

# **PROGRAM REPORT**

**ACADEMIC YEAR  
2009-2010**

## **WOMEN IN SCIENCE AND ENGINEERING (WiSE) PROGRAM**



**THE UNIVERSITY OF SOUTHERN CALIFORNIA**

## Table of Contents

<b>Executive Summary</b>	<b>1-2</b>
<b>WiSE Leadership</b>	<b>2-5</b>
Advisory Board	
USC College Committee	
USC Viterbi School of Engineering Committee	
WiSE Program Office	
<b>New WiSE Faculty</b>	<b>5-6</b>
<b>WiSE Financial Awards</b>	<b>6-8</b>
Formal Program Awards	
Discretionary Awards	
Total Dollars Awarded	
<b>WiSE Activities</b>	<b>8-9</b>
10 <sup>th</sup> Anniversary Celebration	
New Faculty Recruitment	
<b>WiSE Faculty Achievements and Special Activities</b>	<b>9-12</b>
<b>Appendices</b>	
Appendix 1: USC Trojan Family Magazine, “The WiSE Women of Science”	
Appendix 2: Flyer, WiSE 10 <sup>th</sup> Anniversary Celebration Speaker Series	
Appendix 3: Flyer, WiSE Luncheon and Conversation with Professor Mina Teicher (February 5, 2010)	
Appendix 4: Photographs, WiSE 10 <sup>th</sup> Anniversary Celebration Reception	
Appendix 5: Current WiSE Faculty 09-10 (Tenured and Tenure-Track)	
Appendix 6: Guidelines for WiSE Contribution to Bridge Funding	
Appendix 7: Guidelines for Renewal of WiSE Childcare Subsidy Awards	
Appendix 8: WiSE Bi-Weekly Newsletter Issue 1.6	
Appendix 9: WiSE Undergraduate Research Fellows at the USC Undergraduate Symposium for Scholarly and Creative Work 2010	

## **Executive Summary**

The Women in Science and Engineering (WiSE) Program continues to be USC's premiere diversity initiative, serving as a model both within the University, across the country and internationally. A feature article in the USC Trojan Family Magazine for Autumn 2009 chronicled the program's growth and development and highlighted the research programs and career trajectories of several WiSE faculty. (See Appendix 1)

As this year marked the 10th Anniversary of USC WiSE, the program partnered with departments in the USC Viterbi School of Engineering and the USC College of Letters, Arts and Sciences to highlight the many excellent women scientists and engineers visiting the USC campus during 2009-2010. A broad range of disciplinary lectures featuring over 30 distinguished speakers took place throughout the Fall and Spring semesters, with additional opportunities for faculty, students, and the university community to talk informally with guests about their training and professional development. (See Appendix 2) The celebration culminated with a reception on May 6, 2010 attended by over 100 faculty, staff, and students. Remarks were given by WiSE Program Director and Vice Provost Jean Morrison, Provost and President-elect C. L. Max Nikias, and WiSE Advisory Board Chair and Lloyd Armstrong, Jr. Chair and Professor, Hanna Reisler. (See Appendix 4)

In addition to its suite of grant-making programs designed to support women scientists and engineers at all levels from undergraduate students to senior faculty, WiSE focuses nearly half of its annual budget on support for hiring and retaining tenured and tenure-track faculty in the USC College of Letters, Arts and Sciences and the USC Viterbi School of Engineering. Hiring of tenured and tenure-track WiSE faculty continues to be the program's primary goal, adding three new members to the Viterbi School of Engineering in 2009-10 including Dorit Hochbaum, a world-renowned scholar with wide-ranging operations research interests who will be the inaugural recipient of the Epstein Family Chair in the [Daniel Epstein Department of Industrial and Systems Engineering](#). Total number of WiSE faculty in the natural science and math fields of the USC College and the Viterbi School of Engineering now number 42. (See Appendix 5)

WiSE plays an active role in helping to increase the representation of women faculty candidates by hosting meetings with department chairs and search committees to outline strategies for broadening the scope of searches for outstanding diversity candidates. WiSE leadership also actively meets with women faculty candidates during campus visits. During the 2009-10 academic year, WiSE participated in meetings with 19 formal candidates during their campus visits (14 in Viterbi and 5 in the College). Several offers to WiSE faculty joining USC in 10-11 have already been successful.

WiSE faculty at USC continue to distinguish themselves with campus-wide and national level recognition for their research. For example, in 2009-10, Assistant Professors Andrea Armani and Ellis Meng were named among the "Top 35 Young Innovators" by Technology Review Magazine. Assistant Professors Andrea Hodge and Michelle Povinelli each received NSF CAREER awards, and Professor Katrina Edwards was awarded a \$25 million National Science Foundation grant to establish the Center for Dark Energy Biosphere Investigations, a new science and technology center. Lloyd Armstrong, Jr. Chair and Professor of Chemistry, Hanna Reisler, received the Provost's Mentoring Award for 2009 honoring a faculty member demonstrating sustained success in mentoring USC faculty, postdocs, graduate students and undergraduates.

The WiSE Advisory Board met twice per semester in 09-10 and continues to work with program administration to hone its recruitment and support programs for maximum impact. Areas of

particular focus this year included the establishment of guidelines governing requests for Bridge Funding under the “Major Support for Current Faculty” grant program and the refinement of the program that provides childcare subsidies through the USC Childcare Programs for eligible faculty and students. (See Appendices 6 and 7)

Enhanced communication efforts with WiSE campus constituencies were implemented in 2010 including the establishment of a WiSE listserv and a bi-weekly WiSE newsletter that condenses and publicizes campus and national news items, opportunities, and events information. (See Appendix 8)

### **WiSE Leadership**

A critical aspect of the success of WiSE is the direct involvement of men and women faculty, at all career levels and from both the USC College and the Viterbi School of Engineering, in planning, evaluating, and guiding the program’s development.

With the guidance of its diverse committees, WiSE programs have grown and evolved in response to changing needs. Continued evaluation of the success and utility of programs have helped to keep them relevant and effective.

### **WiSE Advisory Board**

The Advisory Board held four meetings in 09-10: two during the Fall semester (9/30/09 and 12/1/09) and two during the Spring semester (2/16/10 and 4/6/10).

The board focused its attention to refining and implementing guidelines for providing Bridge Funding as part of its Major Support for Current Faculty program, renewal of Childcare Subsidy awards and the administration of the new Merit Award for Excellence in Postdoctoral Research. The approved guidelines may be found in Appendices 6 and 7. The board approved a proposal by the Department of Mathematics to supplement Postdoctoral Merit Awards, if a candidate from Math rises to the top of the competition, which would assist with teaching buyout through the department’s unique NTT Assistant Professor Program.

