

RACHEL OLSSON, PH.D.

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EDUCATION

- PhD** Washington State University, Entomology May 2020
Dissertation title: “Pollinator Communities Across Agricultural Gradients”
Committee: Dr. David Crowder, Dr. Walter Sheppard, Dr. William Pan
- BS** The Evergreen State College June 2014
B.Sc. Agricultural Sciences
B.A. Community Food System Development

HONORS AND AWARDS

- USDA Predoctoral Fellowship (P.I. \$95,000)** 2017
Fellowship to study the pollinator communities in canola of eastern Washington and northern Idaho
- Western SARE Graduate Grant (P.I. \$24,870)** 2015
Grant to study non-bee pollinator communities across a gradient of urbanization in western Washington diversified farming systems
- Honorable Mention, NSF Graduate Research Fellowship Program** 2015, 2016
- Travel Award, Entomological Society of America (\$300)** multiple
- Donald Hastings Entomology Scholarship (\$600)** 2015
- Travel Award, Entomological Society of America (\$300)** multiple

RESEARCH EXPERIENCE

- Post-Doctoral Research**, Washington State University, Pullman WA 2020 – present
Advisor: Dr. Brandon Hopkins
- PhD**, Washington State University, Pullman WA 2015-2020
Advisor: Dr. David Crowder
- Qualifying Exam Passed: Feb 17, 2017
 - Won over \$100,000 in grants to support this research, presented approximately two dozen talks, webinars, and workshops over the course of degree
- Washington State University**, Puyallup WA 2014-2015
Research Technician, Crowder Lab
- Collected data to support Elias Bloom’s dissertation research
 - Assisted in teaching pollinator citizen science presentations

The Evergreen State College, Olympia WA

2013-2014

WSU Extension Intern, Thurston County Extension

- “Guide to Agriculture in Thurston County” Summary and bulletin for anyone interested in pursuing agriculture in Thurston County, WA. Included brief summary of county, city, and non-incorporated areas for full county
- “Populations of ground beetles in organic versus GMHT corn fields in the Pacific Northwest” A brief observational survey comparing ground beetle populations on two types of farming systems in rural Thurston County. Fulfilled writing requirement of independent research and writing component of B.Sc.

TEACHING EXPERIENCE

Washington State University, Pullman WA

Fall 2016, 2017

Teaching Assistant, Stats 511

- TAed Stats 511, a graduate course averaging 40 students per semester, covering the following topics: experimental design, scientific writing, basic and intermediate statistical tests, using the R programming language
- Developed lab walkthroughs, tutorials for R
- Assisted in grading homework, exams for Dr. Crowder

Washington State University, Pullman WA

Spring 2016

Teaching Assistant, Entomology 102

- TAed Entomology 102, an undergraduate course averaging 80 students per semester, covering the following topics: medical and veterinary entomology, understanding the scientific method, basic scientific literacy
- Wrote lectures, assignments, and quizzes for labs
- Assisted in grading exams and assignments for lecture portion for Dr. Owen

Washington State University, Pullman WA

Fall 2016

Teaching Assistant, AFS 101

- TAed AFS 101, an undergraduate course averaging 80 students per semester, covering the following topics: global food systems, agricultural social science, basic science literacy, human nutrition
- Developed assignments, in-class activities, and quizzes
- Graded assignments and exams for Dr. Owen

Undergraduate Students Advised

- Wyatt Mattingly, expected graduation Spring 2021
- Lucy Eggleston, expected graduation Spring 2019
- Konnor Flemming, graduated Spring 2017

Other teaching experience

- Assisted Elias Bloom in delivering citizen science workshops throughout 2015-2017
- Athletics tutor for WSU athletics department

- Prepared lectures, lab assignments, and insect identification instruction over the course of the quarter

PUBLICATIONS AND PRESENTATIONS

Journal Publications

Olsson et al 2020. "Pollinators in Canola in the Pacific Northwest." WSU Extension, PNW Series, accepted.

