

CARLA J. ESSENBERG

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EDUCATION

Ph.D., Evolution, Ecology and Organismal Biology, University of California-Riverside, 2012.

Advisor: John Rotenberry.

Thesis title: Understanding the effects of floral density on visitation rates and species composition of flower visitors.

B.A., Philosophy and Music, St. Olaf College, May 2001, *summa cum laude*.

ACADEMIC POSITIONS

Assistant Professor, Department of Biology, Bates College, August 2015-present.

Postdoctoral Research Associate, Postdoctoral Excellence in Research and Teaching Program, Center for Insect Science, University of Arizona, July 2012-July 2015.

Advisor: Dan Papaj.

GRANTS AND FELLOWSHIPS

<i>Postdoctoral Excellence in Research and Teaching Fellowship</i> , University of Arizona, 2012-2015	~\$140,000
<i>National Science Foundation Graduate Research Fellowship</i> , 2007-2012	\$120,000
<i>Newell Award</i> , University of California-Riverside, 2010	\$250
<i>Dissertation Research Grants</i> , University of California-Riverside, 2009, 2010	\$800
<i>Mildred E. Mathias Graduate Student Research Grant</i> , University of California, 2009	\$1,400
<i>Janet M. Boyce Memorial Scholarship</i> , University of California-Riverside, 2009	\$500
<i>Chancellor's Distinguished Fellowship Award</i> , University of California-Riverside, 2006-2007	\$47,727

PUBLICATIONS (* indicates authors who were undergraduate students when the work was done)

Essenberg, C. J., R. A. Easter*, R. A. Simmons*, and D. R. Papaj. 2015. The value of information in floral cues: bumblebee learning of floral size cues. *Behavioral Ecology* 26(5): 1335-1344.

Essenberg, C. J. 2015. Flobots: robotic flowers for bee behaviour experiments. *Journal of Pollination Ecology* 15(1): 1-5.

Essenberg, C. J. 2013. Explaining the effects of floral density on flower visitor species composition. *American Naturalist* 181(3): 344-356.

Essenberg, C. J. 2013. Scale-dependent shifts in the species composition of flower visitors with changing floral density. *Oecologia* 171(1): 187-196.

Essenberg, C. J. 2012. Explaining variation in the effect of floral density on pollinator visitation. *American Naturalist* 180(2): 153-166.

Sachs, J. L., **C. J. Essenberg**, and M. M. Turcotte. 2011. New paradigms for the evolution of beneficial infections. *Trends in Ecology & Evolution* 26(4): 202-209.

PRESENTATIONS (* indicates authors who were undergraduate students when the work was done)

Invited presentations:

- Essenberg, C. J.** 2015. Cooperation and conflict within pollination networks. *Graduate Program in Organismic and Evolutionary Biology Seminar Series, University of Massachusetts-Amherst, Amherst, MA.*
- Essenberg, C. J.,** R. A. Easter*, R. A. Simmons*, and D. R. Papaj. 2015. Bumblebees learn the species context of flower size cues. *Pacific Branch of the Entomological Society of America, Coeur d'Alene, ID.*
- Essenberg, C. J.** and D. R. Papaj. 2014. Bumblebee patch departure decisions at two spatial scales. *Pacific Branch of the Entomological Society of America, Tucson, AZ.*
- Essenberg, C. J.** 2012. Scale-dependence of pollinator responses to floral resource density. *UC Natural Reserve System Mathias Symposium, Bodega Bay, CA.*

Contributed presentations:

- Essenberg, C. J.,** R. A. Easter*, R. A. Simmons*, K. R. Benzing*, A. M. McKay*, and D. R. Papaj. 2014. Do bees prefer flowers with informative cues indicating rewards? *Animal Behavior Society, Princeton, NJ.*
- Essenberg, C. J.** and D. R. Papaj. 2013. Do bumblebees match their foraging movements to the scale of resource patchiness? *2nd International Conference on Pollinator Biology, Health and Policy, University Park, PA. (Poster)*
- Essenberg, C. J.,** D. R. Papaj. 2013. Do bumblebees match their foraging movements to the scale of resource patchiness? *Animal Behavior Society, Boulder, CO. (Poster)*
- Essenberg, C. J.** 2012. Predicting the effects of flower density on pollinator species composition. *Ecological Society of America, Portland, OR.*
- Essenberg, C. J.** 2011. Scale-dependence of pollinator responses to floral resource density. *Ecological Society of America, Austin, TX.*
- Essenberg, C. J.** 2011. Explaining variation in pollinator responses to flower density: nonlinear effects and scale-dependence. *ICPBR Pollination Symposium, Cholula, Mexico. (Poster)*
- Essenberg, C. J.** 2010. Modeling pollinator responses to flower density. *Animal Behavior Society, Williamsburg, VA.*

