CURRICULUM VITAE

MEGAN ALMA ECKLES

RESEARCH INTERESTS

Behavioral ecology, animal communication, cognition, navigation, evolution of complex behaviors, plant-pollinator interactions, community ecology

EDUCATION

Institution & Location	Degree Received	Year Conferred	Field of Study
University of California, San Diego San Diego, CA	Bachelor of Science	2005	Environmental Systems: Ecology, Behavior, and Evolution

ACADEMIC HONORS

2009	National Science Foundation Senior Socrates Fellowship
2008	Smithsonian Tropical Research Center Short-Term Fellowship
2008	National Science Foundation Socrates Fellowship
2008	CMG Training Grant Appointee
2008	Entomological Society of America's Young Professional Award
2007	Outstanding Teaching Award, Center for Teaching Development, UCSD
2007	Best Talk, Jack Ealy Workshops on Science Journalism
2006	Best Talk, Jack Ealy Workshops on Science Journalism
2006	Jean-Marie Messier Award and Scholarship
2005	Elected to *Phi Beta Kappa*
2005	Graduated *Cum Laude* from UCSD

2005 American Women in Science Honor Award and Scholarship

2004 Dean's Excellence Award and Scholarship

RESEARCH PAPERS

Eckles M, Nieh JC (in prep) Bumblebees can use image temporal frequency to navigate to ground-level food sources.

Eckles M, Wilson E, Holway D, Nieh J (2008) Yellowjackets (*Vespula pensylvanica*) thermoregulate in response to changes in protein concentration. Naturwissenschaften, 95: 787-792. Cover article.

GRANTS AND AWARDS

2009 National Science Foundation Senior Socrates Fellowship (**$15,000 stipend**)
2008 Smithsonian Tropical Research Center Short-Term Fellowship (**$2,900**)
2008 National Science Foundation Socrates Fellowship (**$45,000 stipend and fees)**
2008 Entomological Society of America's Young Professional Award (**$50**)
2008 CMG Training Grant Appointee (**stipend and fees)**
2006 Jean-Marie Messier Award and Scholarship (**$1,000**)
2005 American Women in Science Honor Scholarship **($1,000**)
2004 Dean's Excellence Award **($1,000)**

PAPERS PRESENTED

June 1, 2009 Eckles, M. What's the Buzz? New interactive curriculum for College Preparatory and Honors Biology, Grades 10 and 11. Poster presentation, First Annual Socrates Poster Session, San Diego, CA.

June 1, 2009 Eckles M. Where have all the mad scientists gone? New approaches for making high school students *want* to learn science. Informal talk, First Annual Socrates Poster Session, San Diego, CA.

March 1, 2008 Eckles M, Roubik D, Nieh J. The first evidence for referential communication in a stingless bee (*Melipona panamica*). Southern Californian Animal Behavior Meeting, Long Beach, CA.

December 7, 2007 Eckles M, Roubik D, Nieh J. Distance measurement, canopy foraging, and communication in the stingless bee species *Melipona panamica.* Entomological Society of America annual meeting, San Diego, CA.

February 25, 2007 Eckles M, Nieh J. Visual odometry and communication in the stingless bee species *Melipona panamica*. Southern California Animal Behavior Symposium, Santa Barbara, CA.

August 1, 2006 Eckles M, Nieh J. Visual Odometry in Bumblebees. The International Union for the Study of Social Insects Congress, Washington D.C.

February 18, 2006 Eckles M, Kessler S, Nieh J. Bumblebees can use image temporal frequency to measure distances to ground-level food sources. Southern California Animal Behavior Symposium, San Diego, CA.

September 26, 2005 Eckles M, Nieh J. Bumblebees can use visual odometry to gauge distances traveled. Annual Ecology, Behavior, and Evolution Symposium. University of California, San Diego, International Center.

August 12, 2005 Eckles M, Nieh J. Bumblebees use optic flow to return to a feeding site. Animal Behavior Society 42nd Annual Meeting. Snowbird, Utah.

October 16, 2004 Eckles M, Nieh J. Bumblebee foraging and navigation. ORBS Symposium I. University of California, San Diego.

PUBLISHED ABSTRACTS

Eckles M, Roubik D, Nieh J. The first evidence for referential communication in a stingless bee (*Melipona panamica*). Southern Californian Animal Behavior Meeting, Long Beach, CA.

Eckles M, Roubik D, Nieh J. (2007) Distance measurement, canopy foraging, and communication in the stingless bee species *Melipona panamica.* Entomological Society of America annual meeting, San Diego, CA.

Eckles M, Nieh J. (2006) Visual Odometry in Bumblebees. The International Union for the Study of Social Insects Congress, Washington D.C.

Eckles M, Nieh J (2005) Bumblebees use optic flow to return to a feeding site. Animal Behavior Society 42nd Annual Meeting. Snowbird, Utah.

POPULAR PRESS

October 9, 2006 "Navigating the Canopy: A study of optic flow use in *Melipona Panamica*." STRI News, Spanish and English versions. This article dealt with my work on vision and navigation in *M. panamica* on Barro Colorado Island, Panama.

June 13, 2005 "From Ghana to China, Urban Aid to Rural Artists, Graduating Students Contribute Wide Support." Pat JaCoby, Staff Writer, UCSD Connections. This article summarized my upcoming doctoral work and planned projects in Panama.

July 17, 2005 "How do you get from point A to point Bee?" By Peter Rowe, Staff Writer, San Diego Union Tribune. This article focused on my work with optic flow in bumblebees.

