Carlo Rene Moreno

Environmental Studies Program

The College of Wooster

1189 Beal Avenue

Wooster, OH 44691

Phone: (320) 287-1982

Email:cmoreno@wooster.edu

**EDUCATION**

Ph.D., 2013. Environmental Studies, University of California Santa Cruz, Santa Cruz, California.

M.S., 2006. Entomology, University of Maryland, College Park, Maryland.

B.S., 2002. Biology, San Jose State University, San Jose, California.

**PROFESSIONAL APPOINTMENTS/EMPLOYMENT**

**Teaching, Extension, and Research Appointments**

Fall 2019- Present Assistant Professor

The College of Wooster

Environmental Studies Program

2017- 2019 Perry-Williams Postdoctoral Fellow

The College of Wooster

Environmental Studies Program

2015-2017 Assistant Extension Professor

University of Idaho

Southern District Extension

2014-2015 Postdoctoral Fellow in Agroecology

University of Texas Rio Grande Valley

Biology Department

**Academic Administrative Appointments**

2015-2017 County Extension Chair

University of Idaho

Minidoka County Extension

**TEACHING EXPERIENCE**

**The College of Wooster, Environmental Studies Program**

ENVS 100 Keywords and Concepts (Fall 2018, Spring 2019)

ENVS 110 Environment and Society (Fall 2019, Spring 2023)

ENVS 120 Ecology and the Environment (Spring 2020-Fall 2023)

ENVS 230 Sustainable Agriculture: Theory and Practice (Fall 2017)

ENVS 270 The Science of Agroecology (Fall 2019, Fall 2020, Fall 2023)

ENVS 299 Field Methods in Ecology (Spring 2022)

ENVS 310 Sustainable Development (Spring 2018)

ENVS 399/350 Advanced Research Seminar (Spring 2020-23)

ENVS 399 Perspectives on Invasions (Spring 2020)

ENVS 399/280 Agricultural Entomology (Spring 2018, Fall 2018)

FYS 101 Insects and Society (Fall 2022)

BIOL 356 Conservation Biology (Spring 2023)

**University of Idaho, Southern District Extension**

Biological control approaches to weeds and pests. Twin Falls Advanced Master Gardeners Program. (September 2016)

Common Garden Pests in Idaho and Ecologically-based Pest Management Strategies. Mini-Cassia Master Gardeners Program. (May 2016)

Los Cinco Principios del Manejo Integrado de Plagas (The Five Principles of Integrated Pest Management). Spanish-language Farmer Safety Training Courses. (February, March 2016)

General Entomology. 2016 Pre-Licensing Training for Pesticide Applicators. (February 2016)

Cover crops and pest management. Direct Drill and Cover Crop Workshop. (February 2016, 2017)

Controlling pests using cover crops. Southeast Idaho Cereal School. (February 2016, 2017)

Assessing the barriers and opportunities to organic farming in the Treasure Valley: Shared Values Activity. Organics Conference. (January 2016, 2017)

Two spotted spider mite management. Magic Valley Beans School. (January 2016, 2017)

Vole management. Magic Valley Beans School. (January 2016)

Internet marketing opportunities. Farm Financial Management Class. (January 2016, 2017)

Organic production and the advantage of organic food. Mini-Cassia Chamber of Commerce. (January 2016)

Farm Financial Management Class. (January 2016, 2017)

Biological control of insects and weeds using habitat management and augmentative practices. Pesticide Recertification School. (December 2015)

Water management and new technologies. Idaho Barley Commission. (December 2015)

Crop Insurance Management Seminar. (December 2015)

Careers at the University of Idaho. Career Day at Mt. Harrison Alternative High School. (November 2015)

Pest management apps. Farm Management Tools School Seminar. (October 2015)

Cover crop integrated pest management implications of cover crops. Cover Crops Field Day. (October 2015)

**INDEPENDENT STUDIES PROJECTS SUPERVISED**

2022-23 Ash Arons- Brownfield meets the bees needs: The William J. Robertson Nature Preserve provides a safe haven for solitary native bees

