**Maria Y. Chavez**

**(575) 499-9935 | chavezmy@gmail.com**

**Education**

PhD Ecology, Colorado State University (CSU), Spring 2023

GPA 3.9/4.0

M.S. Agroecology, UW Madison, May 2018

M.S. Entomology, UW Madison, May 2018

GPA 3.5/4.0

B.S. Horticulture, New Mexico State University (NMSU), May 2015

B.S. Conservation Ecology, New Mexico State University, August 2015

GPA 3.4/4.0

**Experience**

NMSU, **Assistant Professor**, 40 hours/week, January 2025- present

Coordinates research in integrative renewable energy and agricultural natural resources at the NMSU Agricultural Science Center in Farmington, NM.

CSU Spur, **Postdoctoral Fellow**, 40 hours/week, *February 2023 – January 2025*

Coordinates research between multiple PIs in the Horticulture and Landscape Architecture Department (HLA) to conduct interdisciplinary research, contributes to grant and paper writing, participates in outreach programs, and leads tour groups. Mentors graduate students as a committee member and co-advisor. Supervises high school and undergraduate interns in day-to-day tasks and scientific training. Conducts and presents research on agrivoltaics, rooftop gardens, insects as food and feed, and controlled environment horticulture. Manges day to day upkeep of rooftop agrivoltaics and green roof plots. Trained in food safety practices and gained Greef Roof Professional (GRP) certification. Coordinates donations to local food pantries.

CSU, **Doctoral Candidate**, 20 hours/week, *August 2018 –May 2023*

Completed necessary degree requirement as a student in the Graduate Degree Program in Ecology (GDPE) and as an advisee in HLA. Took classes in ecology and horticulture. Supervised undergraduates. Wrote research grants and reviews for publication. Designed and conducted greenhouse and field studies investigating horticultural uses for insect frass, or compost. Trained on using SPAD meter and other controlled environment techniques. Collected, analyzed, and published data relevant to circular economy priorities.

CSU, **Lead Instructor**, 20 hours/week*, August 2020 – December 2022*

Adapted Fundamentals of Ecology (LIFE/LAND 220) in person curriculum to a fully online class during Covid 19 pandemic. Created graduate student guest lecture series to introduce students to research in the field. Continued to improve on lecture and canvas materials created as a teaching assistant. Introduced student presentations as an option in conjunction with term papers. Introduced group projects to increase engagement and communication. Incorporated diversity and inclusion topics into curriculum. Attended inclusive pedagogy course to improve curriculum for more students.

CSU, **Teaching Assistant**, 20 hours/week*, August 2018 – May 2022*

Lecture teaching assistant of Fundamental of Ecology (LAND/LIFE 220). Created assignments, rubrics, quizzes, and finals. Graded term papers. Guided discussion in lecture. Lab teaching assistant for LIFE 103. Gave lab presentations. Guided students through activities. Graded assignments. Canvas assistant for BZ 220. Converted classic quizzes into new quizzes. Organized and edited legacy knowledge in item banks.

UW Madison, **Research Gardener**, 40 hours/week*, May 2018-August 2018*

Processed soil samples for carbon and nitrogen tinning. Managed undergraduates. Organized fuel crop catalogs.

UW Madison, **Teaching Assistant**, 20 hours/week*, September 2017-May 2018*

Instructed Honors Physiology lab, Biocore 486, and Cell Biology lab, Biocore 384. Worked on a team to design lesson plans and coordinate student projects. Presented workshops. Mentored students through their group experiments. Conferenced with students to improve writing and communication skills. Managed student conflicts. Trained in ethics and social concerns.

UW Madison, **Graduate Research Assistant**, 20 hours/week*, September 2015- May 2018*

Attended classes relevant towards the agroecology and entomology fields of study. Developed and designed and conducted field study by characterized study systems and field sites. In depth knowledge of dragonfly behavior and physiology. Developed relationships with cranberry growers. Conducted field analysis with visual and physical samples. Wrote multiple grants. Completed statistical analysis of data.

NMSU, **Field technician**, 40 hours/week, *May 2015-July 2015*

Set and checked traps for mice. Handled mice and processed animals for species, condition, and behavior. Collared mice and tracked individual animals with radio telemetry and collars. Used GPS to find location of animals. Drove all terrain vehicles to access sites. Underwent training for ethical and proper treatment of animals.

