

Downen Mae I. Jocson

Washington State University

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CURRENT POSITION

May 2023 - **Pre-License Pesticide Safety Educator**
Pesticide Resource and Education Program (PREP)
Washington State University, Pullman, WA

EDUCATION

2018- 2023 **Doctor of Philosophy in Entomology**
Washington State University, Pullman, WA
Dissertation: Use of acoustics as mating disruption in pear psylla
Advisors: Dr. Elizabeth Beers and Dr. David Crowder
GPA: 4.00

2015- 2017 **Master of Science in Biology**
Department of Biology, Saint Louis University, St. Louis, MO
Thesis: Influence of temperature on treehopper vibrational signals and preferences
Advisor: Dr. Kasey Fowler-Finn
GPA: 3.80

2011- 2015 **Bachelor of Science in Biology**
Department of Biology, Saint Louis University, St. Louis, MO
Plant Science Track
GPA: 3.45

RESEARCH AND PREVIOUS POSITIONS

2018-2018 **Substitute Teacher**
Ritenour School District, St. Louis, MO
Special Education classroom

2015- 2017 **Graduate Research Assistant**
Saint Louis University, St. Louis, MO
Influence of temperature on treehopper vibrational signals and preferences
PI: Dr. Kasey Fowler-Finn

2013- 2015 **Undergraduate Research Assistant**
Saint Louis University, St. Louis, MO
Reproductive success of bird's foot violet after controlled burns
PI: Dr. Peter Bernhardt

ACADEMIC ACTIVITIES

TEACHING

- 2024 **Pre-License Courses, Pesticide Safety Educator**
Washington State University, Multiple cities, WA
- 2023 **Pre-License Courses, Pesticide Safety Educator**
Washington State University, Multiple cities, WA
- 2022 **Pesticide Educator**
Pre-license training: Insect and Disease Management
Washington State University, Kennewick, WA
- 2022 **Pesticide Educator**
Pre-license training: Insect and Disease Management
Washington State University, Puyallup, WA
- 2018 **Teaching assistant**
Entomology 103: Entomology lab for non-science majors
Washington State University, Pullman, WA
- 2015 **Teaching assistant**
Biology 110: Principles of Biology I Laboratory
Saint Louis University, St. Louis, MO
- 2014 **Teaching assistant**
Biology 303: Principles of Genetics
Saint Louis University, St. Louis, MO

MEDIA CONTACT

- 2024 Insects are making sounds the human ear can't hear. One Missouri scientist is listening.
<https://www.stlpr.org/health-science-environment/2024-11-25/insect-communication-vibrational-sounds-rex-cocroft-treehoppers-missouri>
- 2023 A new 'Pied Piper' robot protects Oregon's vineyards from pests with some good vibes.
<https://www.opb.org/article/2023/11/01/oregon-wineries-pest-protection-new-pied-piper-robot-vibrations/>
- 2022 Washington State University Department of Entomology October Graduate Student Spotlight. <https://entomology.wsu.edu/directory/students/student-spotlight-dowen-jocson/>
- 2022 Ask Dr. Universe: How do ants communicate?
<https://askdruniverse.wsu.edu/2022/08/15/how-do-ants-communicate-with-each-other/>
- 2021 Capital Press coverage of my PhD research, Western Innovator: Controlling Pest with Good Vibrations - https://www.capitalpress.com/ag_sectors/research/western-innovator-controlling-pests-with-good-vibrations/article_956c34e4-f56b-11eb-96cc-6387bfe80636.html?utm_medium=social&utm_source=twitter&utm_campaign=user-share
- 2020 Featured in a centerfold article called "Psexy Psylla Psongs", Good Fruit Grower magazine
- 2019 "Heat Changes Insect Call But It Still Works". Scientific American.
<https://www.scientificamerican.com/podcast/episode/heat-changes-insect-call-but-it-still-works/>
- 2015 Saint Louis Public Radio coverage of Master's thesis research:
<https://news.stlpublicradio.org/post/good-vibrations-these-bugs-do-their-sexting-plant-stem>
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PROFESSIONAL ACTIVITIES

