

## Jacob M. Cecala

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### Education

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- 2015-present Ph.D. in Entomology, expected early 2021  
University of California, Riverside • Advisor: Erin E. Wilson Rankin
- 2012-15 M.Sc. in Biological Sciences  
California State Polytechnic University, Pomona • Advisor: Joan M. Leong
- 2007-12 B.S. in Biology *summa cum laude*, minor in French  
California State Polytechnic University, Pomona • Kellogg Honors College

### Publications

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#### Published

1. Cecala, J. M.\*, Baronia, D. A.\*, & Wilson Rankin, E. E. (2020). Diet quality and the effects of chronic oral imidacloprid exposure on the alfalfa leafcutting bee, *Megachile rotundata* (Hymenoptera: Megachilidae). *Economic Entomology* toaa194. <https://doi.org/10.1093/jee/toaa194>. (\* = co-first-authors)
2. Wilson Rankin, E. E., Cecala, J. M., Hernandez Pineda, N., Lu, Q. Y., Pelayo, E., & Choe, D.-H. (2020). Differential feeding responses of several bee species to sugar sources containing iridomyrmecin, an Argentine ant trail pheromone component. *Journal of Insect Behavior* 33, 83–90. <https://doi.org/10.1007/s10905-020-09748-8>.
3. Cecala, J. M., Lau, P. W., & Leong, J. M. (2020). Floral bagging differentially affects handling behaviors and single-visit pollen deposition by honey bees and native bees. *Ecological Entomology* 45, 1099–1107. <https://doi.org/10.1111/een.12890>.
4. Cecala, J. M. & Wilson Rankin, E. E. (2020). Mark–recapture experiments reveal foraging behavior and plant fidelity of native bees in plant nurseries. *Ecology* 101, e03021. <https://doi.org/10.1002/ecy.3021>.
5. Egerer, M., Cecala, J. M., & Cohen, H. (2020). Wild Bee Conservation within Urban Gardens and Nurseries: Effects of Local and Landscape Management. *Sustainability* 12(1), 293. <https://doi.org/10.3390/su12010293>.

#### In review/revision

1. Sidhu, C. S., Merrill, K., Cecala, J. M., & Wilson Rankin, E. E. Plant-pollinator interactions of the *Delphinium variegatum* ssp. *kinkiense* community. At *Madroño*.

### Fellowships

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- 2019-21 United States Department of Agriculture (USDA)  
National Institute of Food and Agriculture (NIFA) Predoctoral Fellowship • \$106,807
- 2015-20 Provost Research Fellowship • \$186,613  
Graduate Division, University of California, Riverside
- 2013-14 NSF Biological Training in Education & Research (BioTiER) Scholars Program • \$5,000  
Department of Biological Sciences, California State Polytechnic University, Pomona

Designed to prepare M.Sc. students for the workplace by delivering sector-specific STEM career skills in academia and industry through a series of workshops and work site engagements.

- 2010-13 Ernest Prete, Jr. Environmental Science Research Fellowship • \$2,000  
Department of Biological Sciences, California State Polytechnic University, Pomona
- 2010-11 College Cost Reduction & Access Act (CCRAA) Research Apprentice Program • \$4,000  
Department of Biological Sciences, California State Polytechnic University, Pomona

## **Grants and awards**

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- 2016-19 California Association of Nurseries and Garden Centers (CANGC) • \$33,724  
Endowment for Research and Scholarship (CANERS)  
“Horticultural Plant Nurseries as Habitat for Wild Pollinators”  
Co-investigators: Erin E. Wilson Rankin
- 2018 James and Margaret Lesley Annual Prize • \$300  
College of Natural and Agricultural Sciences • University of California, Riverside
- 2016-17 Shipley-Skinner Reserve – Riverside County Endowment • \$7,491  
Center for Conservation Biology (CCB) & College of Natural and Agricultural Sciences (CNAS)  
University of California, Riverside  
“Floral-Visiting Insect Communities of Riverside County Reserves”  
Co-investigators: Michelle C. Miner, Erin E. Wilson Rankin
- 2015 Geraldine K. Lindsay Student Award for Excellence in Natural Sciences • \$1,000  
AAAS, Pacific Division Meeting, San Francisco, CA
- 2014-15 Rachel Carson Environmental Science Scholarship • \$5,000  
Department of Biological Sciences, California State Polytechnic University, Pomona  
Awarded to two students who conduct original research projects dealing with the preservation and enhancement of the natural environment.
- 2014 M.Sc. Graduate Student Poster Competition, second place • \$100  
Pacific Branch Entomological Society of America Meeting, Tucson, AZ
- 2013 Harold Lint Scholarship • \$750  
Department of Biological Sciences, California State Polytechnic University, Pomona
- 2012-13 Graduate Research Funds recipient • \$1,500  
Department of Biological Sciences, California State Polytechnic University, Pomona

## **Honors**

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- 2019 Best lightning talk: “Pollinators and plant nurseries: How ornamental plant management impacts solitary bee fitness”  
EcoSlam 2019 • Center for Conservation Biology, University of California, Riverside
- 2007-12 Kellogg Honors College • California State Polytechnic University, Pomona

2007-12 President's and Dean's Lists • College of Science, California State Polytechnic University, Pomona

Jun. 2012 College of Science Commencement, Biological Sciences Department banner carrier  
California State Polytechnic University, Pomona  
An honor awarded to the student with the second highest GPA in that year's graduating class.