For the first year of implementation of the new WiSE Merit Award for Excellence in Postdoctoral Research, the WiSE Advisory Board reviewed nominees and made recommendations for awards. Six nominations were submitted (5 from the College and 1 from Viterbi). The board concluded that it was difficult to compare nominee’s achievements across disciplines, but that given the small number of nominations they should be considered in one round of competition. The board recommended that two \$3,000 awards be made to Dr. Ksenia Bravaya (Chemistry – Advisor, Professor Anna Krylov) and Dr. Jill Sohm (Marine Environmental Biology – Advisor, Assistant Professor Eric Webb).

The board approved an initiative (for implementation in 2010-11) to survey senior WiSE faculty regarding issues related to advancement and retention. A questionnaire will be developed to probe faculty experiences concerning salary equity, administrative service, physical space, general support, departmental interactions, teaching load, leadership path, and methods for enhancing visibility and competitiveness. The results of the questionnaire will help to frame the discussion of how WiSE might engage in advocacy on these and other topics related to the career development of senior women scientists and engineers.

The February 16, 2010 meeting of the WiSE Advisory Board constituted the third annual joint meeting together with the WiSE school committees to discuss common issues. The school committee members provided input on how to improve communication with undergraduates about research opportunities and how to encourage the further development of networking groups, particularly among graduate students and postdoctoral researchers.

Two of the ways in which WiSE has improved its communications with students, faculty, and the university community this year are: 1) the institution of a WiSE listserv through which individuals can opt into receiving regular messages via email from the WiSE program and 2) the implementation of a bi-weekly newsletter including a calendar of upcoming events, announcements, links to articles of interest, and advertisement of relevant opportunities. (See Appendix 8) The newsletter is distributed through the WiSE listserv and posted in an archive on the WiSE website.

The 2009-10 members of the WiSE Advisory Board are:

Hanna Reisler, Chair  
Professor, Department of Chemistry  
USC College of Letters, Arts and Sciences

David D'Argenio  
Professor, Department of Biomedical Engineering  
USC Viterbi School of Engineering

Henryk Flashner  
Professor, Department of Aerospace and Mechanical Engineering  
USC Viterbi School of Engineering

Susan Forsburg  
Professor, Department of Biological Sciences (MCB)  
USC College of Letters, Arts and Sciences

Emily Liman  
Associate Professor, Department of Biological Sciences (Neuroscience)  
USC College of Letters, Arts and Sciences

Susan Montgomery  
Professor, Department of Mathematics  
USC College of Letters, Arts and Sciences

Geraldine Peters  
Research Professor, Department of Physics & Astronomy  
USC College of Letters, Arts and Sciences

Katherine Shing  
Associate Professor, Mork Family Department of Chemical Engineering & Materials Science  
USC Viterbi School of Engineering

## School WiSE Committees

Committees composed of faculty in each school serve as advisors on grant-making by reviewing and evaluating the applications and making recommendations for funding. A summary of the reviews conducted by each committee during the academic year follows:

### USC College Committee Reviews 09-10

<b>Program</b>	<b>Deadline</b>	<b>Number of Applicants</b>	<b>Number of Awards</b>
Undergraduate Research	28-Aug-09	3	3
Undergraduate Research	16-Jan-10	10	5
Graduate Merit	3-Mar-10	6	2
Graduate Top-Off	3-Mar-10	9	4 offered / 2 awarded
Undergraduate Research	1-Apr-10	7	6

### USC Viterbi School Committee Reviews 09-10

<b>Program</b>	<b>Deadline</b>	<b>Number of Applicants</b>	<b>Number of Awards</b>
Undergraduate Research	1-Aug-09	6	5
Undergraduate Research	15-Nov-09	9	5
Graduate Top-Off	15-Feb-10	14	4 offered / 3 awarded
Graduate Merit	3-Mar-10	2	2
Undergraduate Research	1-Apr-10	10	5

The 09-10 school committees include:

#### USC College WiSE Committee

Jill McNitt-Gray, Chair  
Professor, Department of Kinesiology, Biological Sciences and Biomedical Engineering

David Bottjer  
Professor, Department of Earth Sciences

Anna Krylov  
Professor, Department of Chemistry

Xianghong Jasmine Zhou  
Associate Professor, Department of Biological Sciences (Molecular & Computational)

#### USC Viterbi School of Engineering WiSE Committee

Leana Golubchik, Chair  
Associate Professor, Department of Computer Science

Sandeep Gupta  
Professor, Ming Hsieh Department of Electrical Engineering

Andrea Hodge  
Assistant Professor, Department of Aerospace and Mechanical Engineering

Ellis Meng  
Associate Professor, Department of Biomedical Engineering

### **Provost's WiSE Program Office**

The WiSE Program is housed in the Office of the Provost, with its physical office located in Grace Ford Salvatori Hall, Suite 315 (GFS-315).

Jean Morrison, Vice Provost for Academic Affairs and Graduate Programs and Professor of Earth Sciences in the USC College of Letters, Arts and Sciences serves as Director of the WiSE Program. Morrison was appointed as Director in 2002.

Assisting with program development and administration as well as coordination of committees, Nicole Hawkes, Associate Provost for Academic Affairs, serves as the WiSE Program Manager. Amanda Urias, Administrative Assistant for Academic Affairs provides administrative support.

### **New WiSE Faculty**

For the Fiscal Year 11, several offers to WiSE faculty candidates have been extended and still others are under consideration. A list of all current tenured and tenure-track WiSE Faculty (09-10) can be found in Appendix 5. The following are new WiSE faculty who joined USC in 09-10:



#### **Veronica Eliasson**

Assistant Professor Aerospace &  
Mechanical Engineering  
Postdoctoral Scholar, Graduate  
Aerospace Laboratories,  
California Institute of  
Technology  
Ph.D. 2007, Mechanics, Royal  
Institute of Technology, Sweden

**Malancha Gupta**

Assistant Professor Chemical  
Engineering & Materials  
Science

Postdoctoral Fellow, Chemistry,  
Harvard University, 2007-2009  
Ph.D. 2007, Massachusetts  
Institute of Technology



**Dorit Simona Hochbaum**

Inaugural recipient, Epstein Family  
Chair in the Daniel Epstein  
Department of Industrial &  
Systems Engineering  
Prior appointment: Professor,  
University of California,  
Berkeley, 1981-2010  
Ph.D. 1979, Wharton School of  
Business at the University of  
Pennsylvania  
(Arriving at USC Fall 2010)