PROFESSIONAL SOCIETIES

- 2024 Co-organized symposium for the Entomological Society of America Annual Meeting titled “Adapting to Endangered Species Act Pesticide Label Changes and Mitigations”. Phoenix, AZ
- 2024 Co-organized mini workshop for the Entomological Society of America Annual Meeting titled “Promoting Safe and Equitable Field Practices in Entomology”. Phoenix, AZ
- 2024 Co-organized symposium for the Entomological Society of America Pacific Branch meeting titled “Understanding Pesticides: Regulations, Misuse, and their Role in IPM”. Waikoloa, HI
- 2023 Co-organized symposium for the Entomological Society of America national meeting titled “Biotremology, Education, and Art”. National Harbour, MD
- 2023 Co-organized symposium/workshop for the Entomological Society of America Pacific Branch meeting titled “How to write a DEI statement”. Seattle, WA
- 2023 Organized symposium for the Entomological Society of America Pacific Branch meeting titled “Insects Impact on our Identities. Seattle, WA
- 2023 Led student activities for the Entomological Society of America Pacific Branch meeting (Elevator talks, Texting competition, Employment fair, and Entomolympics). Seattle, WA
- 2022 Entomological Society of America Science Policy Fellow (2022 – 2024)
- 2022 Organized and moderated Entomolympics in the Joint Annual Meeting of Entomological Society of America PI-E Section Networking Session and Awards Celebration. Vancouver, BC
- 2022 Led student activities for the Entomological Society of America Pacific Branch meeting (Elevator talks, Texting competition, Employment fair, and created Entomolympics). Santa Rosa, CA
- 2022 Co-organized a symposium with Dr. Jacquelyn Serrano (USDA-ARS) for the Entomological Society of America Pacific Branch meeting: “Behavioral Manipulation”. Santa Rosa, CA.
- 2020 Co-organized a symposium with Dr. Rachele Nieri (Oregon State University) for the Entomological Society of America Pacific Branch meeting: “Behavioral Manipulation”. Spokane, WA (Meeting postponed).

UNIVERSITY

- 2023 Ensminger Pavilion Taskforce.
- 2022 Search Committee member for the Entomology Endowed Tree Fruit Chair.
- 2020 Founding member of the Department of Entomology Diversity, Equity, and Inclusion Committee.
- 2020 Faculty Liaison for the Entomology Graduate Student Association.

COMMUNITY

- 2022 Community Garden Fair. Outreach and Education table.
- 2022 Insect Expo: Outreach and Education event.
- 2022 What’s buzzing at Koppel? A citizen science pollinator event. Outreach presentation in collaboration with the Palouse Conservation District.
- 2021 Insect Expo: Outreach and Education event.
- 2021 What’s buzzing at Koppel? A citizen science pollinator event. Outreach presentation in collaboration with the Palouse Conservation District.
- 2019 Insect Expo: Outreach and Education event.

COMMITTEE MEMBERSHIPS AND POSITIONS HELD

2024 – Present	Chair of the Entomology Games Committee. Pacific Branch of the Entomological Society of America
2023 – Present	Member-at-large. Pacific Branch of the Entomological Society of America
2023 – Present	Member of the Insect Art and Photography Committee. Entomological Society of America
2023 – Present	Planning committee member. American Association of Pesticide Safety Educators
2023 – Present	Member of the Urban IPM Advisory Committee. Washington State University
2023 – 2024	Member of the Entomology Games Committee. Pacific Branch of the Entomological Society of America
2022 – Present	Planning committee member. Pacific Branch of the Entomological Society of America
2021 – 2023	Chair of the Student Organized Activities. Pacific Branch of the Entomological Society of America
2020 – Present	Member of the Diversity, Equity, and Inclusion Committee. Department of Entomology. Washington State University