### **Research interests and work experience**

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Honey bee and native bee biology, pollination, agricultural and urban ecology, conservation, ecosystem services

2015-present Wilson Rankin lab group  
University of California, Riverside, Department of Entomology

- Wild bee biodiversity and resource use in agricultural areas
- Floral resource quality, pesticides, and their impacts on bee health and fitness
- Plant-pollinator interaction networks in coastal sage scrub habitats

2010-15 Leong lab group  
California State Polytechnic University, Pomona, Department of Biological Sciences

- Pollinator effectiveness of introduced and native bees in watermelon crops
- Wild bee biodiversity in urban wildflower plantings

### **Computational skills**

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R (since 2012), JMP® (since 2011), ArcGIS®/QGIS (since 2017)

### **Workshops**

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Feb. 2017 Introduction to GIS for Crop Agriculture Workshop  
GPS, Spatial Data Management, and Consultation Workshop  
University of California Division of Agriculture and Natural Resources (UC ANR) –  
Informatics and GIS (IGIS) Statewide Program  
University of California, Riverside

Sep. 2013 The Bee Course  
AMNH Southwestern Research Station, Portal, AZ  
One of 22 biologists selected for this field workshop on the biology and identification of bees.

### **Science outreach**

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2018-19 UC Riverside Entomology Graduate Student Association Blog • Blog Editor

2016-2019 Annual Riverside Insect Fair • Riverside, CA

2018, 19 Citizen Science Initiative (C.S.I.) • Pollinator Extravaganza Event  
Ameal Moore Nature Center, Riverside, CA  
Managed a booth on wild bee diversity and pollinator-related citizen science opportunities.

2015-present Department of Entomology Outreach Program, University of California, Riverside

Teaching members of the local community about insect biology and entomology research through interactive presentations with live and preserved specimens.

2011 Docent  
BioTrek Rainforest Greenhouse and Ethnobotanical Garden  
California State Polytechnic University, Pomona

## **Involvement**

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2018-19 President (2018-19)  
Entomology Graduate Student Association, University of California, Riverside

2016-17 Treasurer (2016-17)  
Entomology Graduate Student Association, University of California, Riverside

2015-2018 Seminar and Special Lectures Departmental Committee Representative  
Department of Entomology, University of California, Riverside

2010-present Entomological Society of America, student member

## **Teaching**

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2016-19 Teaching Assistant  
Department of Entomology, University of California, Riverside  
Courses taught (3 academic quarters total):

- Insect Behavior Discussion (ENTM 162), Prof.: S. Hollis Woodard
- Insect Ecology (ENTM 127), Prof.: William E. Walton

2012-15 Teaching Associate  
Department of Biological Sciences, California State Polytechnic University, Pomona  
Courses taught (9 academic quarters total):

- Invertebrate Zoology Laboratory, Prof.: Joan M. Leong
- Animal Biology Laboratory, Profs.: Joan M. Leong & A. Kristopher Lappin
- Form and Function in Plants Laboratory, Prof.: Edward O. Bobich
- Foundations of Biology: Biodiversity Laboratory, Prof.: J. Curtis Clark

2011-12 Science Tutor  
Educational Opportunity Program (EOP) Tutorial Services  
California State Polytechnic University, Pomona  
One-on-one tutor for undergraduates in biology, chemistry, physics, and math. Helped students develop personalized study strategies.

## **Student mentoring**

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Underline indicates students supervised while completing an independent research project.

\* indicates students from underrepresented groups in STEM fields.

University of California, Riverside: Mena Ibrahim\*, Kevin To\*, Tyler Bradshaw, Analisa Stiltner\*, Tiffany Ng\*, Saher S. Zaidi\*, Darren Wong\*, Nohely Hernandez Pineda\*, Karen J. Argumedo\*, Tara H. Boyer, Jacob Jones, Danelle A. Baronia\*

California State Polytechnic University, Pomona: Tin W. Wong\*, Pierre W. Lau\*, Stephanie Duenas\*, Andrew To\*, Clara King\*, David Yee\*, Damien Popovic.

Provided 3 letters of recommendation for graduate school applications.

