

Lauren Schmitt, PhD

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EDUCATION

University of Michigan (Ann Arbor, MI)

Ph.D., School for Environment and Sustainability, June 2020

Dissertation: Biotic drivers of leaf litter decomposition in shaded coffee agro-ecosystems in Chiapas, Mexico

Primary advisor: Dr. Ivette Perfecto

University College Dublin (Dublin, Ireland)

MSc., Applied Environmental Sciences, December 2015

Thesis: Evaluation of Ireland's National Biodiversity Data Centre Bumblebee Monitoring Scheme (First class honors)

Advisor: Dr. Jan-Robert Baars

University of Notre Dame (South Bend, IN)

B.S., May 2014

Majors: Environmental Sciences, Anthropology; Minor: Science, Technology & Values

RESEARCH EXPERIENCE

Postdoctoral Researcher, University of Maryland (College Park, MD) July 2020 – present

Advisor: Dr. Karin Burghardt

Primary research focuses on the “BiodiversiTREE” experiment at the Smithsonian Environmental Research Center, which explores the relationship between tree diversity and ecosystem services and diversity across trophic levels.

Graduate Student, University of Michigan (Ann Arbor, MI) Sept 2015 – June 2020

Advisor: Dr. Ivette Perfecto

Thesis research investigates biotic drivers of decomposition and nutrient cycling in coffee agroecosystems. Additional studies examine coffee herbivores, meta-community dynamics, drivers of secondary defense chemistry, and effects of management decisions. All field work was carried out on coffee farms in Chiapas, Mexico.

Graduate Student, University College Dublin (Dublin, Ireland) Aug 2014 - 2015

Advisor: Dr. Jan-Robert Baars

Thesis research investigates effectiveness of Ireland's National Biodiversity Data Center's citizen science bumblebee monitoring scheme and the bumblebee and floral communities at monitoring sites in Counties Dublin and Wicklow on the east coast of Ireland.

Research Assistant, University of Minnesota (St. Paul, MN)

- Integrated Pest Management Research May – Aug 2015

Supervisor: Dr. Mary Rogers

Worked in experimental plots and with regional blueberry farmers to monitor the invasive spotted wing drosophila and test exclusion techniques.

- Applied Agronomy Research May – Aug 2011

Supervisor: Dr. Kevin Smith

Tested novel strains of barley for yield and disease resistance versus barley rust diseases as part of an on-going barley breeding program.

Research Assistant, University of Notre Dame (South Bend, IN)

- Evolutionary biology research Oct 2011 – May 2014

Supervisor: Dr. Jeffery Feder

Areas of research included: diapause mediated adaption to climate change, insect speciation.

- Biological anthropology Feb 2013 – May 2014

Supervisor: Dr. Lee Gettler

Researched physiology of fatherhood, the hormones involved in father-child bonding.

Foundation for Sustainable Development (Masaka, Uganda) May – July 2013

Worked with St. Jude Family Projects demonstration farm and training center, developed and conducted a training program in fruit and vegetable solar drying.

PEER-REVIEWED PUBLICATIONS

Schmitt, L., R. Greenberg, G. Ibarra Nunez, P. Bichier, C.E. Gordon and I. Perfecto. (2021).

Cascading effects of birds and bats in a coffee agroforestry system: parasitoids are the missing link. *Frontiers in Sustainable Food Systems*, 5:512998. doi: 10.3389/fsufs.2021.512998.

Schmitt, L., and K. Burghardt. (2021). Urbanization as a disrupter and facilitator of insect behaviors and life cycles. *Current Opinions in Insect Sciences*, **45**: 97-105. doi: 10.1016/j.cois.2021.02.016

Schmitt, L., and I. Perfecto. (2021). Leaf litter decomposition of *Coffea arabica* and *Coffea robusta* at home and away: short-term home field advantage in shaded coffee agro-ecosystems. *Applied Soil Ecology*, **161**, 103854.

