

Paul James CaraDonna

Conservation Scientist (Associate Professor)

Chicago Botanic Garden

Plant Conservation Science Center

1000 Lake Cook Road, Glencoe, IL, USA 60022

+1.847.835.6935

pccaradonna@chicagobotanic.org

<http://paulcaradonna.weebly.com/>

EDUCATION

2016 Ph.D. Ecology & Evolutionary Biology
University of Arizona

2010 B.Sc. Botany (*magna cum laude*)
Humboldt State University

ACADEMIC POSITIONS

2022— Associate Conservation Scientist (Associate Professor)
Chicago Botanic Garden (CBG)
Glencoe, IL, USA

2022— Associate Professor of Instruction
Plant Biology & Conservation
Northwestern University (NU)
Evanston, IL, USA

2016— Graduate School Faculty
Plant Biology & Conservation
Northwestern University (NU)
Evanston, IL, USA

2016–2022 Assistant Conservation Scientist (Assistant Professor)
Chicago Botanic Garden (CBG)
Glencoe, IL, USA

2016–2022 Assistant Professor of Instruction
Plant Biology & Conservation
Northwestern University (NU)
Evanston, IL, USA

2015–2016 NSF/Danish National Research Foundation GROW Research Fellow
Center for Macroecology, Evolution & Climate (CMEC)
Natural History Museum of Denmark, University of Copenhagen
Copenhagen, Denmark

- 2014–2015 Visiting Scholar
Arctic Research Center
Aarhus University
Aarhus, Denmark
- 2012– Principal Investigator
Rocky Mountain Biological Laboratory (RMBL)
Gothic, CO, USA

PUBLICATIONS

* graduate student author; **undergraduate student author

[in press] Peralta, G., **P.J. CaraDonna**, D. Rakosy, J. Fründ, M.P. Pascual Tudanca, C.F. Dormann, L.A. Burkle, C.N. Kaiser-Bunbury, T.M. Knight, J. Resasco, R. Winfree, N. Blüthgen, W. Castillo, and D.P. Vázquez. Predicting plant-pollinator interactions: concepts, methods, and challenges. *Trends in Ecology & Evolution*

[in press] Ingold**, D.I., **P.J. CaraDonna**, J.L. Dooley, D.J. Ingold, and A.M. Iler. The reproductive ecology of *Erigeron speciosus*, a montane perennial herb: evidence of self-incompatibility. *Southwestern Naturalist*.

[in press] **CaraDonna, P.J.** and M. Dorf. Can the collaboration of science and art broaden our understanding of nature? *Plant Science Bulletin*

2023. Sandacz*, D., P. Vitt, T.M. Knight, **P.J. CaraDonna**, K. Havens. The effects of decline of a keystone plant species on a dune community plant-pollinator network. *Frontiers in Conservation Science*.

2023. Iler, A.M., **P.J. CaraDonna**, L. Richardson*, E. Wu, K. Pfeiler**, G. Greymiller**, K. Godfrey**, A. Gorman**, N. Wilson**, M. Whitford**, G. Edmonds**, C. Stratton**, E. Jules. Genotype accounts for intraspecific variation in the timing and duration of life cycles events. *American Journal of Botany* 110:e16112

2022. Fitzgerald*, J.L, J.E. Ogilvie, and **P.J. CaraDonna**. Ecological drivers and consequences of bumble bee body size variation. *Environmental Entomology* 51:1055-1068

2022. Ogilvie, J.E. and **P.J. CaraDonna**. The shifting importance of abiotic and biotic factors across the life cycles of wild pollinators. *Journal of Animal Ecology* 91:2412-2423

2022. Bain*, J.A., R.G. Dickson**, A.M. Gruver* and **P.J. CaraDonna**. Removing flowers of a generalist plant changes pollinator visitation, composition, and interaction network structure. *Ecosphere* 13:e4154

2022. Finkelstein**, **P.J. CaraDonna**, A.M. Gruver*, E. Welti, M. Kaspari, and N.J. Sanders. Sodium-enriched floral nectar increases pollinator visitation rate and diversity. *Biology Letters* 19:20220016

2022. Finkelstein**, **P.J. CaraDonna**, A.M. Gruver*, E. Welti, M. Kaspari, and N.J. Sanders. Response to Pyke & Ren: How to study interactions. *Journal of Pollination Ecology*. 31:i-ii