MARC (Maximizing Accessing to Research Careers) **Scholar**, 10 hours/week, *August 2013-May 2015*

Independent research project investigating how two dragonfly species respond to modifications in temperature and resources in the larval environment. Maintenance of experimental treatments and animal care. Performed foraging trials. Processed and analyzed survival and growth data. Completed toxicology and ethics workshops for NIH requirements.

California Polytechnic State University, **Field Technician**, 40 hours/week, *May 2013-August 2013*

Collected, measured, and released emerging dragonflies from rearing tanks with experimentally manipulated temperatures. Monitored transects and observed ponds for dragonfly activity to assess response to variation in rearing conditions. Caught and collected eggs from female dragonflies for current experiments.

**Honors, Awards, and Scholarships**

-CSU Career Impact Award, *2024*

-Foundation for Food and Agriculture Research (**FFAR**) Fellow, *2020 – 2023*

*-*CSU Extension Internship, Summer 2022

-Aurora Organic Dairy academic scholarship, *2019, 2021, and 2022*

-Aurora Organic Dairy Research Scholarship, *2021 and 2022*

-Advancing Education Scholarship, CSU, *2021*

-National Science Foundation Graduate Research Fellowship Program (**NSF GRFP**), *2015-2020*

-CSU Graduate Degree Program in Ecology (GDPE) small grant, *2019*

-Aurora Organic Dairy travel scholarship, *2019*

-CSU Research Mentoring to Advance Inclusivity in STEM (RMAIS) fellow, *2019*

-Kinney Merit Travel Award, UW Madison, *2018*

-UW Madison National Society of Success and Leadership, *2018*

-Agroecology Travel Award, *2017*

-Strategies for Ecology Education, Diversity, and Sustainability (SEEDS) chapter grant, *2017*

-Center for Integrated Agricultural Systems (CIAS) minigrant, *2016*

-UW Madison SciMed Graduate Research Scholar, *2015-2018*

-SEEDS travel award to Ecological Society of America (ESA) meeting, *2014*

-ASHS (American Society for Horticultural Science) Junior Scholar *2013*

-Paul and Cecilia Levine Endowed Scholarship recipient, *2013 - 2014*

-L.O. Haun Endowed Scholarship recipient, *2013 - 2014*

-NMSU Honors Excel Scholarship recipient, *2011 - 2013*

-NMSU Lottery recipient, *2011 - 2015*

**Publications**

M.Y. Chavez, A. Villa Ignacio, J. Craver, J. Bousselot (2025) Investigating potential black soldier fly larval (*Hermetia illucens*) frass applications for *Brassica* crops commonly grown in the Pacific Northwest. Agrochemicals, in review.

E. Gross, M.Y. Chavez, M., & J. Bousselot. (2024) 2.1: Research Track Chile Pepper Production in a Colorado Rooftop Agrivoltaic System. CitiesAlive Conference Preceedings

M. Y. Chavez, M. Uchanski, & J.K. Tomberlin (2024) Impacts of Black Soldier Fly, *Hermetia illucens*, Larval Frass on the Emergence and Seedling Vigor of Three Vegetable Crop Species. Journal of Insects as Food and Feed 1, 1-14.

M.Y. Chavez, M. Uchanski, & J.K. Tomberlin (2024) Impacts of Black Soldier Fly, *Hermetia illucens* L., (Diptera: Stratiomyidae) Larval Frass on Lettuce and Arugula Production. Frontiers in Sustainable Food Systems 8: 1399932.

T. Hickey, J. Bousselot, & M.Y. Chavez (2024). A Rooftop Agrivoltaic System: Pollinator Plant Establishment. Journal of Living Architecture.

M. Y. Chavez, M. Uchanski, & J.K. Tomberlin (2023) Impacts of Black Soldier Fly, *Hermetia illucens* L., (Diptera: Stratiomyidae) Larval Frass on Tomato Production. Journal of Economic Entomology 116(5): 1490-1495

M. Chavez and M. Uchanski (2021) Insect left-over substrate as plant fertilizer. Journal of Insects as Food and Feed, 1-12.

M. Y. Chavez (2021) The sustainability of industrial insect mass rearing for food and feed production: zero waste goals through by-product utilization. Current Opinion in Insect Science 48: 44-49.