2022-23 Owen Barnard- Evaluation of the use of *Raphinus sativus* and neem as pest management strategies for *Diabrotica undecimpunctata howardii* in the crop species *Cucurbita pepo* subspecies *pepo*

2022-23 Jackeb-Eligah Milan- Greening our cities: The power of constructed wetlands and rain gardens in wastewater management

2022-23 Brendan Ortiz- Alternative ways to understanding: Promoting community food sovereignty through value-driven education

2022-23 Temuul Munkhtur- Traditional/local ecological knowledge and its role in building socio-ecological resilience in the context of displaced communities

2021-22 Manasi Desai- Microplastics as carriers of PAHs released from oil spills: Measuring ingestion and bioaccumulation rates in copepods

2020-21 Virginia (Ginny) Roberts- Resource-Driven Control of Cavity-Nesting Wasp Densities: Importance of Deadwood Density and Plant Resource Heterogeneity

2020-21 Emma Russell- Mycoremediation of Polycyclic Aromatic Hydrocarbons in Relation to Urban Agricultural and Food Deserts: A Review

2020-21 Wiley Phelps- Why Give a Dam? Exploring the Impacts of *Castor canadensis* Inundation of Benthic Macroinvertebrate Populations and on the Perception of Biologists Who Work with Them

2020-21 Dylan Phillipson- Benthic Macroinvertebrate Communities Suggest No-Till Agricultural Practices Can Improve Great Lakes Aquatic Ecosystem Health

2019-20 Ava Chamberlain- Get the Lead Out: Evaluating the Influence of Heavy Metal Contaminated Soil on Urban Agriculture.

2018-19 Alex Montalbano- Insight into Environmental Concern: An Examination of Development and Variation of Concern Towards Sea Turtle Conservation.

2018-19 Bridget Gross- Drone Brood Removal: A Bee-utiful Form of *Varroa* Control and Source of Edible Insect Protein.

**PUBLICATIONS**

**Manuscripts submitted/accepted**

2024 **Moreno, C.R.**, Duxbury, J. Colored plastic mulch effects on Hemipteran populations, soil temperature, and productivity of lavender (*Lavandula x intermedia*) in an urban brownfield: A participatory approach. Ohio Journal of Science. Forthcoming 2024.

**Published Journal Articles**

2019Bagavathiannan, M., Graham, S., Ma, Z., Barney, J.N., Coutts, S.R, Caicedo, A.L., De Clerck-Floate, R., West, N.M, Blank, L., Metcalf, A.L, Lacoste, M., **Moreno, C.R.**, Evans, J., Burke, I., Beckie, H. 2019. Considering weed management as a social dilemma bridges individual and collective interests. *Nature Plants**5: 343–351*.

Graham, S., Metcalf, A.L., Lubeck, A., Gill, N., Ikutegbe, V., Niemiec, R.M., **Moreno, C.R.**, Bach, T., Hallstrom, L., Ma, Z. 2019. Opportunities for better use of collective action theory in research and governance for invasive species management. *Conservation Biology* *0(0):1-13.*

2016 **Moreno, C.R.**, London, M.S., Gliessman, S.R. 2016. Influence of a native *Solanum tuberosum* ssp. *andigenum* potato variety on management of the Guatemalan potato moth in the Venezuelan Andes. *American Journal of Potato Research 93(3): 224-230.*

2015 **Moreno, C.R.**, Racelis, A.E. 2015. Attraction, repellence, and predation: Role of companion plants in regulating *Myzus persicae* (Sulzer) (Hemiptera: Aphidae)in organic kale systems of South Texas. *Southwestern Entomologist* *40(1)*: *1-14.*

2014Morris, M. **Moreno, C.R.**, Racelis, A.E. 2014. Brassica Pests and Their Natural Enemies: A Field Guide for Texas Organic Farmers. *National Center for Appropriate Technology extension communication*.

2010 **Moreno, C.R.**, Lewins, S.A., Barbosa, P. 2010. Influence of relative abundance and taxonomic identity on the effectiveness of generalist predators as biological control agents*. Biological Control 52: 96-103.*

2009 Letourneau, D.K., Jedlicka, J.A., Bothwell, S.G., **Moreno, C.R**. 2009. Effects of natural enemy diversity on arthropod herbivore suppression. *Annual Review of Ecology, Evolution, and Systematics 40: 573-592.*

**Popular Press**

**Moreno, C.R.** April 2016. How to manage alfalfa pests in the spring. Lincoln County Extension Newsletter. University of Idaho Extension.