2022. Semmler*, R.F., N.J. Sanders, **P.J. CaraDonna**, A.H. Baird, X. Jing, J.P.W. Robinson, N.A.J. Graham, and S.A. Keith. Reef fishes weaken dietary preferences after coral mortality, altering resource overlap. *Journal of Animal Ecology* 91, 2125–2134
2021. **CaraDonna, P. J.**, L. Burkle, B. Schwarz, J. Resasco, T. Knight, G. Benadi, N. Blüthgen, C. Dormann, Q. Fang, J. Fründ, B. Gauzens, C. Kaiser-Bunbury, R. Winfree, and D.P. Vazquez. Seeing through the static: the temporal dimension of plant-animal mutualistic networks. *Ecology Letters* 24: 149–161
2021. Iler, A.M., **P.J. CaraDonna**, J.R.K. Forrest, E. Post. Demographic consequences of phenological shifts in response to climate change. *Annual Review of Ecology, Evolution and Systematics*. 52
2021. Iler, A.M. P. Humphrey, J.E. Ogilvie, and **P.J. CaraDonna**. Conceptual and practical issues limit the utility of statistical estimators of phenological events. *Ecosphere* 12(11): e03828
2021. Endres, K., C. Morozumi, X. Loy, H. Briggs, **P.J. CaraDonna**, A. Iler, D. Picklum, B. Brosi. Plant-pollinator interaction niche broadens in response to severe drought perturbations. *Oecologia*: 197: 577-688
2021. Gruver*, A.M. and **P.J. CaraDonna**. Chicago Bees: Urban areas support diverse wild bee communities, but with more non-native species compared to suburban areas. *Environmental Entomology* 50: 982–99.
2021. Hui, C., D. Richardson, P. Landi, H. Minoarivelo, H. Roy, G. Latombe, X. Jing, **P. J. CaraDonna**, D. Gravel, B. Beckage, and J. Molofsky. Trait positions for elevated invasiveness in adaptive ecological networks. *Biological Invasions* 52: 1965–1985
2020. **CaraDonna, P. J.** and N.M. Waser. Temporal flexibility in structure of plant-pollinator interaction networks. *Oikos* 129:1369–1380.
2020. Gruver*, A.M., and **P. J. CaraDonna**. First records of *Megachile apicalis* (Hymenoptera: Megachilidae) from Illinois found in heavily urbanized areas within the City of Chicago. *The Great Lakes Entomologist* 53: 41–45
2020. Bramon-Mora*, B., E. Shin, **P.J. CaraDonna**, and D. Stouffer. Untangling the seasonal dynamics of plant-pollinator communities. *Nature Communications* 11, 4086
2020. Schwarz*, B., D. Vázquez°, **P.J. CaraDonna**°, T. Knight°, G. Benadi, C. Dormann, B. Gauzens, E. Motivans, J.Resasco, N. Blüthgen, L. Burkle, Q. Fang, C. Kaiser-Bunbury, R. Alarcón, J. Bain*, N. Chacoff, S. Huang, G. LeBuhn, M. MacLeod, T. Petanidou, C. Rasmussen, M. Simanonok, A. Thompson, J. Fründ°. Temporal scale-dependence of plant-pollinator networks. *Oikos* 129: 1289–1302. [editor's choice article] °core writing group
2020. Cordes, L., D. Blumstein, K. Armitage, **P.J. CaraDonna**, D. Childs, B. Gerber, J. Martin, M. Oli, and A. Ozgul. Contrasting effects of climate change on seasonal survival of a hibernating mammal. *Proceedings of the National Academy of Sciences, USA*. 117: 18119–18126
2019. Iler, A.M., A. Compagnoni, D.W. Inouye, J.L. Williams, **P.J. CaraDonna**, A. Anderson, T.E.X. Miller. Reproductive losses due to advanced flowering phenology under climate change do not threaten plant population viability in a perennial herb. *Journal of Ecology*.107: 1931–1943.
2019. Forrest, J.R.K., R. Cross**, and **P.J. CaraDonna**. Two-year bee, or not two-year bee? How voltinism is affected by temperature and season-length in a high-elevation solitary bee.