Smith et al 2020. "Landscape context affects the sustainability of organic farming systems". PNAS117 (6) 2870-2878

Bloom, E.H., **Olsson, R.L.**, Wine, E., Schaeffer, R., Crowder, D.W., "An Introduction to Cavity Nesting Bees in the Puget Sound Region," WSU Extension, Home Garden Series, 2018, FS293E

Bloom, E.H., **Olsson, R.L.**, Crowder, D.W. "A Citizen Science Guide to Wild Bees and Floral Visitors in Western Washington," WSU Extension, Home Garden Series, 2017, EM110E

Reports

Bjerke et al 2019. *US Canola Association: Best Management Practices (BMPs) for Pollinator Protection in Canola Fields*

Conference Papers

Olsson, R.L., Crowder, D.W., "When it rains, it pours (nectar!)." Pacific Branch Entomological Society of America, Mar. 31- Apr 3, 2019. Submitted as part of graduate student competition

Olsson, R.L., Crowder, D.W., "The canola-pollinator relationships of eastern Washington and northern Idaho," Entomological Society of America, Nov. 11-14, 2018. Vancouver, BC, Canada. Submitted as part of graduate student competition

Olsson, R.L., Crowder, D.W., "Environmental stresses and their effect on pollen and nectar quality," Entomological Society of America, Nov. 5-8, 2017. Denver, CO. Submitted as part of graduate student competition

Olsson, R.L., Crowder, D.W., "Is city life affecting your diet? A study of bumble bee lipid content across urbanized landscapes," Pacific Branch meeting of Entomological Society of America, Apr. 2-5, 2017. Portland, OR. Submitted as part of graduate student competition

Olsson, R.L., Crowder, D.W., Bloom, E.H., “Landscape Use and Bee Health,” International Congress on Entomology. Sept. 25-30, 2016. Orlando, FL. Submitted as part of graduate student competition

Olsson, R.L., Crowder, D.W., “What’s your favorite food? Floral preferences of honey bees and bumble bees in western Washington,” Entomological Society of America, Nov. 15 – 18, 2015. Minneapolis, MO. Submitted as part of graduate student competition

Invited Lectures

“The Canola-Pollinator Relationship,” Research summary as part of University of Idaho’s *Cultivating the Harvest* Conference. March 2019.

“The Canola-Pollinator Relationship,” Research summary as part of WOCS Canola grower meetings. Jan 2018

“Research on Wild Pollinators,” University of Idaho Pollinator Seminar Series. Sept. 2015

“Characterizing pollinator health in the Pacific Northwest” WSU Entomology Colloquium series. Apr. 2015

Workshops and Webinars

- National Pollinator Week, series of workshops in mid-June. 2015-2018
- Pollinator Field Days, multiple 2015-2017
- [Providing habitat for wild bees on organic farms](#) Presented by eOrganic, 2016
- [Wild bee monitoring, education and outreach in organic farming systems webinar](#) Presented by eOrganic, 2016

PROFESSIONAL TRAINING

Mental Health First Aid

Washington State University, Pullman, October 29-31, 2019

Description: 8 hour training to support people in crisis

Data Carpentry

Washington State University, Pullman, October 25, 2018

Description: Full day workshop on data management, database structure, and best practices

BOMBUSS

Utah State University, Logan, August 20-24, 2017

Description: Intensive lecture series including methods research and development using bumble bees

WSU Extension Internship, Thurston County Extension, 2013-2014

- “Guide to Agriculture in Thurston County”
- Primary organizer for a producer-consumer workshop that included around fifty farmers, small- and large-scale purchasers, and community non-profit organizations
- Assisted in planning the 2014 Cascadia Small Grains Conference

PROFESSIONAL AFFILIATIONS

Entomological Society of America, 2014-Present
 Northwest Scientific Association, 2014-Present
 Entomology Graduate Student Association, 2015- Present

PROFESSIONAL SERVICE

Technical Working Committee- US Canola Association

Assisted in writing Best Management Practices (BMPs) for Pollinator Protection in Canola Fields. Published March 2019.

Student Affairs Committee

Entomological Society of America, 2018- present

Website and Social Media Coordinator

Northwest Scientific Association, 2015-2018

COMMUNITY SERVICE

The Trevor Project

Volunteer, 2018- present

Northwest Scientific Association

Website committee member, 2015-2017

The Journal of Young Investigators

Director of Communications, 2013-2015

LANGUAGES

English: Native Language

Spanish: Novice listener, novice speaker, intermediate reader

French: Novice listener, intermediate reader, intermediate writer, novice speaker

Greek: Novice listener, novice speaker

TECHNICAL SKILLS

Intermediate programming in R, statistical analysis in R, statistical analysis in JMP, proficient in using dichotomous key for identification, grant writing, technical editing, website development/editing in Weebly, Squarespace, WordPress

OTHER

SafeZone member

Blog and podcast writer/host for What's The Buzz podcast

Current active skater and coach for Rolling Hills Derby Dames

Active skater and member of Board of Director for Palouse River Rollers 2015-2018