Schmitt, L., B. Aponte-Rolon and I. Perfecto. (2020). Evaluating community effects of *Azteca sericeasur* on *Inga micheliana* leaf litter decomposition in shaded coffee agro-ecosystems. *Biotropica*, doi.org/10.1111/btp.12833.

Schmitt, L., and I. Perfecto. (2020). Who gives a flux? Synchronous flowering of *Coffea arabica* accelerates leaf litter decomposition. *Ecosphere*, **11**(7), e03186.

Hajian-Forooshani, Z., **Schmitt, L.,** Medina, N., and Vandermeer, J. (2019). Trophic-specific responses to migration in empirical metacommunities. *Oikos*, **129**(3), 413-419.

In revision:

Butz, E., **L. Schmitt,** J. Parker and K. Burghardt. The effect of tree species and tree diversity on spider abundance in a forest diversity experiment. *Ecology*, *in revision*, Nov. 2022.

In prep:

Schmitt, L., and I. Perfecto. Interactive effects of *Inga micheliana* and *Alchornea latifolia* shade

trees on mixed litter decomposition.

Schmitt, L., K. McGurrin, J. Pullen, J. Parker and K. Burghardt. Plot diversity changes tree shape: early results from a large-scale forest diversity experiment.

GRANTS AND FELLOWSHIPS

Research grants/fellowships:

2019 **Rackham Pre-doctoral Fellowship**, \$32,640
2018 **Rackham International Research Award**, \$6,000
2018 **Rackham Graduate Student Research Grant**, \$3,000
2017 **Graham Institute for Sustainability Dow Doctoral Fellowship**, \$50,000
2016 **Marshall Weinberg Population, Development & Climate Change Fellowship**, \$7,500
2016 **Latin American and Caribbean Studies Research Grant**, \$1,800
2016 **Rackham Graduate Student Research Grant**, \$1,500
2014 **Naughton Fellowship**, \$40,000
2014 **Institute for Scholarship in the Liberal Arts**, \$665
2013 **Foundation for Sustainable Development**, \$300
2013 **Kellogg Institute for International Studies**, \$8,000

Travel grants:

2019 **Rackham Conference Travel Grant**, \$800
2019 **School for Environment and Sustainability Travel Grant**, \$200
2018 **Rackham Conference Travel Grant**, \$800
2018 **School for Environment and Sustainability Travel Grant**, \$700
2017 **Rackham Conference Travel Grant**, \$800
2017 **School for Environment and Sustainability Travel Grant**, \$200
2016 **International Institute Travel Grant**, \$1,500
2013 **Sweetman Family Foundation Grant**, \$1,500

AWARDS

2020 **Samuel Graham Award**, recognizing scholarship and superior capability in writing (\$2,000)
2018 Graduate Student Instructor of the Year, Finalist
2018 **Jeffery Lund Forest Ecology Award**, annual award for academic excellence, research capability and professional promise (\$1,000)
2018 **Ayres-Brinser Award**, recognizing promise in resource policy and management (\$500)
2018 **Winifred B. Chase Award**, awarded to students pursuing botanical research (\$500)
2017 Graduate Student Instructor of the Year, Finalist
2016 **Courtney R. Wilson Award**, given to first-year PhD student who exemplifies compassion and commitment to addressing critical environmental issues (\$1,000)
2016 **Jeffery Lund Forest Ecology Award**, annual award for academic excellence, research capability and professional promise (\$1,000)
2014 **Paul Farmer Applied Anthropology Award**, given by the Dept. of Anthropology to the graduate who has best used their anthropological training for public service