SYNERGISTIC ACTIVITIES

Oct 2009 Instructor for the School of International Training course on Barro Colorado Island, Panama. Instructors present their research in a short seminar, which is followed by a hands-on activity. In my lesson, students accompanied me to the forest and performed a small experiment examining flower preference in stingless bees.

July 2008 – Present: National Science Foundation Socrates Fellow. Fellows spend one year developing new curriculum for high schools in impoverished or ethnically diverse areas. Fellows teach lessons and work with students in the classroom several days per week. The goal of the program is to develop new approaches for making science relevant to high school students, and for Fellows to act as mentors for students who are interested in science but may not otherwise have access to resources that would allow them to pursue that interest. Second-year Fellows develop their curriculum into complete instructional units for publication. In my case, I am also running an after-school program with a group of 17 students. We are conducting a comparative pollination experiment on the campus of Helix Charter High School, during which the students have learned how to identify local plants and insects, design an unbiased experiment, collect data, and enter data into Excel. They will also learn simple statistics, and how to write a scientific paper. At the end of the year I plan to submit the paper to PLoS for review with all students as authors.

Oct 2008 Volunteer Forest Guide on Barro Colorado Island for the Smithsonian Tropical Research Institute. Lead groups of ecotourists on walking tours through the forests on Barro Colorado Island, Panama. Each tour includes

	lessons on BCI and STRI history, local ecology, species identification, conservation, and overviews of current research projects.
Sept 2007 – Present	Mentor for the Early Academic Outreach Program. Mentors advise and encourage underrepresented Middle School students to consider college. Specific responsibilities focused on exposing students to science and encouraging interest in pursuing science degrees.
July 2007	Speaker and Guide for the UCSD High School Science Outreach Program. Present interesting aspects of behavior and ecology, demonstrate experimental techniques, tour lab facilities, mentor participants.
Sept 2006 – Present	Mentor for the Expanding Your Horizons Outreach Program at the University of California, San Diego. Mentors provide advice and guidance to young women of high school age who are considering college. Responsibilities include a yearly symposium presentation and lab tours.
Oct 2006 Aug – Nov 2007	Forest Guide and Instructor for the Smithsonian Tropical Research Institute. Lead groups of high school students on walking lessons through the tropical forests on Barro Colorado Island, Panama. Lessons included species identification, basic ecology, history, conservation, and overviews of current research projects.
July 2006 - Present	Speaker for the UCSD/Community College Honors Research Symposium. Present recent research in the behavioral sciences, highlight advantages to pursuing science careers, encouraging participation in laboratories, mentoring participants.
May 2005 – present	Lab Manager. Coordinate and manage safety trainings and lab inspections for the Nieh Lab, University of California, San Diego. Recruit, assign, and mentor student volunteers, maintain lab organization, order supplies, care for laboratory animals.
2003- 2005	Aide Supervisor for the Biology Department at West Hills High School, Santee, CA. Responsibilities included setting up and run labs in the classroom, teaching lessons, organizing and monitoring Instructor's Assistants and student aides, preparing chemical solutions, and caring for laboratory animals. Mentored and trained classroom assistants.
2001-2005	Instructor's Assistant for remedial and special needs Biology classes at West Hills High School, Santee, CA. Assisted students during labs, graded assignments, taught lessons, tutored students in biology and ecology, and took classes on field trips to natural sites for outdoor lessons.
2001- 2002	Tutored and mentored seventh graders from Carmel Mountain Ranch Junior High Schools in the sciences, math, and English.

November 2001	River Health Assay. Collected and identified riverbed insects as part of an ongoing ecological survey of the San Diego River
2000-2003	Writer/Editor for Jane C. Schaffer Publications and Workshops, San Diego, CA. Wrote articles, essays and critiques, edited documents, and researched literary and educational topics.

COLLABORATORS AND OTHER AFFILIATES

Collaborators
Roubik, David: Staff Scientist, Smithsonian Tropical Research Institute, Panama
Holway, David: Section of Ecology, Behavior, and Evolution, UC San Diego

Graduate Committee Members
Roubik, David: Staff Scientist, Smithsonian Tropical Research Institute, Panama
Nieh, James: Section of Ecology, Behavior, and Evolution, UC San Diego
Holway, David: Section of Ecology, Behavior, and Evolution, UC San Diego
Kohn, Josh: Section of Ecology, Behavior, and Evolution, UC San Diego
Hildebrand, John: Scripps Institute of Oceanography, San Diego, CA

PROFESSIONAL SOCIETIES

2008-Present	Entomological Society of America, General Member
2005-Present	Animal Behavior Society, General Member

MENTORSHIP

Undergraduates Advised

2009	Adam Bussell, Anna Schurkmann, Kyle Burks
2008	Kristen Becklund, Jennifer Phillips, Elysa Everson
2007	Shawn Kessler, Teresa Kim, Wendy Lee, Dan Su, Michelle Renner, Haley Hunter, Traci Kitaoka, Kristen Becklund
2006	Shawn Kessler, Vinita Khilnani, Alvin Cho, Michelle Scott, Sonia Reveco
2005	Anna Bree, Jed Kim, Claire Adamo, Amy Lin, Jeremy Song, Michelle Renner, Laura Stamm

ORBS (Opportunities for Research in the Behavioral Sciences)
(High school to community college minority student education program)

2005	Michael Winchester (San Diego City College)