**WiSE Financial Awards 2009-2010**

Financial awards by program:

<b>Program</b>	<b># Awards</b>
Faculty Recruitment / Faculty Retention	6
Major Support for Current Faculty	4
Lloyd Armstrong, Jr. Chair	1
Supplemental Faculty Support	20
Postdoctoral Support	4
Merit Award for Excellence in Postdoctoral Research	2
Graduate Top-Off	4
Merit Fellowship for Current Ph.D.	4
Travel Grants	63
Undergraduate Research Grants (See: Appendix 9)	29
Child Care Subsidies	9
Support for Faculty Pregnancy / Childbirth / Adoption	0
Support for Ph.D. and Postdoc Pregnancy / Childbirth / Adoption	8



09-10 Recipients of the Major Faculty Support for Current Faculty award include:

<b>Name</b>	<b>Title</b>	<b>School</b>	<b>Proposal</b>
Eva Kanso	Assistant Professor of Aerospace and Mechanical Engineering	USC Viterbi School	From Fish Locomotion to Cell Motility
Alice Parker	Professor of Electrical Engineering (Systems)	USC Viterbi School	The Synthetic Cortex as a Complex System
Astrid Schnetzer	Research Assistant Professor of Biological Sciences (Marine)	USC College	Protistan community structure as a function of top-down processes in the Southern Ocean
Kathy Shing	Associate Professor Chemical Engineering and Materials Science	USC Viterbi School	Molecular Dynamics Study of Photo-responsive Surfactants on Enzymes

In addition to its formal suite of grant-making programs, costs were incurred in support of program activities (such as receptions, lecturers, website maintenance, etc.) and administrative expenses. WiSE also awarded several discretionary grants to support activities that work toward the goal of increasing the representation of women in science and engineering. In 2009-10, these include:

<b>Group</b>	<b>Purpose</b>
Department of Computer Science (Viterbi School)	To share expenses for 10 students to attend the “Grace Hopper Celebration of Women in Computing” event in Tucson, AZ (September 30 – October 3, 2009).
Women in Electrical Engineering Ph.D. Group (Viterbi School)	To support the annual activities of the networking and professional development group among graduate women in electrical engineering.
Department of Computer Science (Viterbi School)	To support 2 of the 8 USC students attending the CRA-W Graduate Cohort Workshop in Bellevue, WA (April 23-24, 2010). 4 students were funded by the workshop and 2 were funded by the department.
Women in Physics (USC College)	To share expenses for the Annual Conference for Undergraduate Women in Physics at USC (January 2010).
Women in Mathematics (USC College)	To support the annual activities of the networking and professional development group among graduate and undergraduate women in math.
Departments of Earth Sciences (USC College)	To support the “USC Young Researchers Program,” a Summer Research Experience devised and executed by USC graduate students Carie Frantz and Laurie Chong for USC-Area High School Students in Earth Science and Marine Environmental Biology.

### **WISE Activities**

#### **WiSE 10<sup>th</sup> Anniversary Celebration**

In celebration of the 10th Anniversary of the USC Women in Science & Engineering Program, the WiSE Advisory Board recommended an enhanced slate of programmatic activities during the 2009-10 academic year. WiSE partnered with departments in the USC Viterbi School of Engineering and the USC College of Letters, Arts and Sciences to highlight the many excellent

women scientists and engineers visiting the USC campus. Thirty four disciplinary lectures were scheduled featuring distinguished speakers throughout the Fall and Spring semesters, covering a broad range of topics such as “Gamma Ray Bursts as Cosmological Tools” and “21<sup>st</sup> Century Port Development.”

Thirty-one speakers were originally listed as part of the “WiSE 10<sup>th</sup> Anniversary Celebration Speaker Series” and the calendar of events was distributed throughout the science and engineering departments via a large-format poster and electronic flyer. (See Appendix 2) Three additional speakers were subsequently added to the series: Geraldine Knatz, CEO of the Port of Los Angeles in Civil Engineering; Naomi Halas, from Rice University in Electrical Engineering; and Mina Teicher, from Bar-Ilan University in Mathematics. (See Appendix 3) Two lectures were canceled: Marsha Lester, from University of Pennsylvania in Physical Chemistry and Margi Rusmore, from Occidental College in Earth Sciences. Updates to the schedule were circulated via the WiSE Bi-weekly Newsletter and the WiSE website. The resulting complete series of 32 lecturers taking place at the University Park Campus was extremely well received.

In addition to the formal lectures, opportunities were afforded to faculty, students, and the university community to talk informally with guests about their training and professional development during a series of receptions, roundtables, lunches, and teas sponsored by WiSE.

In culmination of the year-long series, WiSE hosted a 10<sup>th</sup> Anniversary Celebration Reception on Thursday, May 6, 2010, from 3:00-5:00 p.m. at the Andrus Gerontology Courtyard. Remarks in recognition of the occasion were given by WiSE Program Director and Vice Provost Jean Morrison, Provost and President-elect C. L. Max Nikias, and WiSE Advisory Board Chair and Lloyd Armstrong Jr. Chair and Professor, Hanna Reisler. Guests received a special “WiSE 10<sup>th</sup> Anniversary” mug in honor of the celebration. (See photos in Appendix 4)

In formal conclusion of the WiSE 10<sup>th</sup> Anniversary year, Dr. Rita Colwell, Distinguished Professor of the University of Maryland College Park and John Hopkins University, and the 11<sup>th</sup> Director of the National Science Foundation (NSF) from 1998-2004, will give the WiSE Distinguished Lecture for 2010 on October 22. Dr. Colwell’s visit to USC is jointly sponsored by WiSE, the Marine Environmental Biology Program, the USC Wrigley Institute for Environmental Studies, and the Dark Energy Biosphere Institute.

### **New Faculty Recruitment**

As in previous years, WiSE leadership offered to meet with women faculty candidates during their visits to campus, both to transmit information about the WiSE program and resources and to provide opportunities for candidates to ask questions about USC and work-family issues that they might not ordinarily feel comfortable discussing as part of their formal interview process. While hiring activities have been less vigorous given the current economic climate, departments continued to take advantage of this offer and senior WiSE faculty met with 19 faculty candidates over the course of 2009-10. The list of candidates is below:

### **WiSE Faculty Achievements and Special Activities**

Articles featuring WiSE faculty are continuously assembled in a chronological archive on our website and included in our bi-weekly newsletter in order to chart their achievements and activities. It is the hope that highlighting the outstanding work of WiSE faculty at USC will continue to contribute to the program’s recruitment goals.