RESEARCH PRESENTATIONS

Invited talks

- Schmitt, L.** and K. Burghardt (2022). “Urbanization and insect life cycles: challenges and opportunities for non-pest insects.” Presentation at the Eastern Branch Entomological Society meeting, Philadelphia, PA.
*presented at a symposium organized with K. Burghardt
- Burghardt, K., and **L. Schmitt.** (2021). “Human management in cities and suburbs: challenges and opportunities for insect conservation.” Presentation at the Entomological Society of America annual conference, Denver, CO. Presented by K. Burghardt.
- Schmitt, L.** (2019). “Finding the right blend of coffee and trees: managing coffee agro-forestry systems for ecosystem function.” Presented at Graham Institute for Sustainability lunch seminar series, Ann Arbor, MI, ~15 attendees
- Schmitt, L.,** and I. Perfecto. (2017). “Effects of species and location on litter decomposition of *Coffea* sp. in Chiapas, Mexico.” Presentation at the Green Life Symposium, Ann Arbor, MI, ~50 attendees
- Schmitt, L.** (2016). “Coffee, leaves, herbivores and decomposers: a preliminary investigation in agroecosystems.” Presentation at the Latin American and Caribbean Studies Conference, University of Michigan, Ann Arbor, MI, ~20 attendees

Contributed talks

- Schmitt, L.,** K. McGurrin, J. Pullen, J. Parker and K. Burghardt. (2022). “Diversity alters allometry: tree size in a forest diversity experiment.” Presentation at Ecological Society Meeting annual conference, Montreal, Canada.
- Schmitt, L.,** J. Parker and K. Burghardt. (2021). “Linking Insect Communities to Ecosystem Function in Managed Landscapes.” Presentation at the Entomological Society of America annual conference, Denver, CO.
- Schmitt, L.,** and I. Perfecto. (2019). “A pulse of petals: Impacts of coffee (*Coffea arabica*) flower petals on leaf litter community and leaf litter decomposition rates.” Presentation at Ecological Society of America (ESA) annual conference, Louisville, KY, ~45 attendees
- Schmitt, L.,** and I. Perfecto. (2018). “Shedding light on the shade: leaf litter decomposition in coffee agro-ecosystems.” Presentation at the Student Conference on Conservation Science at the American Natural History Museum, New York City, NY, ~75 attendees
- Schmitt, L.,** B. Aponte-Rolón and I. Perfecto. (2018). “Effects of *Azteca sericeasur* on leaf litter decomposition of a common shade tree, *Inga micheliana*, in coffee agroecosystems.” Presentation at Ecological Society of America (ESA) annual conference, New Orleans, LA, ~20 attendees
- Schmitt, L.,** and I. Perfecto. (2018). “Shedding light on the shade: leaf litter decomposition in shaded coffee agro-ecosystems.” Presentation at the Michigan University-wide Sustainability and Environment (MUSE) conference, Ann Arbor, MI, ~15 attendees
- Schmitt, L.,** and I. Perfecto. (2017). “Effects of species and location on litter decomposition of *Coffea* sp. in Chiapas, Mexico.” Presentation at Ecological Society of America (ESA) annual conference, Portland, OR, ~20 attendees

Contributed posters (*undergraduate mentee)

- Butz, E.*, **L. Schmitt,** J. Parker and K. Burghardt. (2022). Tree species diversity and architecture

determine spider abundance in a forest diversity experiment.” Eastern Branch Entomological Society Meeting, Philadelphia, PA.

Schmitt, L. (2016). “Effects of species on Coffea leaf litter decomposition in shade grown coffee systems.” Poster presented at the International Institute Conference, University of Michigan, Ann Arbor, MI.

Schmitt, L. (2014). “Seeds of Hope: Local Interventions Promote Agricultural Development in Southern Uganda.” Poster presented at the Central States Anthropological Society Annual Conference, University of Illinois State, Normal IL.

Schmitt, L. and I. Kuijt. (2013). “The Power of water: Holy Wells in Ireland.” Poster presented at the Undergraduate Perspectives on Irish Heritage, Archeology and History poster exhibition, University of Notre Dame, South Bend, IN.

Schmitt, L., J. Decker and G. Ragland. (2013). “Out of Synchrony: simulated change in seasonal temperatures disrupts adaptive life cycle synchronization in *Rhagoletis* fruit flies.” Poster presented at the Midwest Ecology and Evolution conference, University of Notre Dame, South Bend, IN.