RESEARCH PUBLICATION AND PRESENTATIONS

PUBLICATIONS

- Jocson, D. I.**, Orpet, R.J., Nottingham, L., Northfield, T., Beers, E., Oeller, L.C., Crowder, D.W. Potential use of vibrational playbacks for pear psylla pest management. (*In review in Entomologia experimentalis et applicata*)
- Jocson, D.I.**, Gonzales, M.T., Horton, D., Nottingham, L., Beers, E., Oeller, L., Crowder, D. Characterizing substrate-borne vibrational mating signals produced by pear psylla. 2023. Journal of Insect Behavior.
- Smith, O.M., **Jocson, D.I.**, Lee, B.W., Orpet, R.J., Davis, A.G., Rieser, C.J., Clarke, A.E., Cohen, A.L., Hayes, A.M., Auth, C.A., Bergeron, P.E., Marshall, A.T., Reganold, J.P., Crowder, D.W., Northfield, T.D. 2022. Identifying farming strategies associated with achieving the UN Sustainable Development Goals. *Frontiers in Sustainable Food Systems*.
- Jocson, D.** 2020. Good Vibrations: A potential IPM strategy for pear psylla (*Cacopsylla pyricola*). WSU Tree Fruit Extension Center Newsletter. <https://tinyurl.com/8e2rys92>
- Leith, N. T., **Jocson, D. I.**, & Fowler-Finn, K. D. 2020. Temperature-related breakdowns in the coordination of mating in *Enchenopa binotata* treehoppers (Hemiptera: Membracidae). *Ethology*, 126(9), 870-882.
- Jocson, D.I.**, Smeester, M., Leith, N.T., Macchiano, A., Fowler-Finn, K.D. 2019. Temperature coupling of mate attraction signals and female mate preferences in four populations of *Enchenopa* treehopper (Hemiptera: Membracidae). *Journal of Evolutionary Biology*.
- Bernhardt, P., Edens-Meier, R., **Jocson, D.**, Zweck, J., Ren, Z., Camilo, G.R., Arduser, M. 2016. Comparative floral ecology of bicolor and concolor morphs of *Viola pedata* (Violaceae) following controlled burning. *Journal of Pollination Ecology*.

PRESENTATIONS

- 2024 Invited Speaker | Washinton Friends of Farms and Forest Winter Meeting. December 19th. Olympia, WA
- 2024 Invited Speaker | Washington State Pest Management Association Winter Convention. December 6th. Highline College. Des Moines, WA
- 2024 Invited Symposium Speaker | “Adapting to Endangered Species Act Pesticide Label Changes and Mitigations”. Entomological Society of America Annual Meeting, Phoenix, AZ
- 2024 Invited Speaker | Association of Washington Aerial Applicators Annual Fly-in. October 4th. Ephrata, WA
- 2024 Invited Symposium Speaker | “Understanding Pesticides: Regulations, Misuse, and their Role in IPM”. Pacific Branch of the Entomological Society of America. Waikoloa, HI
- 2023 Invited Symposium Speaker | “Careers for the Entomologist With No Interest in Science Policy, but Is Surrounded by It Everyday”. Entomological Society of America National Meeting, National Harbor, MD
- 2023 Invited Symposium Speaker | “Biotremology, Art, and Education”. Entomological Society of America National Meeting, National Harbor, MD
- 2023 Invited Speaker | Certification and Training Rule Changes Webinar. Washington State Department of Agriculture. Zoom
- 2023 Poster Presentation | “Potential Use of Acoustics in Pear Psylla Management”. Ecological Society of America, Portland, OR
- 2023 Invited (Un) Plenary speaker | Entomological Society of America North Central and Southwest joint branch meeting. Oklahoma City, OK
- 2023 Oral Presentation |10-minute Student paper competition. Pacific Branch Entomological Society of America, Seattle, WA
- 2023 Oral Presentation | 10-minute talk. Orchard Pest and Disease Management Conference, Portland, OR
- 2022 Invited Speaker | Pear IPM Intensive Workshop. Wenatchee, WA
- 2022 Oral Presentation |10-minute Student paper competition. Joint Annual Meeting Entomological Society of America, Vancouver, BC, Canada
- 2022 Invited Guest Lecturer | Pesticide Pre-License Training: Insect Control Section. Puyallup, WA.
- 2022 Invited Guest Lecturer | Pest Control Operator Credit: Arthropod Identification Workshop. Puyallup, WA.
- 2022 Invited Speaker | Washington State University S.H.A.P.I.N.G. Conference. Graduate School Workshop. Pullman, WA.
- 2022 Oral Presentation | Applied Biotremology Symposium. 3rd Annual Biotremology Conference, Piran, Slovenia
- 2022 Invited Speaker | Dr. Valerio Mazzoni’s lab seminar. Rome, Italy. *Virtual*
- 2022 Invited Speaker |Behavioral Manipulation Symposium. Pacific Branch Entomological Society of America, Santa Rosa, CA.
- 2022 Oral Presentation |10-minute Student paper competition. Pacific Branch Entomological Society of America, Santa Rosa, CA.
- 2021 Oral Presentation |10-minute Student paper competition. Entomological Society of America, Denver, CO
- 2021 Oral Presentation |10-minute Student paper competition. Pacific Branch Entomological Society of America. *Virtual*
- 2021 Poster | Washington State University Academic Showcase and Graduate and Professional Student Association Research Expo. *Virtual*

