



## 2014 Research Projects

### **WattTime: Building Virtual Wind Power Plants through Econometrics**

*Agricultural and Resource Economics*  
Gavin McCormick, *Graduate Mentor*  
Ivanna Patton, *Undergraduate Mentee*  
Meredith Fowlie, *Faculty Adviser*

### **Ancient Human Dietary Histories: Stable Isotope Analysis of Skeletal Tissues from a Prehistoric Colombian Population**

*Anthropology*  
Melanie J. Miller, *Graduate Mentor*  
Trent Trombley, *Undergraduate Mentee*  
Sabrina Agarwal, *Faculty Adviser*

### **Formal and Informal Food Vending Practices: Economic Strategies of Latino Vendors in San Francisco's Mission District**

*Architecture*  
Ginette Wessel, *Graduate Mentor*  
Sofia Airaghi, *Undergraduate Mentee*  
Margaret Crawford, *Faculty Adviser*

### **Sensory Information Predictive of Reward Is Broadcast to Distant Cortical Areas**

*Biophysics*  
Kelly Clancy, *Graduate Mentor*  
Kathryn McClain, *Undergraduate Mentee*  
Daniel Feldman, *Faculty Adviser*

### **Public School Closure and Neighborhood Change: An Analysis of Newspaper Coverage in Twelve Cities**

*City and Regional Planning*  
Ariel H. Bierbaum, *Graduate Mentor*  
Jessica Rodriguez, *Undergraduate Mentee*  
Carolina Reid, *Faculty Adviser*

### **Identifying Fire-Induced Changes in Vegetation and Hydrology in Yosemite's Illilouette Creek Basin**

*Civil and Environmental Engineering*  
Gabrielle Boisramé, *Graduate Mentor*  
Miguel Naranjo, *Undergraduate Mentee*  
Sally Thompson, *Faculty Adviser*

### **Household Characteristics of an African Community: Ibo Island, Mozambique**

*Demography*  
Sara Lopus, *Graduate Mentor*  
Jane Liang, *Undergraduate Mentee*  
Ronald Lee, *Faculty Adviser*

### **Critical Research and Youth Community Engagement: A Youth Participatory Action Research Project**

*Education*  
Dinorah Sánchez Loza, *Graduate Mentor*  
Antonella Higa, *Undergraduate Mentee*  
Lisa García Bedolla, *Faculty Adviser*

### **Restarting Socialism: The New Beginning Group and Democratic Renewal on the German Left, 1930-1970**

*History*  
Terence Renaud, *Graduate Mentor*  
Chelsea Clark, *Undergraduate Mentee*  
Martin Jay, *Faculty Adviser*

### **Behavioral Function of Flashing in *Ctenoides ales*: "Disco Clams"**

*Integrative Biology*  
Lindsey Dougherty, *Graduate Mentor*  
Alexandria Niebergall, *Undergraduate Mentee*  
Roy Caldwell, *Faculty Adviser*

### **Seeking Asylum in the United States: An Empirical Study of Disparities at the Federal Appellate Level**

*Jurisprudence and Social Policy*  
Mary Hoopes, *Graduate Mentor*  
Bo Hyun (Sophie) Paeng, *Undergraduate Mentee*  
Leti Volpp, *Faculty Adviser*

### **Evaluating Wear Damage Response of Polycarbonate Urethane for Joint Replacements**

*Mechanical Engineering*  
Hannah Gramling, *Graduate Mentor*  
Amrita Srinivasan, *Undergraduate Mentee*  
Lisa Pruitt, *Faculty Adviser*

### **Functional Effects of Intercellular MicroRNA Transfer via Exosomes**

*Microbiology*  
Matthew Shurtleff, *Graduate Mentor*  
Jessica Li, *Undergraduate Mentee*  
Randy Schekman, *Faculty Adviser*

### **Bacterial Signals Regulate Multicellular Development in the Choanoflagellate, *S. rosetta***

*Molecular and Cell Biology*  
Arielle Woznica, *Graduate Mentor*  
Sruthi Mantri, *Undergraduate Mentee*  
Nicole King, *Faculty Adviser*

### **The Role of Ventral Pre-Motor Cortex in Brain-Machine Interface Control**

*Neuroscience*  
Helene Moorman, *Graduate Mentor*  
Rahul Nadkarni, *Undergraduate Mentee*  
Jose Carmena, *Faculty Adviser*

### **The Impact of Biotech-Pharmaceutical Alliances on Drug Regulation**

*Public Health*  
Courtnee Hamity, *Graduate Mentor*  
Angela Dai, *Undergraduate Mentee*  
Joan Bloom, *Faculty Adviser*

### **Transforming the Terms of the Abortion Debate: Human Rights and the Colombian Constitutional Court**

*Rhetoric*  
Alisa Sánchez, *Graduate Mentor*  
Natalia Reyes, *Undergraduate Mentee*  
Marianne Constable, *Faculty Adviser*

### **From Cell Block to City Blocks: Experiences of Incarceration among People with Mental Disorders**

*Social Welfare*  
Leah Jacobs, *Graduate Mentor*  
Guadalupe Barron Vargas, *Undergraduate Mentee*  
Valerie Shapiro, *Faculty Adviser*

### **Fracking and Fields: The Social Determinants of Fracking Activities across US Communities**

*Sociology*  
Daniel Kluttz, *Graduate Mentor*  
Richard Liaw, *Undergraduate Mentee*  
Heather Haveman, *Faculty Adviser*