WiSE faculty continued to receive many contracts and grants, and in particular many took advantage of the stimulus grants awarded by several funding agencies. Below we list additional accomplishments, honors, and special activities by WiSE Faculty reported in 09-10:

Name	Title	School	Department	Achievement
Andrea Armani	Assistant Professor	Viterbi	Mork Family Department of Chemical Engineering and Materials Science	Recipient, Congressionally Directed Medical Research Program Young Investigator Award, 2010
				Recipient, USC Mellon Mentoring Award, 2010
				Appointed First Holder of the USC Fluor Early Career Chair in Engineering, 2009
				2009-2010 SPIE (The Society of Photo-Optical Instrumentation Engineers) Visiting Lecturer
				Recognized among the world's top innovators under the age of 35 by <i>Technology Review</i> magazine, TR35 2009
Andrea Armani (PI) and Michelle Povinelli (Co-PI)	Assistant Professors	Viterbi	Mork Family Department of Chemical Engineering and Materials Science, and Ming Hsieh Department of Electrical Engineering	Awarded Office of Naval Research-DURIP, grant for "Instrumentation for Imaging of Integrated Photonic, Biophotonic and Nanoplasmonic Devices"
Samantha Butler	Assistant Professor	College	Biological Sciences (Neurobiology)	Member, Provost's 2009-2010 Task Force on USC Neurosciences
Elaine Chew	Associate Professor	Viterbi	Daniel J. Epstein Department of Industrial and Systems Engineering, and Ming Hsieh Department of Electrical Engineering	Keynote Speaker, Society for Music Perception and Cognition Conference, Sept 2009
				Member, Advisory Board for the Sustainable Software for Digital Music and Audio Research
				Member, Steering Committee for the Online Music Recognition and Searching 2 Project (OMRAS2)
				Member, Advisory Committee for the Center for Digital Music at Queen Mary, University of London (C4DM)
				Secretary, Society for Mathematics and Computation in Music (SMCM)
				Member, MIT Music and Theater Arts Visiting Committee

Ann Chervenak and Ewa Deelman	Research Assistant Professor Research Associate Professor	Viterbi	Computer Science	Participants in the research team awarded nearly \$9 million in American Recovery and Reinvestment Act (ARRA) funds to map how genes are expressed in different regions of the human brain throughout development
Linda Duguay	Research Associate Professor	College	Biological Sciences (Marine)	Recipient, National Science Foundation (NSF) Grant to conduct workshops aimed at improving the broader impact efforts of scientists Participant, NSF workshop in China to discuss foundation-supported ocean science education projects
Katrina Edwards	Professor	College	Biological Sciences (Marine) and Earth Sciences	Promoted to Professor of Biological Sciences Recipient, \$25 million NSF grant to establish the Center for Dark Energy Biosphere Investigations (DEBI)
Susan Forsburg	Professor	College	Biological Sciences (Molecular & Computational)	Recipient, \$787,645 in 2 ARRA National Institutes of Health (NIH) grants from 2009-11 Serving 3 year term as USC Center for Excellence in Research Faculty Fellow Member, Executive Council for Extramural Grants, American Cancer Society Standing member, NIH Cellular Signaling and Regulatory Systems panel
Leana Golubchik	Associate Professor	Viterbi	Computer Science	Associate Chair for PhD programs, Computer Science Department
Karla Heidelberg	Assistant Professor	College	Biological Sciences (Marine)	Associate Editorial Board Member, "Frontiers in Aquatic Microbial Ecology"
Dorit Hochbaum	Professor	Viterbi	Daniel J. Epstein Department of Industrial and Systems Engineering	Elected as inaugural holder of the Epstein Family Chair
Andrea Hodge	Assistant Professor	Viterbi	Aerospace and Mechanical Engineering	Recipient, 2010 NSF Faculty Early Career Development (CAREER) Award
Maja Matarić	Professor	Viterbi	Computer Science, Biological Sciences (Neurobiology), and Pediatrics	Recipient, 2010 USC Remarkable Woman Award Participant in USC TEDx Event and USC New Media Workshop by demonstrating how robots interact with humans, such as children with autism Senior Associate Dean for Research, Viterbi School of Engineering

				Member, Provost's 2009-2010 Task Force on USC Neurosciences
				Recipient, Academic Senate Distinguished Faculty Service Award 2009
Jill McNitt-Gray	Professor	College	Kinesiology, Biological Sciences (Integrative & Evolutionary), and Biomedical Engineering	Elected President of the American Society of Biomechanics for 2010-2011
Ellis Meng	Associate Professor	Viterbi	Biomedical Engineering	Promoted to Associate Professor of Biomedical Engineering with tenure
				Recognized among the world's top innovators under the age of 35 by <i>Technology Review</i> magazine, TR35 2009
Meghan Miller	Assistant Professor	College	Earth Sciences	Chair of the USArray Transportable Array Working Group, an NSF sponsored group
Urbashi Mitra	Professor	Viterbi	Ming Hsieh Department of Electrical Engineering	Named to 3 year term as USC Center for Excellence in Research Faculty Fellow beginning Fall 2010
Susan Montgomery	Professor	College	Mathematics	Invited by the Association for Women in Mathematics to give the annual Noether Lecture at the Joint Math Meetings, Jan. 2011
Jean Morrison	Professor	College	Earth Sciences	Vice Provost for Academic Affairs and Graduate Programs
Geraldine Peters	Research Professor	College	Physics & Astronomy	Member, USC LAS Faculty Council and USC Academic Senate
				Member, SOC International Astronomical Union (IAU) meetings 2010 & 2011
Elena Pierpaoli	Associate Professor	College	Physics & Astronomy	Participant, Planck Telescope Mission
Michelle Povinelli	Assistant Professor	Viterbi	Ming Hsieh Department of Electrical Engineering	Recipient, 2010 NSF Faculty Early Career Development (CAREER) Award
				Recipient, Army Young Investigator Award
Hanna Reisler	Professor	College	Chemistry	Recipient, Provost's Mentoring Award 2009
Lorraine Turcotte	Associate Professor	College	Kinesiology and Biological Sciences (Integrative & Evolutionary)	Recipient, 2009 Southwest American College of Sports Medicine (SWACSM) Recognition Award
Xianghong Jasmine Zhou	Associate Professor	College	Biological Sciences (Molecular & Computational)	Recipient, Young Computational Biologist Award at the International Conference on Computational and Systems Biology, 2009
				Member, editorial board of "BMC Genomics"

				Member, NIH "Biodata Management and Analysis" study section
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# Appendix



Appendix 1: USC Trojan Family Magazine, "The WiSE Women of Science"

See the full article at: [http://www.usc.edu/dept/pubrel/trojan\\_family/pdf/autumn09.pdf](http://www.usc.edu/dept/pubrel/trojan_family/pdf/autumn09.pdf), pg 26-34 of the pdf or in the USC News at: [http://uscnews.usc.edu/science\\_technology/the\\_wise\\_women\\_of\\_science.html](http://uscnews.usc.edu/science_technology/the_wise_women_of_science.html).