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- 2020 Invited Speaker | Achievement Rewards for College Scientists (ARCS) Seattle Luncheon. *Virtual*
- 2020 Invited Speaker | North Central Washington Pear Day. Wenatchee, WA
- 2019 Oral Presentation | 10-minute Student paper competition. Entomological Society of America, St. Louis, MO
- 2019 Panel | Women in Agriculture panel for Washington legislative staff, Pullman, WA
- 2019 Invited Speaker | Tree Fruit Research Extension Center Sunrise Field Day, Wenatchee, WA
- 2019 Poster Presentation | Pacific Branch Entomological Society of America, San Diego, CA
- 2017 Guest Speaker | Academy of Science St. Louis, St. Louis Public Library, St. Louis, MO
- 2017 Poster | Animal Behavior Society Conference at the University of Toronto-Scarborough, Toronto, Canada
- 2018 Poster | SLEEC, Principia College, Elsah, IL
- 2016 Oral Presentation | Animal Behavior Society Conference at University of Missouri, Columbia, MO
- 2016 Poster | Graduate Student Association Symposium, Saint Louis University, St. Louis, MO
- 2015 Poster | SLEEC (Saint Louis Ecology, Evolution, and Conservation) Retreat, Saint Louis Zoo, St. Louis, MO

RESEARCH SUPPORT

- 2021 USDA NIFA Predoctoral Fellowship, "Using Vibrational Communication for Mating Disruption and Pest Management" (awarded \$180,000)
- 2020 Washington State Commission on Pesticide Registration 2021 Funding. PI: David Crowder (awarded \$24,768)
- 2019 USDA Innovation fund. PI: David Horton (~\$20,000)
- 2018 Achievement Rewards for College Scientists (ARCS) Foundation Fellowship, Seattle Chapter (awarded \$17,500)
- 2017 National Science Foundation, NSF IOS-1656818: Genetic change and genetic accommodation allow singing insects to adapt to temperature change. PI: Kasey Fowler-Finn; *Data contributor* (awarded ~\$500,000)
- 2017 Reis Research Award for field work at the Reis Biological Station (awarded \$600)

AWARDS AND HONORS

- 2024 Presentation Award for Women Scientist, International Congress of Entomology, Kyoto, Japan
- 2024 Presidential Appreciation for Service to the Pacific Branch, Entomological Society of America, Waikoloa, HI
- 2023 Washington State University President's Award for Leadership
- 2023 John Henry Comstock Award for the Pacific Branch of the Entomological Society of America
- 2022 President's Prize 1st Place in the PhD 10-minute Paper competition for PI-E Field Crops, Joint Annual Meeting Entomological Society of America, Vancouver, BC, Canada
- 2022 Overall runner-up team for Student Debates, Joint Annual Meeting Entomological Society of America, Vancouver, BC, Canada
- 2022 Outstanding PhD Student of the Year for the Department of Entomology in Washington State University (awarded \$2000)
- 2022 Finalist of 3-Minute Thesis for the Department of Entomology in Washington State University (awarded \$200)