**Manuscripts in preparation**

Moreno, C.R. Carrot weevil management in the Great Lakes region: The influence of farmer knowledge networks in the adoption of integrated pest management tactics. Target Journal: *Agroecology and Sustainable Food Systems.*

**GRANTS AND FELLOWSHIPS**

**Pending**

2024 Krupek, F., Moreno, C.R., Jasinkski, J., Rivera, M. Farming without borders: Empowering urban refugee and immigrant farmers through language-appropriate crop and pest management tools. Diversity, Equity, Inclusion, and Accessibility (DEIA) Program Grant. North Central Region IPM Center Grants Program. United States Department of Agriculture. May- December 2024 (Co-PI), $1200 (Total: $18,837).

**Completed**

2021-23 Long, E.Y., and Moreno, C.R. Exploring linkages between IPM practices, social networks, and success of carrot weevil management in the Great Lakes region. Critical Issues Request FY 2021-23. North Central Region IPM Center Grants Program. United States Department of Agriculture. March 1 2021-March 31 2023(Co-PI), $24,546 (Total: $48,098).

2020-21 Mariola, M., Ison, J, and Moreno, C.R. Implementing a pollinator habitat research plot in the campus learning garden. The College of Wooster, Hamburger Research Funds. May 2020-May 2021 (Co-PI), $7320.

2017-19 Moreno, C.R., Consortium for Faculty Diversity Postdoctoral Fellowship. Consortium for Faculty Diversity at Liberal Arts Colleges. Gettysburg, PA. August 2017-August 2019.

2016 Moreno, C.R. Extension Support Endowment Travel Stipend for Alfalfa Intensive Training Seminar. University of Idaho. September- November 2016. $500.

Moreno, C.R. Early-career professional funding for Andina International Transdisciplinary Weed Science Workshop. Canadian Weed Science Society. June 2016, $367.

Moreno, C.R. Cover crop experiment preparation at the Kimberly Extension and Research Center. University of Idaho Extension Critical Issues Funding. June-November 2016. $3,475.

Moreno C.R. and Miller, J. Organic 101 Workshop: Transition, Certification, Record Keeping, Nutrient Management, & Composting. Idaho Sustainable Agriculture and Research Education Program Professional Development Mini-Grant. 2015-16, $2,000.

2015 A.E. Racelis and Moreno, C.R. Developing farmer-appropriate integrated pest management strategies in South Texas: The potential of push-pull technologies to regulate organic brassica pests. Southern Sustainable Agriculture and Research Education On-farm Research Grant**.** 2014-15, $15,000.

2012 Moreno, C.R. President’s Dissertation-Year Fellowship. University of California Santa Cruz. 2012, $21,000.

Moreno. C.R. Annie’s Sustainable Agriculture Scholarship. Annie’s Incorporated. 2012, $2,500.

Moreno, C.R. Earthbound Farm Environmental Stewardship Award. Earthbound Farm. 2012, $4,000.

2011 Moreno, C.R. Environmental Studies Departmental Research Grant. Environmental Studies Dept., University of California Santa Cruz. 2011, $1,500.

2009 Moreno, C.R. Environmental Studies Departmental Research Grant. Environmental Studies Dept., University of California Santa Cruz. 2011, $1,300.

2008 Moreno, C.R. CenTREAD Tropical Research Grant. University of California Santa Cruz. 2008, $1,000

2004 Moreno, C.R. Cosmos Club Grant-in-aid to scholars. Cosmos Club Foundation. 2004, $700.

2003 Moreno, C.R.. SACNAS Travel Award. Society for the Advancement of Chicanos and Native Americans in Science.2003, $2,000.

**Honors and Awards**

2011 Moreno, C.R. Fulbright U.S. Student Fellowship. U.S. Department of State. 2010-11, $20,000.

Outstanding Teaching Assistantship Award. Environmental Studies Department, University of California Santa Cruz, Santa Cruz, California. 2011.

