

Robert Crystal-Ornelas, PhD

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EDUCATION

Rutgers University May 2019
PhD in Ecology & Evolution

Boston University May 2008
B.A. in Biology

RESEARCH EXPERIENCE

Lawrence Berkeley National Laboratory 2020-Present
Postdoctoral Scholar

- Working with ESS-DIVE data repository on earth and environmental science data standards and community adoption of standards.

University of Maryland 2019-2020
Faculty Assistant

- Led meta-analysis project identifying the organic farming practices that lead to increases in soil Carbon.

Rutgers University September 2016-May 2019
Lockwood Lab Doctoral Candidate

- Doctoral studies focused on using meta-analysis and evidence synthesis to identify critical research gaps in the field of invasion ecology.

University of New Mexico June 2018-August 2018
DataONE Graduate Intern

- Collaborated with team of investigators and data scientists to synthesize evidence on data sharing practices and data repository use in earth science.

Virginia Tech Winter 2009
Research Technician

- Studied winter biology of Swamp Sparrows.

TEACHING EXPERIENCE

University of San Francisco 2019-2020
Adjunct Professor

- Primary instructor for Introduction to Statistics course

Santa Rosa Junior College 2018-2020
Senior Instructional Assistant

- Provides tutorial instruction to students in statistics, algebra, biology, and ecology

Clubes de Ciencia 2018-Present
Instructor

- Co-instructor for bilingual courses on ecology, statistics, and computer programming for undergraduates in Mexico

Rutgers University 2016-2017
Teaching Assistant

- For classes including computational biology and general biology lab.

Hunter College Spring 2016
Adjunct Instructor

- Statistical Methods in Psychology

- Instructional support for 3 semesters of Experimental Psychology

PEER REVIEWED PUBLICATIONS

Crystal-Ornelas, R., J. L. Lockwood. 2020. Cumulative meta-analysis identifies declining but negative impacts of invasive species on richness after 20 years. *Ecology*. DOI: 10.1002/ecy.3082

Crystal-Ornelas, R., R. Thapa, K. L. Tully. (In Review). Organic farming improves soil health, and benefits are influenced by farming practice and time. A meta-analysis.

Crystal-Ornelas, R., J. A. Brown, R. E. Valentin, C. Beardsley, J. L. Lockwood. (In Review). Meta-analysis shows that overabundant deer (*Cervidae*) populations consistently decrease average population abundance and species richness of forest birds.

Crystal-Ornelas, R., J. L. Lockwood. (2020). The 'known unknowns' of invasive species impact measurement and the quest for comprehensive impact frameworks. *Biological Invasions*, 22(4), 1513–1525. DOI: 10.1007/s10530-020-02200-0

Crystal-Ornelas, R., J. L. Lockwood, P. Cassey, & M.E. Hauber (2017). The establishment threat of the obligate brood-parasitic Pin-tailed Whydah (*Vidua macroura*) in North America and the Antilles. *The Condor*, 119(3), 449-458. DOI: <https://doi.org/10.1650/CONDOR-16-150.1>

NON PEER REVIEWED PUBLICATIONS

Crystal-Ornelas, R., K. E. Fisher, L. Lamb-Wotton, A. Boyd. (In Review). Human Dimensions: The ESA Student Section

Ellison, A., C. LeRoy, K. Landesbergen, E. Bosanquet, D. Borden, P. CaraDonna, K. Cheney, **R. Crystal-Ornelas**, A. DeFreece, L. Goralnik, E. Irons, B. Garmaon Merkle, K. O'Connell, C. Penick, L. Rustad, M. Schulze, N. Waser, L. Wysong. (2018). Art/Science Collaborations: New Explorations of Ecological Systems, Values, and their Feedbacks. *Bulletin of the Ecological Society of America*.

Crystal-Ornelas, R. & Hauber, M. E. (2015). Assessing the impact of invasive species in avian populations: Recent ornithological advances in function and applied invasion biology. *AOU Joint Collections*.