The cover of the USC Trojan Family Magazine, Autumn 2009, features a photograph of two women in a laboratory setting. The woman on the left has dark hair and is wearing a red polka-dot shirt under a dark blue jacket. The woman on the right has blonde hair, wears glasses, and is wearing a dark blue jacket over a light blue shirt. They are standing in front of laboratory equipment, including a large piece of machinery with a gauge and various tubes. The background is slightly blurred, showing more of the lab environment.

PUBLISHED BY THE UNIVERSITY OF SOUTHERN CALIFORNIA VOLUME 41 NUMBER 3 AUTUMN 2009

# USC

*Trojan Family Magazine*

»In uncertain economic times, a new era in health care begins at USC

»Minuscule microbes deep in the Earth may be our earliest ancestors

»Stephen Hartke and T.C. Boyle join an elite group in American arts and letters

## The WiSE Women of Science

A decade ago, USC trailed national faculty gender-diversity averages in every scientific discipline. No longer.



**Appendix 2:**

**Flyer, WiSE 10<sup>th</sup> Anniversary Celebration Speaker Series**

2009 / 2010



UNIVERSITY OF SOUTHERN CALIFORNIA



# WOMEN IN SCIENCE & ENGINEERING

## 10<sup>TH</sup> ANNIVERSARY CELEBRATION SPEAKER SERIES

**SEPTEMBER 22****SUSAN KAUZLARICH** from UC Davis

Chemistry: Synthesis and Characterization of Zintl Phases for Thermoelectric Applications  
**Location: SSL 150, 12:30pm**

**SEPTEMBER 28****GAIL FANNUCI** from University of Florida

Physical Chemistry: Site-Directed Spin Labeling Applications in Protein Flexibility  
**Location: SSL 150, 12:00pm**

**OCTOBER 5****ABBY KAVNER** from UCLA

Earth Sciences: TBA  
**Location: ZHS 159, 3:30pm**

**OCTOBER 6****ANGELICA STACY** from UC Berkeley

Chemistry: Nanowire Arrays for Energy Applications  
**Location: SSL 150, 12:30pm**

**OCTOBER 9****MARGARET WRIGHT** from NYU

Math and Computer Science: Optimization without derivatives: consensus and controversies  
**Location: GER Auditorium, 3:30pm**

**OCTOBER 15****FAN CHUNG GRAHAM** from UCSD

Computer Science: Graph theory in the information age  
**Location: SSL 150, 4:00pm**

**OCTOBER 20****CANDACE KLUG** from Medical College of Wisconsin

Chemistry: TBA  
**Location: Chemistry SSL 150, 12:30pm**

**OCTOBER 26****ROSABLA PERNA** from JILA, University of Colorado, Boulder

Physics and Astronomy: Gamma-Ray Bursts as Cosmological Tools  
**Location: SLH 102, 4:15pm**

**NOVEMBER 13****MARY RODGERS** from University of Maryland

Physical Therapy: TBA  
**Location: TBA**

**NOVEMBER 16****ANDREA GHEZ** from UCLA

Physics and Astronomy: Bringing our Galaxy's Supermassive Black Hole and its Environs into Focus with Laser Guide Star Adaptive Optics  
**Location: SGM 101, 4:00pm**

**NOVEMBER 19****RINA TANNENBAUM** from Georgia Tech

Materials Science: Conjugate nanostructures and their potential applications  
**Location: OHE 122, 12:45pm**

**NOVEMBER 19****ELAINE OSTRANDER** from NIH

Biology: Genetic Mapping of Complex Traits in the Domestic Dog: The Long and Short of It  
**Location: RRI 101, 4:00pm**

**NOVEMBER 30****AURORA CLARK** from Washington State University

Physical Chemistry: TBA  
**Location: SSL 150, 12:00pm**

**DECEMBER 3****VIRGINIA ARMBRUST** from University of Washington

Marine Biology: Comparative genomics of marine microbes  
**Location: HNB 100, 4:00**

**JANUARY 7****MOLECULES, CELLS, AND CIRCUITS SYMPOSIUM**

**CATHERINE DULAC** from Harvard University  
 Neuroscience: TBA  
**Location: HNB 100**

**YISHU JIN** from UCSD

Neuroscience: TBA  
**Location: HNB 100**

**LESLIE VOSSHALL** from Rockefeller University  
 Neuroscience: TBA  
**Location: HNB 100**

**JANUARY 12****CASSANDRA FRASER** from University of Virginia

Chemistry: Light Emitting Boron Biomaterials  
**Location: SSL 150, 12:30pm**

**JANUARY 21****MARY VERNON** from University of Wisconsin

Computer Science: Quantitative System Design  
**Location: SSL 150, 4:00pm**

**JANUARY 25****MAGALI BILLEN** from UC Davis

Earth Sciences: Simulating Subduction Dynamics: Integrating Rock Mechanics, Seismological Data and Geophysics to Determine the Fate of Sinking Tectonic Plates in the Earth's Interior  
**Location: ZHS 159, 3:30pm**

**FEBRUARY 1****LISA GRANT** from UC Irvine

Earth Sciences: Rupture history of the San Andreas fault in the Carrizo Plain since A.D. 1200  
**Location: ZHS 159, 3:30pm**

**FEBRUARY 5****JULIANA BARR** from Stanford University

Biomedical Engineering: TBA  
**Location: TBA**

**FEBRUARY 8****MARSHA LESTER** from University of Pennsylvania

Physical Chemistry: TBA  
**Location: SSL 150, 12:00pm**

**FEBRUARY 9****MARGARET MARTONOSI** from Princeton University

Electrical Engineering: Energy-Efficient Computing: From the Handheld to the Data Center  
**Location: TBA**

**FEBRUARY 23****CATHY MURPHY** from University of Illinois

Chemistry: Three Short Stories About Gold Nanorods  
**Location: SSL 150, 12:30pm**

**FEBRUARY 24****IDUN REITEN** from Norwegian University of Science and Technology

Mathematics: TBA  
**Location: TBA**

**MARCH 22****MARGI RUSMORE** from Occidental College

Earth Sciences: TBA  
**Location: ZHS 159, 3:30pm**

**MARCH 23****MARY ANN MORAN** from University of Georgia

Marine Biology: Functional Metagenomics Tackles the Marine Carbon Cycle  
**Location: Torrey Webb Room, AHF, 12:00pm**