2010 Outstanding Teaching Assistantship Award. Environmental Studies Department, University of California Santa Cruz, Santa Cruz, California. 2010.

2007 Cota-Robles Fellow. University of California Santa Cruz. 2007, $7,000.

Regents Fellow. University of California Santa Cruz. 2007, $8,000.

2003 Graduate Fellowship. University of Maryland College Park. 2003, $19,000

**INVITED TALKS**

2023 Moreno, C.R, and Duxbury, J. 2023. The Science of Community-based, Participatory Action Research. *Wooster Science Café*- Wooster OH. March 1, 2023

2019 Moreno, C.R. 2019. A socio-ecological perspective on invasive pest management in agroecosystems. *Entomology Department Seminar Series. Ohio Agriculture and Research Development Center,* The Ohio State University. February 6.

**CONFERENCE ACTIVITY/PARTICIPATION**

*\* Denotes undergraduate author*

**Displays and Posters**

2021 Moreno, C.R., and Duxbury J. 2021-22. Thank you very mulch: Light reflectance and absorption impacts on soils, plants, and insects. *Lavender Trails Research Display- Orrville, OH.* June 15- July 30, 2022.

2020 Roberts, V.E.\*, and Moreno CR. 2020. Potted native perennials fail to impact natural enemy, pest abundance in vineyard setting. *Ecological Society of America Annual Meeting- Online*. August 6, 2020.

2015 Racelis, A.E., Maggiani, R., Morris, M., and Moreno, C.R. 2015. Subtropical Organic Agriculture Research (SOAR) partnership: A participatory academic program to fill research needs of farmers in S. Texas. *Directors and Science Advisory Board Annual Meeting- Washington DC*. April 17, 2015.

2014 Moreno, C.R., and Racelis, A.E. 2014. Developing IPM strategies in the subtropics of Texas: Attraction-repellence of pests in organic brassica production. *Annual Meeting Entomological Society of America- Portland, OR*. February 28, 2014.

**Presentations and Workshops**

2022 Long, E.Y, and Moreno, C.R. 2022. Update on summer 2021 carrot weevil monitoring and scouting research. *2022 Ohio State University Muck Crop Annual Meeting- Willard, OH.* July 29, 2022.

2016 Moreno, C.R. Manejo Integrado de Plagas (Integrated Pest Management). *Idaho Potato Conference and Ag Expo- Pocatello, Idaho.* January 20.

Moreno, C.R., Liang, X. Cover Crop Panel. *Idaho Potato Conference and Ag Expo- Pocatello, Idaho.* January 20, 2016.

2015 Moreno, C.R. Native potatoes and sustainable livelihoods in the Venezuelan Andes. *Annual Meeting of the Association of American Geographers- Chicago, Illinois.* April 26, 2015.

2014 Racelis, A.E., Moreno, C.R. Subtropical Organic Agriculture Research. *Texas Organic Farmer and Gardener’s Association- San Antonio, Texas*. December 28, 2014.

A.E. Racelis, Moreno, C.R., Morris, M., and Maggiani, R. Agroecological research, education, and extension: An integrated approach to improving educational engagement in food systems. *Ecological Society of America Annual Meeting*. August 12,2014.

Moreno, C.R., and Gliessman, S.R. A participatory approach to assessing landscape complexity impacts on specialist pests: Can traditional Andean fallow farming reduce the establishment of Guatemalan potato moth (*Tecia solanivora* P.)? *Annual Meeting Entomological Society of America- Portland, Oregon.* November 15, 2014.

Moreno, C.R., Racelis, A.E. Degree day predictions and pest management in South Texas. *Pest scouting workshop- Lyford, Texas.* November 6, 2014

2012 Moreno, C.R., Romero, L., and Gliessman, S.R. Seeds of change: Sustainable potato production in the high plateaus of the Venezuelan Andes*. Annual Meeting of the Association of American Geographers- New York, New York.* April 28, 2012.