M.Y. Chavez, K.E. Mabry, S.J. McCauley & J.I. Hammond (2015) Differential larval responses of two ecologically similar insects (Odonata) to temperature and resource variation, International Journal of Odonatology, 18:4, 297-304, DOI: 10.1080/13887890.2015.1082946

**Grants**

Bousselot, J., Chavez, M. Craver, J., Prenni., J. Leveraging Shade Tolerant Crops For Use in Novel Agrivoltaics Systems. USDA Specialty Crop Research Initiative. Submitted November 2024.

Bousselot, J., Chavez, M. Raspberry Agrivoltaic Research and Outreach. CDA Agrivoltaics Research and Demonstration Grant Program. Received 2024.

Bousselot, J., Calver, M., Chavez, M. Craver, J., Prenni., J. From seed to sensory: Optimizing the shade response for successful production of strawberries, raspberries, and chile peppers grown in urban agrivoltaic systems. USDA Specialty Crop Research Initiative. Submitted December 2023.

Bousselot, J., Chavez, M. Agrivoltaic Research Expansion and Outreach Featuring Pueblo Chile Peppers. CDA Agrivoltaics Research and Demonstration Grant Program. Submitted October 2023.

Bousselot, J., Malkinson, D., Chavez, M. Enhancing crop production in agrivoltaics farming: harnessing AMF to increase yields under PV-paneled plots in arid and semi-arid climates. BARD Research Proposal 26 – 2024. Submitted September 2023.

Holley, J., J.K. Craver, M. Chavez, K. Wrighton, and D. Goldhamer. Upcycling of organic waste products by black soldier fly and microbial digestion to increase access to organic fertilizer for urban and peri-urban horticultural application. USDA-NIFA-ICGP-Organic Transitions; $957,612 (3 years). Submitted April 2023.

Bousselot, J.M.,. MY. Chavez, M. Bortolo, K. Bortolo. The Iconic Pueblo Chile: From Farmers Fields in Pueblo to Rooftops in Denver. Specialty Crop Block Grant Program Concept Proposal; $91,661 (1 year). Submitted February 2023.

**Presentations**

Adams, B., Bousselot, J., Chavez, M.Y. Evaluating Medicinals Crop Production ​in a Colorado ​Rooftop Agrivoltaic System. CitiesAlive World Conference, Poster Presentation, November 2024.

Villa Ignacio, A., Bousselot, J., Chavez, M.Y. Evaluating Leafy Green Production ​in a Colorado ​Rooftop Agrivoltaic System. CitiesAlive World Conference, Oral Presentation, November 2024.

Gross, E., Chavez, M.Y., Bousselot, J. Chile Pepper Production ​in a Colorado ​Rooftop Agrivoltaic System. CitiesAlive World Conference, Oral Presentation, November 2024.

Adams, B., Bousselot, J., Chavez, M.Y. Evaluating Medicinals Crop Production ​in a Colorado ​Rooftop Agrivoltaic System. AgriVoltaics World Conference, Poster Presentation, June 2024.

Villa Ignacio, A., Bousselot, J., Chavez, M.Y. Evaluating Leafy Green Production ​in a Colorado ​Rooftop Agrivoltaic System. AgriVoltaics World Conference, Poster Presentation, June 2024.

Gross, E., Chavez, M.Y., Bousselot, J. Chile Pepper Production ​in a Colorado ​Rooftop Agrivoltaic System. AgriVoltaics World Conference, Poster Presentation, June 2024.

Gross, E., Chavez, M.Y., Bousselot, J. Chile Pepper Production ​in a Colorado ​Rooftop Agrivoltaic System​. Green Infrastructure Research Symposium, October 2023.

Chavez, M.Y. The impact of insect frass on vegetable crops. CSU Graduate Degree Program in Ecology PhD Defense, December 2022.

Chavez, M.Y. The impact of insect frass on vegetable crops. CSU Horticulture and Landscape Architecture seminar, October 2022.

Chavez, M.Y. Visiting lecturer, CSU, Imposter Syndrome, February 2020.

Abbey, C., Chavez, M., Dohner, J., Kopper, R., Osborne, R., M. Zarria, U.S. campuses reducing waste and emissions through composting and sustainability efforts. Press Conference and Side Event, UN Framework Convention on Climate Change COP25, Madrid, Spain, December 2019.