**APRIL 12****ELLEN DRUFFEL** from UC Irvine

Earth Sciences: The dynamic nature of organic matter in the ocean  
**Location: ZHS 159, 3:30pm**

**DATE TBA****ROSA DI FELICE** from University of Modena and Reggio Emilia

Theoretical Nanoscience: TBA  
**Location: TBA**

**DATE TBA****DANIELA RUS** from MIT

Computer Science: TBA  
**Location: TBA**

**BIOLOGY**  
**BIOMEDICAL ENGINEERING**  
**CHEMISTRY**  
**COMPUTER SCIENCE**  
**EARTH SCIENCES**

**ELECTRICAL ENGINEERING**  
**MARINE BIOLOGY**  
**MATERIALS SCIENCE**  
**MATH AND COMPUTER SCIENCE**  
**MATHEMATICS**

**NEUROSCIENCE**  
**PHYSICAL CHEMISTRY**  
**PHYSICAL THERAPY**  
**PHYSICS AND ASTRONOMY**  
**THEORETICAL NANOSCIENCE**

Please refer to the Wise website for the latest updates and announcements:  
[www.usc.edu/programs/wise](http://www.usc.edu/programs/wise)

**usc | wise**  
 Women in Science and Engineering

**The USC Women in Science and Engineering (WiSE) Program**  
invites you to a special Luncheon and Conversation with  
**Professor Mina Teicher**

Focused on her Leadership in Promoting Women in Science

**Friday, February 5, 2010; 12:00 – 1:30pm**  
**California Room, Davidson Conference Center**

Presented in collaboration with the US – Israel Binational Science Foundation (BSF) and  
the Consulate General of Israel, Los Angeles



Professor Mina Teicher served as Israel's Chief Scientist of the Ministry of Science from 2005 – 2007 and is the immediate Past Chair of the Board of Governors of the United States - Israel Binational Science Foundation (BSF). She is a professor of mathematics at Bar-Ilan University, and she has been active on issues of women in science and the politics of science for many years.

Professor Teicher has been a faculty member of the Department of Mathematics at Bar-Ilan University since 1982, and served as department chair from 1997 - 2001. She was appointed Vice President for Research at the university in 2001, and held that position until 2005. She is director of the Emmy Noether Research Institute, chair of the Education Committee of the European Mathematical Society, and chair of the National Council for the Advancement of Women in Science and Technology. She is the elected Vice President of the International Commission for Mathematical Instruction (ICMI).

Professor Teicher earned her Ph.D. in mathematics from Tel Aviv University and received a postdoctoral fellowship from Princeton's Institute for Advanced Study. She has published over 100 articles in refereed journals, 40 manuscripts and one book. Professor Teicher serves as an editor for three journals, referee for 14 mathematical journals and as an evaluator for four scientific foundations. She has supervised 15 postdoctoral fellows, 25 Ph.D. and 15 M.Sc. students.



United States – Israel  
Binational Science Foundation



CONSULATE GENERAL OF ISRAEL  
LOS ANGELES



**Appendix 4: Photographs, WiSE 10<sup>th</sup> Anniversary Celebration Reception  
May 6, 2010, Andrus Gerontology Courtyard, USC**



Complete photo gallery at: [http://www.usc.edu/programs/wise/events/10th\\_anniversary\\_reception.html](http://www.usc.edu/programs/wise/events/10th_anniversary_reception.html)

## Appendix 5: Current WiSE Faculty 09-10 (Tenured and Tenure-Track)

### The USC College of Letters, Arts and Sciences

#### Life Sciences

Sarah Bottjer	Professor	Biological Sciences (Neuro)
Katrina Edwards	Professor	Biological Sciences (Marine)
Susan Forsburg	Professor	Biological Sciences (MCB)
Miriam Susskind	Professor	Biological Sciences (MCB)
Suzanne Edmands	Associate Professor	Biological Sciences (Marine)
Judith Hirsch	Associate Professor	Biological Sciences (Neuro)
Emily Liman	Associate Professor	Biological Sciences (Neuro)
Xianghong Zhou	Associate Professor	Biological Sciences (MCB)
Michelle Arbeitman	Assistant Professor	Biological Sciences (MCB)
Samantha Butler	Assistant Professor	Biological Sciences (Neuro)
Liang Chen	Assistant Professor	Biological Sciences (MCB)
Karla Heidelberg	Assistant Professor	Biological Sciences (Marine)
Xuelin Wu	Assistant Professor	Biological Sciences (MCB)
Wiebke Ziebis	Assistant Professor	Biological Sciences (Marine)
Jill McNitt-Gray	Professor	Kinesiology
Lorraine Turcotte	Associate Professor	Kinesiology

#### Physical Sciences / Mathematics

Hanna Reisler	Professor	Chemistry
Anna Krylov	Professor	Chemistry
Jean Morrison	Professor	Earth Science
Sarah Feakins	Assistant Professor	Earth Science
Meghan Miller	Assistant Professor	Earth Science
Susan Friedlander	Professor	Mathematics
Susan Montgomery	Professor	Mathematics
Jia Grace Lu	Associate Professor	Physics & Astronomy
Elena Pierpaoli	Associate Professor	Physics & Astronomy

### The USC Viterbi School of Engineering

Veronica Eliasson	Assistant Professor	Aerospace and Mechanical Engineering
Andrea Hodge	Assistant Professor	Aerospace and Mechanical Engineering
Eva Kanso	Assistant Professor	Aerospace and Mechanical Engineering
Ellis Meng	Associate Professor	Biomedical Engineering
Katherine Shing	Associate Professor	Chemical Engineering & Materials Science
Andrea Armani	Assistant Professor	Chemical Engineering & Materials Science
Malancha Gupta	Assistant Professor	Chemical Engineering & Materials Science
Burcin Becerik-Gerber	Assistant Professor	Civil and Environmental Engineering
Amy Rechenmacher	Assistant Professor	Civil and Environmental Engineering
Maja Matarić	Professor	Computer Science
Leana Golubchik	Associate Professor	Computer Science
Urbashi Mitra	Professor	Electrical Engineering
Alice Parker	Professor	Electrical Engineering
Michelle Povinelli	Assistant Professor	Electrical Engineering
Dorit Hochbaum	Professor	Industrial and Systems Engineering
Elaine Chew	Associate Professor	Industrial and Systems Engineering
Shinyi Wu	Assistant Professor	Industrial and Systems Engineering

## **Appendix 6: Guidelines for WiSE Contribution to Bridge Funding**

### **Bridge Funding**

#### **Guidelines for WiSE Support**

The primary responsibility for bridge funding rests with the deans. However, from time to time the external funding situation becomes particularly difficult causing interruption in funding, and in these cases the WiSE program might be able to help by providing additional funds. The WiSE program can be approached only after negotiations with deans have started.