2011 Moreno, C.R., and Gliessman, S.R. .Pests, potatoes, and paramos: Community-based monitoring of the Guatemalan moth (*Tecia solanivora*) and the Andean Potato Weevil (*Premnotrypes vorax*) in the high plateaus of Venezuela”. 59th *Annual Meeting Entomological Society of America- Reno, Nevada.* December 12, 2011.

Moreno, C.R., and Romero, L.Biodiversidad, semillas, y papas: Practicas semi-tradicionales en el manejo de plagas del paramo*”*. *3rd international SOCLA (Sociedad Cientifica Latino Americana de Agroecologia) conference- Oaxtepec, Mexico.* August 15, 2011.

Moreno, C.R. La palomilla guatemalteca: Metodos de control y practicas sustentables en el cultivo de la papa (The Guatemalan Potato Moth: Control methods and sustainable practices in potato production. 1st *Integrated Pest Management Workshop Series- Misinta, Venezuela.* March-August, 2011.

2008 Moreno, C.R., Lewins, S.A., and Barbosa, P. The role of relative abundance and taxonomic identity on the effectiveness of generalist predators as biological control agents*. Entomological Society of America- Pacific Branch; Napa, California.* April 15, 2008.

2006 Moreno, C.R., and Barbosa, P. Do the numerically dominant species in an assemblage of generalist predators consume the most prey? *Entomological Society of America- Eastern Branch; Roanoake, Virginia.* November 24, 2006

2005 Moreno, C.R., Lewins, S.A., Barbosa, P. Abundance distributions of generalist predators in collards: A test of temporal variation in community structure. *International Organisation for Biological Control-Nearctic Regional Section; Magog, Quebec, Canada.* June 2005.

Moreno, C.R., and Barbosa, P. Generalist arthropod predators and species abundance distributions: Do the numerically dominant predator species consume the most prey? *SACNAS National Conference; Denver, Colorado.* November 13, 2005.

**Panels Organized**

2017 Spanish-Language Potato Conference. *Idaho Potato Conference and Ag Expo- Pocatello, Idaho.* January 22.

**SERVICE**

**Journal Reviewer**

Agroecology and Sustainable Food Systems. 2008-Present.

PLOS One. 2019- Present.

**Major Committee Assignments- The College of Wooster**

Elected committees:

Educational Policy Committee (2020-2021)

Appointed committees:

Human Subjects Research Committee (2019-present)

College-wide programs:

Stem Success Initiative Advisory Board (2022-present)

ARCH faculty mentor program (Summer 2019)

APEX faculty mentor program (Summer 2018)

Departmental committees:

Environment studies tenure-track hiring search committee: Environmental policy/justice position (2019-2020)

Environmental Studies visiting professor hiring search committee (2019-2020)

Environmental Studies Curriculum committee (2018-present)

Miscellaneous committees:

Music department tenure-track hiring search committee (External member): Voice (2022-2023)

Economics department tenure-track hiring search committee (External member): Environmental Economist (2021-2022)

Udall Scholarship Faculty Representative (2020-21)

Ruth Williams Greenhouse Committee (2019-present)

Student organization advisor:

Sustainability House faculty advisor (2019-2020)

Environmental Justice Coalition faculty advisor (2019-2020)

Greenhouse Club faculty advisor (2018-2020)

**Major Committee Assignments- External Organizations**

Advisory board member:

The Akron Cooperative Farms, Akron, Ohio (2023-present)

**Mentorship Opportunities**

Ento-People of Color (EntoPOC) Mentor. 2020 Entomology Virtual Annual Meeting. Entomological Society of America (2020-2021)

**OTHER QUALIFICATIONS/SKILLS**

Mastery of MS Office programs, as well as Zotero and Endnote bibliography management software.

Extensive knowledge of SAS, Systat, and R statistical programs.

Experience with ArcGIS.

Over 10 years of experience identifying insect and plant taxa using dichotomous keys.

Over 10 years of experience conducting arthropod surveys in managed and natural systems.

**PROFESSIONAL ORGANIZATION AFFILIATIONS**

Sociedad Cientifica LatinoAmericana de Agroecologia Entomological Society of America Ecological Society of America Association of American Geographers

**LANGUAGE**

Bilingual and bicultural in Spanish and English.