Boland, T., P. Fagan, K. Morrow and **L. Schmitt.** (2011). “Effects of *Manduca sexta* on Induction of Nicotine in *Nicotiana Alata*.” Poster presented at University of Notre Dame’s Undergraduate Research Symposium, South Bend, IN.

TEACHING EXPERIENCE

Entomological Topics Colloquium Fall 2021
~20 graduate students from University of Maryland’s Department of Entomology, hybrid format due to on-going COVID-19 pandemic

Graduate teaching instructor (with independently led laboratory sections, all at University of Michigan)

Ecology Concepts and Applications Fall 2017, Fall 2018
~100 Master’s students, led weekly 4-hour outdoor field lab sections with ~20 students, finalist for Graduate Student Instructor of the Year in 2017 and 2018

Wildlife Ecology and Conservation Winter 2017
~20 upper level undergraduate students

Ecological Issues Winter 2016
100+ undergraduate non-majors, mostly underclassmen, led 3 discussion sections

Undergraduate teaching assistant (University of Notre Dame)

Biostatistics Winter 2013
~25 upper-level undergraduates

Guest lectures:

2019 “Ecosystem concept and management paradigms,” Foundations in Sustainable Food Systems, ENV 462/NUTR 555/URP 427, University of Michigan, ~40 students

2017 “Biodiversity conservation in Agro-ecosystems,” Our Common Future, ENV 270, University of Michigan, ~100 students

2016 “Biodiversity conservation in Agro-ecosystems,” Our Common Future, ENV 270, University of Michigan, ~100 students

2016 “Sustainable agriculture,” Ecological Issues, ENV 201, University of Michigan, ~120 students

2016 “Biodiversity,” Ecological Issues, ENV 201, University of Michigan, ~120 students

Continuing education on teaching:

Graduate Teacher Certificate, Center for Research on Learning and Teaching 2019

Completed the certificate program which includes 8+ hours of teaching orientations, 5+ workshops on teaching and learning, observation of in-class instruction and consultation, mentorship from teaching faculty, preparation of a teaching philosophy statement

Active Learning Facilitator, Center for Research on Learning and Teaching 2018 –2019

Facilitate advanced practice teaching sessions for graduate student instructors, aimed at first time teachers and engineering student instructors, designed and facilitated session on teaching problem solving for 70+ instructors

Graduate Student Mentor, Program in the Environment 2017- 2019

Mentor for first time graduate student instructors (GSIs) teaching classes in the Program for the Environment. Facilitated and developed material on lesson planning, grading, inclusive classroom practices and student engagement, observed classrooms and provided midterm feedback to GSIs, mentored 45+ students over four semesters

MENTORING

Undergraduates and post-graduates

- 2020-2021 Elizabeth Butz, undergraduate honors thesis student, defended her thesis and graduated with high honors in Spring 2021
- 2019 Alejandra Cortes, summer research assistant, now a master’s student in Tropical Ecology at Universidad Veracruzana
- 2018-2019 Sondra Halperin, research assistant on lab and greenhouse-based projects, now a graduate student at the University of Michigan
- 2018 Olivia Brinks, lab research assistant, now a Peace Corp Volunteer

Undergraduate Research Opportunity Program (UROP)

Year-long mentorship program culminating in a research symposium at the University of Michigan

- 2017-2018 Savannah McDowell
Rebecca Chandross
- 2016-2017 Megan Shibley

EXTENSION

Fact sheets:

In revision: Schmitt, L., K. McGurrin and K. Burghardt. 2022. “Managing suburban yards for insect communities.” Accepted by University of Maryland Extension.

Blog posts:

Schmitt, L., K. McGurrin and K. Burghardt. 2022. “Washington DC’s famous non-native cherry trees played a role in keeping native trees pest free.” University of Maryland, Department of Entomology Integrated Pest Management Blog Series.