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- 2021 President's Prize 1st Place in the PhD 10-minute Paper competition for PI-E Field Crops, Entomological Society of America, Denver, CO
 - 2021 Overall runner-up team for Student Debates, Entomological Society of America, Denver, CO
 - 2021 Washington State University Department of Entomology Travel Grant (awarded \$922)
 - 2021 Washington State University Entomology Graduate Student Association Mini Grant (awarded \$250)
 - 2021 ARCS Dorothy Lewis Simpson Leadership Award (awarded \$5000)
 - 2021 1st Place in the PhD 10-minute Paper competition, Pacific Branch Entomological Society of America (awarded \$200)
 - 2021 3rd Place in Graduate and Professional Student Association Research Expo (awarded \$300)
 - 2021 Honorable Mention in 3-Minute Thesis for the College of Agricultural, Human, and Natural Resource Sciences in Washington State University. (awarded \$100)
 - 2021 Finalist of 3-Minute Thesis for the Department of Entomology in Washington State University (awarded \$200)
 - 2020 Winner of 3-Minute Thesis for the College of Agricultural, Human, and Natural Resource Sciences in Washington State University. (awarded \$1000)
 - 2020 Finalist of 3-Minute Thesis for the Department of Entomology in Washington State University (awarded \$200)
 - 2019 Pacific Branch Entomological Society of America Travel Grant (awarded \$200)
 - 2019 Washington State University Department of Entomology Travel Grant (awarded \$150)
 - 2019 Washington State University Entomology Graduate Student Association Mini Grant (awarded \$100)
 - 2017 Graduate Student of the Year for the Department of Biology, Saint Louis University (awarded \$150)
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CONFERENCES AND MEETINGS ATTENDED

- 2024 Entomological Society of America Annual Meeting, Phoenix, AZ
- 2024 International Congress of Entomology, Kyoto, Japan
- 2024 Summer Meeting - Washington State Pest Management Association, Leavenworth, WA
- 2024 American Association of Pesticide Safety Educators, Laramie, WY
- 2024 Pacific Branch of the Entomological Society of America, Waikoloa, HI
- 2024 American Association of Pest Control Officers, Old Alexandria, VA
- 2024 The Pesticide Stewardship Alliance, St. Louis, MO
- 2023 Pest World – National Pest Management Association, Waikiki, HI
- 2023 Entomological Society of America National Meeting, National Harbor, MD
- 2023 Washington State Department of Agriculture All Staff Meeting Pesticide Management Division, Puyallup, WA
- 2023 Ecological Society of America Annual Meeting, Portland, OR
- 2023 Summer Meeting – Washington State Pest Management Association, Skamania, WA
- 2023 American Association of Pesticide Educators Annual Meeting, Savannah, GA

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PROFESSIONAL SOCIETY MEMBERSHIP

2018-present Entomological Society of America
2023-present Ecological Society of America
2023-present American Association of Pesticide Safety Educators
2022-present The Pesticide Stewardship Alliance
2015-2017 Animal Behaviour Society

STUDENT ACTIVITIES

UNIVERSITY

2022 **Professional Development Officer**
College of Agricultural, Human, and Natural Resource Sciences (CAHNRS) Student Senate
Washington State University

2022 **Vice President**
Entomology Graduate Student Association
Washington State University

2021 **President**
Entomology Graduate Student Association
Washington State University

2020 **President**
Entomology Graduate Student Association
Washington State University

2020 **Student Lead**
Entomology Journal Club
Washington State University

SOCIETY

2023 Participated in Entomology Games at the National Meeting, EntSoc, National Harbor, MD
2023 Participated (and placed 2nd) in Entomology Games. Pacific Branch EntSoc, Seattle, WA
2022 Participated in Student Debates. Joint Annual Meeting for EntSoc, ESC, ESCB. Vancouver, BC
2021 Participated in Student Debates. EntSoc Annual Meeting. Denver, CO
2020 Participated in Entomology Games. Pacific Branch EntSoc. Virtual
2019 Participated in Entomology Games. Pacific Branch EntSoc, San Diego, CA