### **Research presentations**

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- Nov. 2019 Entomological Society of America Meeting. St. Louis, MO.  
Cecala, J.M. and E.E. Wilson Rankin. Pollinators and plant nurseries: How ornamental plant management impacts solitary bee fitness. Oral.
- Oct. 2019 Protecting Pollinators in Urban Landscapes Conference. Cincinnati, OH.  
Cecala, J.M. and E.E. Wilson Rankin. Pollinators and plant nurseries: How ornamental plant management impacts solitary bee fitness. Poster.
- Apr. 2019 Pacific Branch Entomological Society of America Meeting. San Diego, CA.  
Cecala, J.M. and E.E. Wilson Rankin. Mark-recapture experiments to assess foraging behavior of native bees in plant nurseries. Oral.
- Feb. 2017 California Native Plant Society (CNPS) Conservation Conference. Los Angeles, CA.  
Cecala, J.M. and E.E. Wilson Rankin. Bee communities associated with California-native and conventional plant nurseries. Oral.
- Oct. 2017 Protecting Pollinators in Urban Landscapes Conference. Traverse City, MI.  
Cecala, J.M. and E.E. Wilson Rankin. Wild bee communities associated with native and non-native plant nurseries. Poster.
- Jun. 2015 AAAS, Pacific Division Meeting. San Francisco, CA.  
Cecala, J.M. and J.M. Leong. Bee Visit Frequency and Time of Day Effects on Cumulative Pollen Deposition in Watermelon. Oral.
- Mar. 2015 Cal Poly Pomona Student Research Competition. Pomona, CA.  
Cecala, J.M. and J.M. Leong. Effects Of Floral Visitation Frequency And Time Of Day On Cumulative Pollen Deposition By Bee Assemblages In Southern California Watermelon Crops. Oral.
- Nov. 2014 Entomological Society of America Meeting. Portland, OR.  
Cecala, J.M. and J.M. Leong. Effects of Visit Frequency and Time of Day on Cumulative Pollen Deposition by Bee Assemblages in Southern California Watermelon Crops. Poster.
- Apr. 2014 Pacific Branch Entomological Society of America Meeting. Tucson, AZ.  
Cecala, J.M. and J.M. Leong. Effects of Visit Frequency and Time of Day on Cumulative Pollen Deposition by Bee Assemblages in Southern California Watermelon Crops. Poster.
- Mar. 2014 California State University Student Research Competition. Pomona, CA.  
Cecala, J.M. and J.M. Leong. Effects of Visit Frequency and Time of Day on Cumulative Pollen Deposition by Bee Assemblages in Southern California Watermelon Crops. Poster.
- Mar. 2013 California State University Student Research Competition. Pomona, CA.

Cecala, J.M., S.N. Duenas, R.D. Polanco, and J.M. Leong. Manipulation of Nectar Levels Influences Honey Bee Foraging Behavior and Pollen Deposition. Oral.

- Apr. 2013 West Coast Biological Sciences Undergraduate Research Conference. San Diego, CA. Cecala, J.M., S.N. Duenas, R.D. Polanco, and J.M. Leong. Manipulation of Nectar Levels Influences Honey Bee Foraging Behavior and Pollen Deposition. Poster.
- May 2012 California State University Student Research Competition. Long Beach, CA. Cecala, J.M. and J.M. Leong. Pollen Deposition and Visit Duration of Honey Bees on Watermelon. Oral.
- Nov. 2011. Southern California Conference for Undergraduate Research (SCCUR). Pomona, CA. Cecala, J.M. and J.M. Leong. Pollen Deposition and Visit Duration of Honey Bees on Watermelon. Oral.
- Nov. 2011 Entomological Society of America Meeting. Reno, NV. Cecala, J.M. and J.M. Leong. Pollen Deposition and Visit Duration of Honey Bees on Watermelon. Poster.
- May 2011 Southern California Academy of Sciences (SCAS) Meeting. Pomona, CA. Cecala, J.M. and J.M. Leong. Flower Preference and Visit Duration of Honey Bees on Watermelon. Oral.
- Nov. 2010 Southern California Conference for Undergraduate Research (SCCUR). Malibu, CA. Cecala, J.M. and J.M. Leong. Flower Preference and Visit Duration of Honey Bees on Watermelon. Oral.

### **Invited Lectures**

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- 24 Feb. 2020 “Pollination & The Pollinator Crisis” • University of California, Riverside  
Guest lecture to an undergraduate non-science major entomology course.
- 17 Feb. 2018 “Bee communities associated with California-native and conventional plant nurseries”  
California Native Plant Society (CNPS) Riverside-San Bernardino Chapter Meeting  
Spoke to CNPS members about wild bees present in commercial plant nurseries.
- 19 Sep. 2017 “Common Pollinators in Urban Landscapes” • University of California, Riverside  
Spoke to graduate students about basic biology and identification of common pollinators as part of a workshop on introductory ecology funded by an NSF Research Traineeship (NRT).
- 16 Feb. 2017 “Oases or Traps? Horticultural Plant Nurseries as Habitat For Wild Pollinators”  
California State Polytechnic University, Pomona  
Spoke to approximately 40 undergraduate students in two entomology-related courses about my current Ph.D. work and the merits of gaining undergraduate research experience.