TEACHING EXPERIENCE AND TRAINING

Postdoctoral Excellence in Research and Teaching (PERT) fellow, July 2012-Present.
Outstanding Teaching Assistant award, University of California-Riverside, 2011-12.

Teaching positions:

Adjunct Instructor, Pima Community College, Spring 2014.
Teaching Assistant, University of California-Riverside, Winter –Spring 2009, Fall 2010 – Spring 2011.
Teaching Assistant, University of Minnesota, Fall 2004 - Spring 2006.

Mentored research:

Twenty-two students or recent college graduates have participated in my research, including four Bates College students doing independent research projects. Two undergraduate students have been co-authors with me on a peer-reviewed publication.

K-12 teaching and outreach:

98+ hours of K-12 outreach and mentoring activities, including classroom presentations, booths at science festivals, science fair judging, and advising students about science fair projects, January 2010 – Present.

Educational Assistant, Future Force AmeriCorps, St. Paul, MN, Fall 2001-Summer 2002.

Professional development in teaching and outreach

Attended the Gordon Research Conference on *Undergraduate Biology Education Research*, Lewiston, ME July 2015.

Organizer of a science teaching reading group, University of Arizona, Oct. 2013-May 2015.

An Introduction to Evidence-Based Undergraduate STEM Teaching, an NSF-funded MOOC offered through Coursera by the CIRTLL network, Oct.-Nov. 2014.

Attended the annual meeting of the *Association for Biology Laboratory Education*, Eugene, OR, June 2014.

Attended National Institutes of Health *Institutional Research and Academic Career Development Award (IRACDA) Conferences*, which include numerous workshops on science pedagogy and outreach, June 2013 and June 2014.

Pedagogy workshops offered by the University of Arizona Center for Insect Science *PERT program*, Feb. 14-15, 2013 and Mar. 14, 2014.

Audited *Teaching in Plant-Microbe Interactions*, a graduate-level course, University of Arizona, Fall 2012.

Science Advocacy, a graduate-level course, University of California-Riverside, Spring 2012.

Philosophy and Pedagogy of Teaching Undergraduate Life Sciences, a graduate-level course, University of California-Riverside, Fall 2010.

Teaching assistant training offered by the *Teaching Assistant Development Program*, University of California-Riverside, Fall 2008.

August Teaching Enrichment Series, a set of teaching workshops offered by the Center for Teaching and Learning, University of Minnesota, Aug. 2005.

INSTITUTIONAL AND PROFESSIONAL SERVICE

Reviewer for: Ecology, New Phytologist, American Naturalist, Behavioral Ecology, Annals of Botany, Ecoscience, Oecologia, Environmental Entomology, Agricultural and Forest Entomology, Journal of Insect Behavior

Institutional Service:

PERT Advisory Board, University of Arizona, Jan. 2014-present.

PERT Selection Committee, University of Arizona, Dec. 2012-Feb. 2013.

UC-Riverside Graduate Student Council, Representative for the Evolution, Ecology and Organismal Biology graduate program, July 2010-June 2012.

President of the Evolution, Ecology and Organismal Biology Graduate Student Association, UC-Riverside, July 2009-June 2010.

UC-Riverside Community Engagement Strategic Planning Committee, October 2009-February 2010.

Co-organizer of graduate student seminar series for the Evolution, Ecology and Organismal Biology program, Spring Quarter 2009.

Professional Society Memberships:

Ecological Society of America, Animal Behavior Society, Botanical Society of America, Society for Conservation Biology, American Society of Naturalists, Association for Biology Laboratory Education