- The American Naturalist*. 193: 560–574.
2019. Cameron, E., M. Sundqvist, S. Keith, **P.J. CaraDonna**, E. Mousing, K. Nilsson, D. Metcalfe, and A. Classen. Uneven global distribution of food web studies under climate change. *Ecosphere*. 10(3):e02645.10.1002/ecs2.2645
2018. Waser, N.M., **P.J. CaraDonna**, and M.V. Price. Atypical flowers can be as profitable as typical hummingbird flowers. *The American Naturalist* 192: 644–653.
2018. **CaraDonna, P.J.**, J.L. Cunningham* and A.M. Iler. Experimental warming in the field delays phenology and reduces body mass and survival: implications for the persistence of a pollinator under climate change. *Functional Ecology* 32: 2345–2356
2018. Ellison, A., C. LeRoy, K. Landesbergen, E. Bosanquet, D. Buckley Borden, **P.J. 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, and L. Wysong. 2018. Art/Science Collaborations: New Explorations of Ecological Systems, Values, and their Feedbacks. *Bulletin of the Ecological Society of America* 99: 180–191.
2017. **CaraDonna, P. J.**, W.K. Petry, R.M. Brennan, J.L. Cunningham*, N.M. Waser, J.L. Bronstein, and N.J. Sanders. Interaction rewiring and the rapid turnover of plant-pollinator networks. *Ecology Letters* 20: 385–394.
2016. **CaraDonna, P. J.** and J.A. Bain*. Frost sensitivity of leaves and flowers of subalpine plants is related to tissue type and phenology. *Journal of Ecology* 104: 55–64.
2015. **CaraDonna, P. J.** and D.W. Inouye. Phenological responses to climate change do not exhibit phylogenetic signal in a subalpine plant community. *Ecology* 96: 355–361.
2015. Rafferty, N.E., **P. J. CaraDonna**, J.L. Bronstein. Phenological shifts and the fate of mutualism. *Oikos* 124: 14–21. [Invited special issue paper on “Phenological change and ecological interactions”]
2014. **CaraDonna, P. J.**, A.M. Iler^o and D.W. Inouye. Shifts in flowering phenology reshape a subalpine plant community. *Proceedings of the National Academy of Sciences, USA* 111: 4916–4921. [Editors’ Choice Article, *Science* 344: 236] ^oequal author contributions.
2013. Rafferty, N.E., **P. J. CaraDonna**, L.A. Burkle, A.M. Iler, and J.L. Bronstein. Phenological overlap of interacting species in a changing climate: an assessment of available approaches. *Ecology & Evolution* 3: 3183-3193.
2012. McKinney, A.M., **P. J. CaraDonna**, D.W. Inouye, W.A. Barr, C.D. Bertelsen, and N.M. Waser. Asynchronous changes in phenology of migrating Broad-tailed Hummingbirds and their early-season nectar resources. *Ecology* 93: 1987-1993. [cover article]
2012. **CaraDonna, P. J.** and J. D. Ackerman. Reproductive assurance for a rewardless epiphytic orchid in Puerto Rico, *Pleurothallis ruscifolia* (Orchidaceae, Pleurothallidinae). *The Caribbean Journal of Science* 46 (2-3): 249-257.

Manuscripts in submitted or in review

Cahill**, C.M., **P.J. CaraDonna**, and J.R.K Forrest. Fitness consequences of non-native floral resource use for subalpine solitary bees. [*in revision*]

VanValkenburg**, E, T. Gonçalves-Souza, N.J. Sanders, and **P.J. CaraDonna**. The response of pollinators to sodium-enriched nectar in a subalpine plant community. [*in review*]

Zink, A., **P.J. CaraDonna**, A.M. Iler. Pollination deficits increase with urbanization on urban farms in Chicago. [*in review*]

GRANTS & FELLOWSHIPS & AWARDS

Total funding 2012–present: \$878,633 (external = \$728,633).

Current

2023–2025. sCORE Synthesis Center Grant: “Towards best-practice guidelines for plant-pollinator conservation—linking ecology and practice” (PI) \$150,000

2018–2023. NSF DEB1754518. “Addressing the missing link: uniting demographic life history theory and pollination biology to understand the ecological consequences of pollinator declines” (co-PI) \$552,286

2021–2023. Research Fellowship, Rocky Mountain Biological Laboratory \$14,547
Support of long-term monitoring of species interaction networks and wild pollinator populations.

Previous

2020. Associated Student Government Faculty Honor Roll Teaching Award, Northwestern University
Student nomination-based award for best teachers; awarded for teaching the non-science major course: “The Nature of Plants”.

2019. Northwestern University, URAP Grant (for undergraduate research assistants) \$4,000

2014–2015. NSF & Danish National Research Foundation GROW Fellowship \$23,000

2015. Robert Hoshaw Memorial Scholarship Award, University of Arizona \$2,000
This award recognizes exceptional scholarship and is the highest award given to graduate students within the Dept. of Ecology & Evolutionary Biology.