The WiSE program will enhance, rather than replace, dean's bridge funding, and will be given following discussions between the WiSE program director and the dean. In these discussions it should be established that enhancement by WiSE funds would be crucial to maintaining the PI's research effort.

The recommended WiSE funding level relative to the deans' contribution should not exceed a ratio of 1:2, i.e. one WiSE dollar for every two dollars given by deans.

The WiSE application should include:

- a. Evidence of proposals pending
- b. Plan for reinitiating funding
- c. Detailed budget for the total amount needed
- d. Description of how the WiSE contribution will help
- e. WiSE Justification

## **Appendix 7: Guidelines for Renewal of WiSE Childcare Subsidy Awards**

### **WiSE Childcare Subsidy**

#### **Guidelines for Renewal**

There is no deadline for application to the WiSE Childcare Subsidy program and awards are made based on the availability of funds and the applicant's ability to meet the necessary eligibility criteria. Repeat applicants may request renewal of their subsidy, but renewal is not automatic and is not guaranteed beyond the initial one-year award. As demand for the subsidy increases and a limited number of awards are available in a given year, preference will be given to those applicants who have not previously received an award.

Repeat applicants to the WiSE Childcare Subsidy program following expiration of a one-year award are required to provide a statement that outlines how receipt of the subsidy has enabled their research and/or degree progress. They must also provide verification of their child's continuing enrollment in the USC Childcare program.



For more information, visit our website: [www.usc.edu/wise](http://www.usc.edu/wise)

**USC Women in Science and Engineering Newsletter**  
**April 5, 2010 (Published Bi-Weekly)**

**Issue 1.6**

**Calendar: WiSE  
10<sup>th</sup> Anniversary**

A complete list of the Speaker Series can be found at: [10<sup>th</sup> Anniversary Speaker Series](#).

**Monday, April 12<sup>th</sup>**

- **Ellen Druffel** (UC Irvine); ZHS 159, 3:30pm
- Earth Sciences: The dynamic nature of organic matter in the ocean
- *Reception at 4:30pm in ZHS 118, following the lecture, hosted by WiSE. All are welcome.*

**SAVE THE DATE:**

**Thursday, May 6, 2010, 3:00-5:00pm**  
**WiSE 10<sup>th</sup> Anniversary Celebration Reception**

**Calendar: WiSE  
Networking Meetings**

**WiSE Postdoc Group Meeting**

**Friday, April 9<sup>th</sup>, 12pm, RRI 321**

We will be reconnecting after our meeting hiatus, and discussing programming ideas for the next few months and the formation of a postdoc association at the University Park Campus.

Bring your lunch; dessert will be provided.

For more info, contact Sarah Sabatinos, [wisepostdoc@gmail.com](mailto:wisepostdoc@gmail.com).

**WiSE Faculty Networking Meetings**

- Thursday, April 29<sup>th</sup>, 12pm, HNB 107
- Thursday, May 27<sup>th</sup>, 12pm, HNB 107

**Calendar: Other Events**

**ACE Southern California Network: Free Webinar Series**

April 15, 2010, 11:30am - 12:30pm

Topic: From the Inside Out... Meeting Today's Leadership Challenges

Presenter: *Dr. Soraya Coley, Provost and Vice President for Academic Affairs, CSU Bakersfield*

Register for webinars at: <http://lynx.csusm.edu/cascade/forms/owhe.asp>.

**11th Annual USC Undergraduate Symposium for Scholarly and Creative Work**

Wednesday, April 14, 2010

The Undergraduate Symposium for Scholarly and Creative Work provides undergraduates with the unique opportunity to exhibit and share examples of their significant research and creativity with the university community.

For more information: <http://www.usc.edu/programs/ugprograms/ugsymposium/>.



## Kellogg Center for Biotechnology - Executive Education: Business for Scientists

April 12-16, 2010

*BUSINESS FOR SCIENTISTS* is designed to introduce scientists to business concepts and industry specific tools and frameworks. Basic knowledge in accounting, strategy, finance, and management will be covered and its relevance applied to the biomedical sector. The course will enable you to think of how innovation moves from bench to market.

For more info: [Executive Education: Business for Scientists](#), or contact Jeanne Sheppard: [jshppard@kellogg.northwestern.edu](mailto:jshppard@kellogg.northwestern.edu).

## Opportunities

Please go to the [Opportunities of Interest](#) page of the WiSE website for a complete list of opportunities.

### NEESreu Program, Summer 2010

#### Application Review begins March 15, 2010 – open until filled

The George E. Brown, Jr. Network for Earthquake Engineering Simulation (NEES) is a network of experimental sites across the country designed to enhance engineers' and scientists' potential for discovery and collaboration.

The NEESreu is a dynamic 10-week summer research program for upper division undergraduate students interested in civil engineering, computer science/ engineering, seismic risk mitigation, or engineering education. The program period runs from June through August, with exact dates depending upon location. Students receive a \$5,000 stipend inclusive of housing expenses. Visit [www.nees.org](http://www.nees.org) for more information on the laboratory sites.

Apply online at: [www.nees.org/education/resources/undergrad/](http://www.nees.org/education/resources/undergrad/).

### CRA-W CAPP Advanced Career Mentoring Workshop, June 25-26, 2010

#### APPLICATION DEADLINE: April 15, 2010

The 2010 CAPP Professional Development workshop will be held June 25-26 in Providence, Rhode Island.

The goal of the workshop is to increase the percentage of Computer Science and Engineering women faculty members and researchers who reach the top of their respective career tracks: faculty members by being promoted to full professor, and researchers in industrial or governmental labs by being promoted to the top of their institution's technical ladder or by entering research management.

The cornerstone of the CAPP workshop will be the involvement of senior women, appointed as CRA-W Distinguished Professors or Researchers, who will actively participate in the program as role models, mentors, and advisers to the cohort. The project will build a community of associate professors and senior labs researchers, providing them with mentoring, leadership training, encouragement, and ongoing peer-support activities. The highly interactive workshop will include a Professional Development Workshop, a series of smaller meetings in conjunction with technical conferences/seminars, and ongoing electronically-based support activities.

Apply now at: <http://www.cra-w.org/capp> through April 15th.