### **Relationship between Foveal Cone Structure and Visual Function in Patients with Inherited Retinal Degenerations**

*Vision Science*  
Kavitha Ratnam, *Graduate Mentor*  
Junwei Yu, *Undergraduate Mentee*  
Austin Roorda, *Faculty Adviser*

# 2013 SMART Research Projects



## **Vibrio cholerae Design of Siderophores**

*Department of Chemistry*  
Benjamin Allred, *Graduate Mentor*  
Christian Villanueva, *Undergraduate Mentee*  
Kenneth Raymond, *Faculty Adviser*

## **Comparative Histories of Mexico-U.S. Migration: How Two Communities Confront Globalization**

*Department of Sociology*  
Abigail Andrews, *Graduate Mentor*  
Johanna Torres, *Undergraduate Mentee*  
Raka Ray, *Faculty Adviser*

## **Synthesis of a New Hydrocarbon Substrate for Platinum Catalysis**

*Department of Chemistry*  
Miriam Bowring, *Graduate Mentor*  
Kathryn Liu, *Undergraduate Mentee*  
Robert Bergman, *Faculty Adviser*

## **The Great Fire of Fort-de-France: Exploring the Language of Catastrophe, Citizenship, and Compatriotism in Colonial Martinique**

*Department of History*  
Christopher Church, *Graduate Mentor*  
Yvonne Lin, *Undergraduate Mentee*  
Tyler Stovall, *Faculty Adviser*

## **Hypervisibility of Race and Poverty in the Lower Ninth Ward since Hurricane Katrina**

*Department of Sociology*  
Siri Colom, *Graduate Mentor*  
Veronica Chew, *Undergraduate Mentee*  
Michael Burawoy, *Faculty Adviser*

## **Comparing Methods for Extraction of High Quality Genetic Material from Preserved Human White Blood Cell Samples**

*School of Public Health*  
Sarah Daniels, *Graduate Mentor*  
Brenda Yee, *Undergraduate Mentee*  
Luoping Zhang, *Faculty Adviser*

## **Objects and Status: The Historical Study of Material Culture in Early Imperial China**

*Department of History*  
Luke Habberstad, *Graduate Mentor*  
Spencer Smith, *Undergraduate Mentee*  
Michael Nylan, *Faculty Adviser*

## **Maternal Mortality and Abortion Law Liberalization in Ethiopia: The Potential Roles of Midwives in Implementation**

*School of Public Health*  
Sarah Jane Holcombe, *Graduate Mentor*  
Alvin Chan, *Undergraduate Mentee*  
Ann Keller, *Faculty Adviser*

## **The Price of the Purchase: Accounting for the Conquest of Indian Country**

*Department of History*  
Robert Lee, *Graduate Mentor*  
Matthew Irons, *Undergraduate Mentee*  
Mark Peterson, *Faculty Adviser*

## **The Rise and Fall of International Adoption: An Analysis of Policy Changes and their Effects**

*Department of Sociology*  
Sarah Macdonald, *Graduate Mentor*  
Andrea Sequeira, *Undergraduate Mentee*  
Marion Fourcade, *Faculty Adviser*

## **Public and Private Provision of Primary Healthcare Services in Chile: A Qualitative Approach**

*School of Public Health*  
Soledad Martinez-Gutierrez, *Graduate Mentor*  
Alexis Captanian, *Undergraduate Mentee*  
William Dow, *Faculty Adviser*

## **Graphene Calisthenics: Modeling the Polymer-Induced Graphene Stretching for Next Generation Electronics**

*Department of Physics*  
Kacey Meaker, *Graduate Mentor*  
Mandy Huo, *Undergraduate Mentee*  
Michael Crommie, *Faculty Adviser*

## **Analyzing Social Media Data for Democratic Practices in Social Movement Organizations**

*Department of Sociology*  
Jen Schradie, *Graduate Mentor*  
Maggie Hardy, *Undergraduate Mentee*  
Kim Voss, *Faculty Adviser*

## **Becoming Citizens without the Rights of Citizenship: U.S.-Born Women and the Loss and Reacquisition of Citizenship**

*Department of History*  
Brendan Shanahan, *Graduate Mentor*  
Leila Rock, *Undergraduate Mentee*  
Brian DeLay, *Faculty Adviser*

## **Assembling Gold Nanoparticles Using DNA**

*Department of Chemistry*  
Jessica Smith, *Graduate Mentor*  
Sarah Hull, *Undergraduate Mentee*  
Paul Alivisatos, *Faculty Adviser*

## **Molecular Insights into Viral DNA Degradation by a Bacterial Immune System**

*Department of Chemistry*  
Samuel Sternberg, *Graduate Mentor*  
Chantal Guegler, *Undergraduate Mentee*  
Jennifer Doudna, *Faculty Adviser*

## **Bones of Contention: The War Dead and the Making of Modern China**

*Department of History*  
Linh Vu, *Graduate Mentor*  
KaHo Lam, *Undergraduate Mentee*  
Alexander Cook, *Faculty Adviser*

## **Nanostructuring of Electrodes for Novel Photovoltaic Systems**

*Department of Physics*  
Sebastian Wickenburg, *Graduate Mentor*  
Han Sae Jung, *Undergraduate Mentee*  
Michael Crommie, *Faculty Adviser*

## **Validation of DNA Methylation in Blood for Study of Prenatal Origins of Later-Life Obesity**

*School of Public Health*  
Paul Yousefi, *Graduate Mentor*  
Girish Motwani, *Undergraduate Mentee*  
Nina Holland, *Faculty Adviser*