2015. Darwin-Wallace Biodiversity Scholarship, University of Arizona \$1,000

2015. Rocky Mountain Biological Laboratory Graduate Research Fellowship \$250

2014. Outstanding Scholarship Award, College of Science, University of Arizona \$1,000
Awarded to the top graduate student across all departments in the College of Science.

2014. Excellence in Research Award, University of Arizona
Awarded to the top graduate student within the Dept. of Ecology & Evolutionary Biology.

2014. Darwin-Wallace Biodiversity Scholarship, University of Arizona \$1,000

2014. Communicating Science Conference Scholarship, Harvard University \$400
Awarded to 50 out of 900 applicants.

2014. Graduate Research Fellowship, Rocky Mountain Biological Laboratory \$800

2013. Graduate Research Fellowship, Rocky Mountain Biological Laboratory \$400

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| 2013. Graduate Student Travel Award, Institute of the Environment, University of Arizona | \$500 |
| 2012–2016. NSF Graduate Research Fellowship Award | \$136,000 |
| 2012. Snyder Fellowship, Rocky Mountain Biological Laboratory | \$650 |
| 2012. Galileo Circle Scholarship, University of Arizona | \$1,000 |
| 2011. Graduate Student Fellowship, University of Arizona | \$8,000 |
| 2010. Young Botanist Award, Botanical Society of America <i>National recognition of academic achievement in botany.</i> | |
| 2010. Dennis K. Walker Botany Award, Humboldt State University <i>Awarded to the top graduating botany student.</i> | \$1,000 |
| 2009. NSF REU Fellowship, El Verde Field Station and University of Puerto Rico | \$4,500 |
| 2009. Eureka Sequoia Gardens Club Botany Scholarship, Humboldt State University | \$300 |

PRESENTATIONS & SEMINARS

INVITED SEMINARS

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| 2023 | UC Davis, Entomology Seminar, Davis, CA Humboldt State University, Biology Seminar, Arcata, CA International Conference on Pollinator Biology, Health, & Policy, Penn State, PA Beijing Art & Technology Biennale, Synthetic Ecology Conversations, Beijing, China (virtual panel discussion) |
| 2022 | Michigan State University, Entomology Seminar, Lansing, MI University of Wisconsin-Milwaukee, Biology Seminar, Milwaukee, WI |
| 2021 | University of Michigan, Ecology and Evolutionary Biology Seminar, Ann Arbor, MI |
| 2020 | Montana State University, Biology Seminar, Bozeman, MT (virtual) |
| 2019 | University of Michigan, Complex Systems Symposium, Ann Arbor, MI University of Illinois-Chicago, Biology Seminar, Chicago, IL The Field Museum, Biology Seminar, Chicago, IL University of Colorado, Boulder, Biology Colloquium, Boulder, CO |
| 2018 | University of Idaho, Biology Seminar, Moscow, ID Rocky Mountain Biological Laboratory, Tuesday Talks Seminar, Gothic, CO University of Toronto (Scarborough), Biology Seminar, Toronto, Ontario, Canada |
| 2018 | Northern Illinois University, Biology Seminar, DeKalb, IL |
| 2017 | University of Illinois Urbana-Champaign, PEEC Seminar, Urbana, IL Morten Arboretum, Tree Talks Seminar, Lisle, IL |
| 2016 | Humboldt State University, Biology Seminar, Arcata, CA UC Davis, Center for Population Biology Seminar, Davis, CA Chicago Botanic Garden, Plant Biology and Conservation Seminar, Glencoe, IL |

CONFERENCE PRESENTATIONS & POSTERS

2010–current

- Ecological Society of America (33 papers + 6 posters)
- Botanical Society of America (3 papers)
- British Ecological Society (2 papers)
- French Society of Ecology & Evolution (1 poster)
- American Society of Naturalists (1 poster)
- Scandinavian Pollination Ecology Conference (1 paper)

WORKING GROUPS

INVITED WORKING GROUP MEMBER

- 2024 Art/Science Residency, Folklife Farm, Arcata, CA.
- 2022 sINTERVAL: Interaction variation along altitudinal gradients, iDiv Synthesis Center, Leipzig, Germany
- 2022 Predicting Interactions in Mutualistic Networks, iDiv Synthesis Center, Leipzig, Germany
- 2019 How to Invade an Ecological Network, University of Vermont, Burlington, VT
- 2018 Next Generation Ecological Network Theory & Application, Santa Fe Institute, Santa Fe, NM
- 2017 Temporal Dynamics of Mutualistic Networks, Freiburg Inst. of Advanced Studies, Freiburg, Germany
- 2017 Trapnest Foodwebs & Plant Diversity, University of Freiburg, Freiburg, Germany
- 2013 Borderlands Restoration Initiative, Santa Rita Experimental Range, Pima, AZ.
- 2012 National Phenology Network (NPN), Research Coordination Network (RCN), Milwaukee, WI.

