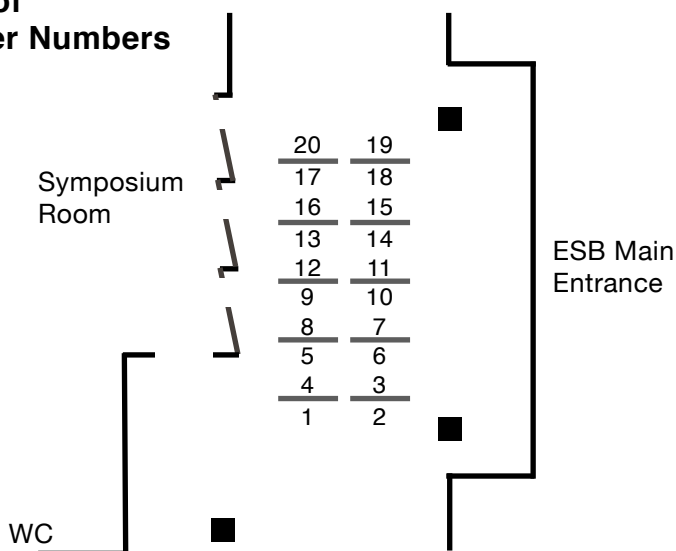
# Title, Research Group, & Presenter

- 1 **Biomolecular Design and the Origin of Life**  
Chen Group - Gregory Campbell
- 2 **Rapid Site Location on DNA Requires Long Range Intra-segmental Transfer**  
Reich Group - Adam Pollak
- 3 **Spatio-temporal control of gene regulation using laser-activated hollow gold nanoshell-siRNA conjugates**  
Reich Group - Xiao Huang
- 4 **Mimicking Nature to tune and shape the useful dynamic range of bioreceptors**  
Plaxco Group - Anna Simon
- 5 **Substrate selectivity and kinetics for Fe(II)-dependent *gamma*-hydroxybutyrate dehydrogenase from *Cupriavidus necator***  
Parsons Group - Kota Kaneshige
- 6 **Self-assembling RNA nanorings as siRNA packaging systems**  
Jaeger Group - Paul Zakrevsky
- 7 **Structural Studies of FliG and Its Interaction with FliF and FliM**  
Dahlquist Group - Rob Levenson
- 8 **A Unified Total Synthesis of Kushecarpin A**  
Pettus Group - Zhengao Feng
- 9 **Transition Metal Catalysis and Natural Product Synthesis**  
Zhang Group - Youliang Wang
- 10 **Little Research Group: A Little Bit of Chemistry... Always a Lot of Fun!**  
Little Group - Chiu Marco Lam

# Title, Research Group, & Presenter

- 11 **The Lipshutz Group**  
Lipshutz Group - James Fennewald
- 12 **Developing new tools for C–N and C–O bond formation**  
Read de Alaniz Group - Donald Wenz
- 13 **Protein nanocapsules as biocompatible carriers for the targeted delivery of coagulation proteins to sites of internal injury**  
Stucky Group - Sara Nownes
- 14 **Chemical approached hetero-structures with enhanced thermoelectric conversion efficiency and thermal stability**  
Stucky Group - Yichi Zhang
- 15 **Structure-property relationships in functional inorganic materials**  
Sheshadri Group - Michael Gaultois & Lauren Misch
- 16 **Organic Semiconductors for Electronic Devices**  
Nguyen Group - Niva Ran
- 17 **Lipid Membrane Intercalating Conjugated Oligoelectrolytes Facilitate Electron Transfer Between Microbes and Electrodes**  
Bazan Group - Alex Thomas
- 18 **Research in the Ford Group**  
Ford Group - Agustin Pierri
- 19 **Emerging Frontiers in Plasmonics and Nanoelectronics**  
Moskovits Group - Katherine Kanipe
- 20 **Research at the Interface of Physical and Analytical Chemistry**  
de Vries Group - Marshall Ligare

## Map of Poster Numbers



### Department Mission Statement:

The Department of Chemistry and Biochemistry at UCSB is dedicated to performing cutting edge chemical and biochemical research in an environmentally and ethically sound manner, in service to the county of Santa Barbara, the state of California, and the world. We are committed to addressing the grand challenges that humanity faces in the 21st century and believe that chemistry and biochemistry are at the forefront of this endeavor. In accord with this mission we strive towards excellence in undergraduate, graduate, and outreach education, and we will instill in our graduates the skills and drive necessary to meet these challenges.

### Department of Chemistry & Biochemistry Contacts

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

Department Chair: Fredrick Dahlquist, Ph.D.

Management Services Officer: Donna Trimble

Graduate Student Advisor: Mallarie Stevens

Undergraduate Student Advisor: Jennifer Ramirez