GRANTS & AWARDS

Rutgers Ecology and Evolution Travel Grant (\$550)	2019
Teaching Assistant Professional Development Award (\$750)	2018
Rutgers Ecology and Evolution Research Grant (\$1,000)	2017
Teaching Assistant Professional Development Award (\$925)	2017
Student Conference on Conservation Science (Best speed talk)	2016
City University of New York Research Grant (\$1,093)	2016
NSF Graduate Research Fellowship (Honorable Mention)	2015 & 2016

INVITED PRESENTATIONS

Crystal-Ornelas, R. (Summer 2019). The past, present, and future of wildfires in Mexico and globally. In collaboration with the US Consulate in Guadalajara. Esquina Franklin, Guadalajara, Mexico.

Crystal-Ornelas, R. (Summer 2019). ¿Qué vamos a hacer con todos estos datos ecológicos? Clubes de Ciencia instructor symposium. Guadalajara, Mexico.

Crystal-Ornelas, R. (Spring 2019). Do invasive species impacts get worse over time? Meta-research in invasion ecology. Biology department seminar series. Sonoma State University. Sonoma, CA.

Crystal-Ornelas, R. (Fall 2018). What we measure and what we miss in invasion ecology. Biology seminar series. UC Davis Bodega Marine Lab. Bodega Bay, CA.

CONFERENCE PRESENTATIONS

Crystal-Ornelas, R., Lockwood, J. (2018). Deer browsing decreases songbird abundance: A meta-analysis. Ecological Society of America annual meeting, New Orleans, LA.

Crystal-Ornelas, R., Lockwood, J. (2017) Temporal biases in studying invasive species' impacts. Ecological Society of America annual meeting, Portland, OR.

Crystal-Ornelas, R. Benefits of art:sci practice as a an ecology graduate student. (2017). Ecological Society of America annual meeting, Portland, OR.

Gage, A., **Crystal-Ornelas, R.**, Quispe, J., Williams, K. (2016). Exploration of spatial factors affecting species richness in central New Jersey forests. GIS Day at Rutgers University. New Brunswick, NJ.

Crystal-Ornelas, R., Lockwood, J. L., Cassey, P., Hauber, M. E. (2016). Novel hosts are critical when predicting spread of invasive avian brood parasite. Student Conference on Conservation Science. New York City, NY.

Kimpton, R., **Crystal-Ornelas, R.**, Williams-Sam, S. A., Courcelles, D., Laurent, E. J., Santiago-Blay, J. A. (2016). The Humanities, Including the Arts, and Social Sciences in the Teaching and Learning of Science, Technology, Engineering, and Mathematics (STEM): Exploring this Ecotone and Proposing an Explicitly Inclusive Approach (ISTEM). SCI Mid-Atlantic Regional Meeting. Penn State University. Leigh Valley, Center Valley, PA.

Crystal-Ornelas, R. (2015). Science, art, and an introduced species. SwampSpace Art Gallery. Miami, FL.

POSTER PRESENTATIONS

Crystal-Ornelas L., Murphy E., Martinez D., **Crystal-Ornelas, R.**, Collins C. (2016). Cada Paso: Every Step to Access. New York State Pediatric Advocacy Coalition. Columbia University. New York City, NY.

SCIENCE COMMUNICATION

Science in Progress Podcast (Producer and host) 2018-2019
<http://scienceinprogress.netlify.com/>

Blog for DataONE Internship 2018
<https://notebooks.dataone.org/supporting-synthesis/>

Blog for SciArt artist-in-residence program 2016

SERVICE

Ecological Society of America Student Section (Chair, Vice-chair, and Treasurer) 2016-2019

Ecological Society of America (Grant and abstract reviewer) 2018-2019

Rutgers University Ecology and Evolution Graduate Student Association (Communications Officer) 2017-2018

Cyclopedia East Harlem (volunteer cycling guide) 2014-2016

New Urban Arts (non-profit art studio manager) 2013-2014