TEACHING & MENTORING

UNIVERSITY COURSES

- Plant-Animal Interactions, Northwestern University (2019–2023)
Graduate/upper-level undergraduate course; enrollment = 35 students; spring quarters
- Pollination Ecology: From Conservation to Extinction, Northwestern University (2018–2023)
First-year undergraduate seminar; enrollment = 15 students; fall quarters
- The Nature of Plants, Northwestern University (2017–2023)
Non-science major course; enrollment = 115 students; winter quarters
- Ecology of Climate Change, Northwestern University (2017; 2018)
Graduate/upper-level undergraduate course; enrollment = 20 students
- Community Ecology (co-taught), Northwestern University (2017)
Graduate/upper-level undergraduate course; enrollment = 15 students

Previous teaching as a graduate student

- 2013. Plant Taxonomy Laboratory, University of Arizona
- 2012. Conservation Biology, University of Arizona
- 2012. Evolutionary Biology, University of Arizona
- 2011. Animal Behavior Laboratory, University of Arizona

WORKSHOPS (*designed and taught*)

- 2015, 2018–2022. Visual Design Principles for Scientists, RMBL Undergraduate Education Program
- 2019. Visual Design Principles for Scientists, Western University of Colorado

2019. Bee Identification Basics, RMBL Adult Science Program & Crested Butte Wildflower Festival.
2017, 2019, 2022. Visual Design Principles for Scientists, Chicago Botanic Garden, Professional Development Series for Graduate Students.
2014. The Art of Scientific Observation (workshop), RMBL Undergraduate Education Program
2013. Experimental Design Workshop, RMBL Undergraduate Education Program.

INVITED GUEST LECTURES (teaching)

2021, 2022. Ecological Networks, University of Michigan.
2016. Climate Change & Biodiversity, University of Copenhagen.
2014. The Importance of Biological Timing, RMBL Adult Education Program.
2013. Climate Change Ecology, Western State Colorado University Field Course.
2012. Climate Change Ecology, Conservation Biology, University of Arizona

CURRENT GRADUATE STUDENTS

Amelia Litz, PhD 2024 (co-advised, Northwestern)
Jacquelyn Fitzgerald, PhD 2025 (Northwestern); NSF Graduate Research Fellow
Brendan Connolly, MSc, 2024 (co-advised, Northwestern)
Kathryn Dawdy, MSc, 2024 (co-advised, Northwestern)

PREVIOUS GRADUATE STUDENTS

Justin Bain, PhD 2023 (Northwestern); NSF Graduate Research Fellow
Alexandra Zink, MSc. 2023 (co-advised, Northwestern)
Victoria DeLira, MSc. 2023 (Northwestern)
Andrea Gruver, MSc 2021 (Northwestern); NSF Graduate Research Fellow

SERVICE ON GRADUATE STUDENT COMMITTEES

Lea Richardson (PhD 2022), Drake Mullet (MSc 2018), Kris Bonefont (MSc 2019), Kat Andrews (MSc 2019), Kristin Manion (MSc 2020), Marie Faust (MSc 2019), Diana Jerome (MSc 2020), Samantha Danguilan (MSc 2021), Dan Sandacz (MSc 2022), Reed Benkendorf (MSc 2022), Elsa Godtfredsen (PhD 2025), Phillip Johnson (PhD 2025, UIC), Sheryl Hosler (PhD 2026, UIC), Karen Segura (MSc. 2024)

MENTOR FOR UNDERGRADUATE RESEARCH (n = 36)