### The MoSAic REU at Iowa State University, June 2 – August 7, 2010

#### APPLICATION DEADLINE: April 23, 2010

This is a ten-week research experience in the area of Microscale Sensing Actuation and Imaging. Students will pursue fundamental investigations related to design and manufacturing of microscale sensors, actuators and smart materials as well as development of state-of-the-art imaging and diagnostic systems. The research experiences will be complemented by cohort experiences including a suite of short courses, professional development and extracurricular activities. A unique component of the REU site will be a workshop on ethical issues pertaining to engineering research. Students can walk away from their REU experience where they evolved from a dependent status to a relatively independent status with life-long learning skills that will impact their contributions to society. Includes weekly stipend, travel expenses, food and housing.

More information can be found at <http://www.me.iastate.edu/mosaic>

### ASEE/NSF Corporate Research Postdoctoral Fellowship for Engineers Program

#### DEADLINE: ASAP, will close when filled

40 highly qualified recent engineering Ph.D. recipients will conduct meaningful, innovative research at some of the nation's foremost research-performing companies. Program provides \$50,000 stipend expenses, \$6,500 insurance; and the host corporation pays \$25,000, so fellows will receive a minimum of \$75,000 for the one year program at a leading-edge corporate laboratory.

Apply at <https://aseensfip.asee.org/apply/sessions/new>. Additional program details: <https://aseensfip.asee.org/>  
For further information, contact Tom Juliano at [aseensfip@asee.org](mailto:aseensfip@asee.org) or (202) 331-3517.

## **NEWS at USC**

### **WiSE Women Recognized at 2010 "Remarkable Women" Awards Ceremony**

Congratulations to the WiSE Women recipients of the USC "Remarkable Women Awards" this year, given on March 3.

- Professor Maja Mataric, Professor and Dean of the Computer Science Department
- Michele Dea, Chemistry Department Administrative Manager
- Maud Comboul, graduate student, Civil Engineering
- Wendy Vu, graduate student, Molecular Biology
- Laura Pomatto, undergraduate student, Biomedical Engineering

Please see the [WiSE News webpage](#) for photos and details.

### **Entre átomos y moléculas: Latina sobresale en la nanotecnología**

La Opinión, 3/15/10

Spanish article about our own Professor Andrea Hodge: "Andrea María Pulgarín Ochoa era una de esas raras estudiantes a quien le gustaban las matemáticas."

[Click here for the complete story \(in Spanish\).](#)

### **A Woman's Place is at the Forefront of Research**

USC Viterbi School of Engineering News, 3/23/10

"Meet the team assembled by Andrea Armani of the Mork Department to create new optical devices and biosensors."

[Click here to see the Video Story.](#)

## **Other News & Articles of Interest**

### **Colleges, Professors Discourage Women from Pursuing STEM Careers**

Campus Technology, 3/23/10

Significant numbers of women and minorities who made it into science careers were discouraged along the way. What's more, the bulk of those who said they've experienced discouragement most often cited their educational institutions as the offenders, according to a report released this week.

[Click here for the full story.](#)

**Appendix 9: WiSE Undergraduate Research Fellows 09-10**  
**Presentations at the 12<sup>th</sup> Annual USC Undergraduate Symposium for Scholarly and Creative Work**  
**April 14, 2010**

**WiSE Undergraduate Fellows who received awards:**



**Rebecca Gibbs:**  
Second Prize,  
Life Sciences



**Negar Kahen (left):**  
Honorable Mention,  
Life Sciences



**Jasmine Thum:**  
Honorable Mention,  
Life Sciences

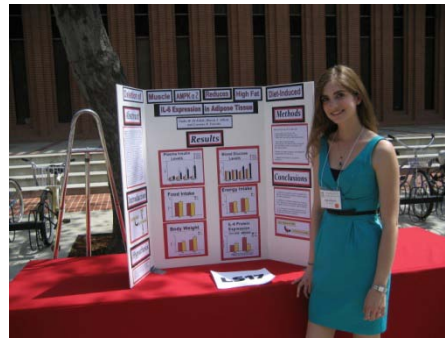


**Lesley Petrie:**  
Honorable Mention,  
Physical Sciences & Engineering

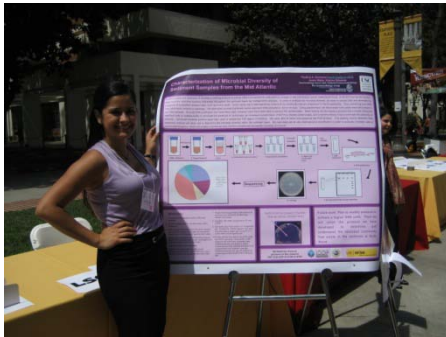
**Presentations at the Symposium**



**Lesley Petrie (Earth Sciences)**  
Faculty Mentor: Sarah Feakins



**Nadia El-Fakih (Biological Sciences)**  
Faculty Mentor: Lorraine Turcotte



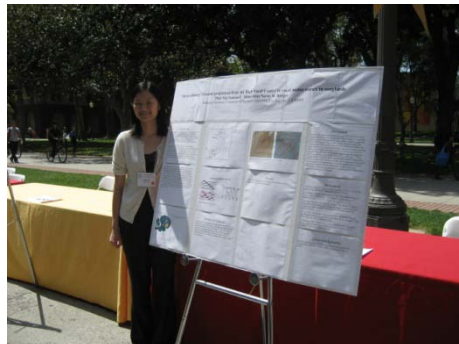
**Paulina Gonzalez (Biological Sciences)**  
Faculty Mentor: Katrina Edwards



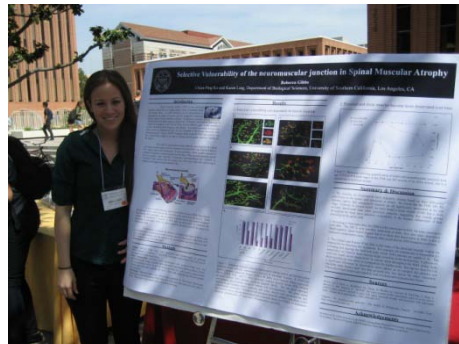
**Negar Kahen (Biological Sciences)**  
with Postdoc Mentor Maren Friesen  
Faculty Mentor: Sergey Nuzhdin



**Betsi Crow-right-(Biological Sciences)**  
with Postdoc Mentor Sarah Sabatinos  
Faculty Mentor: Susan Forsburg



**Zhiqi Yip (Biological Sciences)**  
Faculty Mentor: Sarah Bottjer



**Rebecca Gibbs**  
(Biological Science & Neuroscience)  
Faculty Mentor: Chien-Ping Ko