Chavez, M.Y., Chassen, E. Lundgren, J. Steffan, S. 2018. Dragonflies are biocontrol agents in

Wisconsin cranberry systems. UW Madison M.S. Defense, May 2018.

Chavez, M.Y., Chassen, E. Lundgren, J. Steffan, S. 2017. Dragonflies are biocontrol agents in

Wisconsin cranberry systems. Poster Presentation, Entomological Society of America (ESA), Denver, CO, November 2017.

Chavez, M.Y., Chassen, E. Lundgren, J. Steffan, S. 2017. Dragonflies are biocontrol agents in

Wisconsin cranberry systems. Poster Presentation, Scimed annual poster session, October 2017.

Chavez, M.Y. Visiting lecturer, Agroecology Introduction. Marian University, December 2016.

Chavez, M.Y., Chassen, E. Lundgren J, and Steffan, S. 2017. Dragonflies are biocontrol agents in Wisconsin cranberry systems. Poster Presenation, Scimed annual poster session, October 2016

Chavez, M.Y., J.I. Hammond, S.J. McCauley and K.E. Mabry. 2014. Differential responses of two ecologicallysimilar species to variation in temperature and resources. Poster Presentation, NMSU URCAS (Undergraduate Research and Creative Arts Symposium), April 2014

Chavez, M.Y., J.I. Hammond, S.J. McCauley and K.E. Mabry. 2014. Differential responses of two ecologically similar species to variation in temperature and resources. Poster Presentation, NMSU Biosymposium, March 2014

Chavez, M.Y., J.I. Hammond, S.J. McCauley and K.E. Mabry. 2014. Differential responses of two ecologically similar species to variation in temperature and resources. Society of Advancement of Chicanos and Native Americans in Science (SACNAS), Los Angeles, CA, October 2014.

Chavez, M.Y., J.I. Hammond, S.J. McCauley and K.E. Mabry. 2014. Differential responses of two ecologically similar species to variation in temperature and resources. Ecological Society of America (ESA), Sacramento, CA, August 2014.

**Professional Service**

-Green Roof for Healthy Cities GRP, 2024-2025

-CSU GDPE Diversity of Equity and Inclusion graduate student chair, *2020-2022*

-CSU HLA Diversity Catalyst Team student representative, *2020-present*

-CSU Commission for Diversity and Inclusion graduate student representative, *2020-2022*

-CSU Graduate Students of Color founding member, *2021-2022*

-CSU HLA Graduate Student Council founding member, president, *2020-2022*

-Front Range Student Ecology Symposium, Day of Committee chair, *2018-2021*

-Entomological Society of America member, *2017 - 2020*

-UW Madison Entomology graduate student association member, *2016 - 2018*

-UW Madison SEEDS chapter Student liaison, *2015 - 2018*

-SACNAS, spring *2014 - 2018*

-Ecological Society of America, *2014 - 2020*

-NMSU SEEDS chapter: *2013-2015*

**Community Involvement**

-CSU Spur Tour Guide, *2023-2024*

-Bruce Randolph High School Greenhouse volunteer, *2023-2024*

-Semilla Project activity coordinator, *2023-2024*

-CSU Grad Showcase volunteer judge, 2023

-CSU Women and Gender Advocacy Center Victim Assistance Team volunteer, *2020 - present*

-Larimer County Foodbank volunteer, *2020*

-MURALS grad student judge, *2019 - 2022*

-CSU Bug Zoo Volunteer, *Fall 2018 -2020*

-UW Madison ARMS (Adult ) classroom partner at Marquette Elementary, *2017- 2018*

-UW Madison ARMS classroom partner at Lakeview Elementary, *2016 - 2017*

-UW Madison Insect Ambassador, *2016 - 2018*

-UW Madison Hispano Centro science educator, *2016 - 2018*

-UW Madison Expanding Your Horizons volunteer, *2016 – 2017*

**References**

Jennifer Bousselot, CSU Assistant Professor

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Joshua Craver, CSU Associate Professor

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Jessica Prenni, CSU Professor

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Colleen Webb, CSU Vice Provost for Graduate Affairs and Dean of the Graduate School

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