<https://www.karinburghardt.com/blog/2022/2/22/dcs-famous-cherry-trees-played-a-role-in-keeping-native-trees-healthy>

Also translated into Spanish for “Extensión en Español,” <https://extensionesp.umd.edu/>
“*Cómo los famosos cerezos exóticos de Washington DC ayudaron a protegernos de plagas*”

Schmitt, L., K. McGurrin and K. Burghardt. 2022. “DC’s famous cherry trees, Part 2: Variation in the trees and varied threats to their health.” University of Maryland, Department of Entomology Integrated Pest Management Blog Series.
<https://www.karinburghardt.com/blog/2022/3/18/dcs-famous-cherry-trees-part-2-variation-in-the-trees-and-varied-threats-to-their-health>

OUTREACH

Talks:

- **Matthaei Botanical Gardens**, docent training program, created and presented curriculum on ecological interactions in coffee systems to provide ecologically-based information for docents to share with conservatory visitors of all ages, November 2019, ~30 attendees
- **Biology on Tap speaker**, science speaker series at Corner Brewery (Ypsilanti, MI), organized by Huron Valley Botanical Society, March 2019, ~80 attendees

Media appearances:

- “Sweet in Tooth and Claw: Stories of Generosity and Cooperation in the National World” by Kristin Ohlson. Chapter 6, published by Patagonia in 2022. Field visit and interview about doctoral field work for popular science book.

South Minneapolis Day Camp

June 2021

Approx. time commitment: 50 hours

Created 6 educational videos for elementary aged kids participating in a virtual summer camp.

Designed, filmed, and edited videos on soil formation, plant roots, seeds, vines and decomposition.

Science Communication Fellows Program

October 2018-May 2019

Approx. time commitment: 40 hours

Univ. of Michigan Natural History Museum program, developed outreach activity related to my research and geared toward children, participated in several events at schools and public libraries.

EcoDia (“Day of Ecology”)

June 2017, May 2018, June 2019

Approx. time commitment: 80 hours

Developed and executed an annual science engagement day for local primary school at *Finca Irlanda* in Chiapas, Mexico.

Females Excelling More in Math Engineering and the Sciences (FEMMES)

November 2017

Approx. time commitment: 40 hours

Developed and executed community ecology activities for an outreach day with middle school girls

SERVICE & PROFESSIONAL ACTIVITIES

Reviewer for:

Ecology and Evolution (2020), Ecological Entomology (2021, 2022), Journal of Tropical Ecology (2021), Myrmecological News (2022), Oikos (2022)

Committees:

- **Diversity, Equity and Inclusion Departmental Working Group** (2022)
University of Maryland, Department of Entomology, Code of Conduct working group
- **Doctoral Admissions Committee** (2019)
University of Michigan, School for Environment and Sustainability, Graduate student representative
- **Promotion and Tenure Committee** (2016-2017)
University of Michigan, School for Environment and Sustainability, Graduate student representative

Symposia organized

Not All Pests!: Insect Conservation and Ecosystem Function in Urbanized Areas. (April 2022).
Eastern Branch Entomological Society meeting, Philadelphia, PA.
Co-organized with K. Burghardt.

Working groups

“Building collaborations to investigate urban eco-evolutionary dynamics across the LTER network.”
NSF funded working group, Sevilleta Field Station, August 2022.

Seminars and short courses

- *Bystander Intervention Workshop*, led by Collective Action for Safe Spaces, 2022
- *Mentoring for Faculty Workshop Series*, led by University of Maryland’s Graduate School, including sessions on effective communication, aligning expectations, and assessing understanding, addressing equity and inclusion, and supporting independence, 2022

SOCIETY MEMBERSHIPS

2021 – present	Entomological Society of America
2020 – 2021	Association for Tropical Biology and Conservation
2017 – present	Ecological Society of America

SKILLS

Languages: English (native), Spanish (limited working proficiency), French (elementary proficiency)

Statistical tools: R; Generalized linear models including mixed models, Multivariate and community analyses, Principal component analysis