2023 Brayden Saunders (RMBL); Hannah Burke (RMBL)
2022 Emanuel Saucedo (NU); Mikhaela Ferguson (RMBL, NSF REU); Ethan Van Valkenburg (RMBL), Drake Gascon (RMBL); Willow Walker (RMBL); Mila Gorchkova (RMBL)
2021 Emilie Gitter (RMBL, NSF REU, 2021); Isaac Steinmann (RMBL, NSF REU); Mina Seals (NU)
2020 Clayton Pokorny (NU); Luke Liu (NU thesis); Laura Caride (NU thesis); Paola Lopez (RMBL, NSF REU); Alexandra Tash (RMBL, NSF REU)
2019 Victoria DeLira (RMBL); Gwen Kirschke (RMBL); Nolan Carothers (CBG); Samantha Russell (CBG); Lucia Basacoma (NU); Maggie Cheever (NU); Hannah Dembosky (NU); Bailey Fleugel (NU); Sophia Settle (NU); Johnathan Zhang (NU)
2018 N. Atticus Murphy (RMBL, NSF REU); Maya Dutta (CBG, NSF REU)
2017 Rachel Dickson (RMBL, NSF REU)
2015 Katherine Wyatt (RMBL, NSF REU); Sander Boisen (Aarhus University)
2014 Justin Bain (RMBL), Rachel Tsong (Univ. Arizona thesis)
2013 James Cunningham (RMBL, NSF REU)
2012 Valerie Milici (RMBL)
2010 Craig Connelly (UMass)

OTHER TEACHING

Substitute Teacher, Missoula County Public Schools, Missoula, MT (2010)
Teaching Assistant and Nature Program Coordinator, The Kids Club, Andover, MA (2006)

PROFESSIONAL SERVICE

Editorial Board

2020– Associate Editor, *Journal of Animal Ecology*
2019– Associate Editor, *Journal of Pollination Ecology*

Manuscript Reviewer (2012–present)

Ecology Letters, Ecology, Journal of Ecology, Journal of Animal Ecology, PNAS, Nature Ecology & Evolution, Trends in Ecology & Evolution, Proc. B., Functional Ecology, Global Change Biology, Ecological Applications, Global Ecology & Biogeography, Ecosphere, Environmental Entomology, International Journal of Biometeorology, International Journal of Plant Sciences, Journal of Pollination Ecology, Naturwissenschaften, PLOS One, Biotropica

Grant Proposal Reviewer:

European Research Council (2022)
National Science Foundation (2018, 2021)
Swiss National Science Foundation (2017)

Departmental & Institutional Service

2022— Community Diversity Committee, Rocky Mountain Biological Laboratory
2022— Chair, RMBL Communications Committee, Rocky Mountain Biological Laboratory
2020— Graduate Curriculum Review Committee, Chicago Botanic Garden
2019–2022 Co-chair, RMBL Communications Committee, Rocky Mountain Biological Laboratory
2019— CBG Science Communication Committee, Chicago Botanic Garden
2018 Biology Major Curriculum Review Committee, Northwestern University
2016— Graduate Student Application Review, Chicago Botanic Garden/Northwestern University.
2013–2014 RMBL Facilities Planning & Design Committee, Rocky Mountain Biological Laboratory
2012–2013 NSF REU Application Review, Rocky Mountain Biological Laboratory

PROFESSIONAL DEVELOPMENT

2023 Mental Health First Aid Training (2-day training and certificate program), Northwestern University & National Council for Mental Wellbeing.
2021 The Inclusive STEM Teaching Project (7-week summer course and certificate program), Searle Center for Advanced Teaching & Learning, Northwestern University
2021 Self-Reflection as a Tool for Creating Inclusive Classroom Environments (workshop), Northwestern University
2020– Diversity Training (annually), Chicago Botanic Garden
2018– Harassment & Discrimination Training (annually), Chicago Botanic Garden
2016 New Faculty Teaching Workshop, Northwestern University
2015 Visual Design Principles for Scientific Data (workshop), Aarhus University, Denmark.
2014 Communicating Science Workshop (ComSciCon), Harvard University
2014 Teaching Pedagogy Workshop, University of Arizona

EDUCATION & OUTREACH

Selected Education & Outreach Activities.

2021. Children's Educational Film on Bees for Cook County's YouTube Channel, Project Rainbow.

I wrote original scientific content for, and featured as a scientist expert in, an episode of "Maria's Notebook", a children's YouTube mini-series that is part of Chicago-Cook County's Project Rainbow. "Maria's Notebook" provided educational resource to help get children outside during the pandemic when schools were closed. This mini-series received a 2022 Chicago/Midwest Emmy Award for "Outstanding Achievement in Children/Youth".
<https://www.youtube.com/watch?v=q-xH4SRQrrc>

2019—on going. Pollination ecology and pollinator identification workshops, Rocky Mountain

Biological Laboratory Adult Science Program + Crested Butte Wildflower Festival. *The goal of these outreach activities is to integrate research and education to build capacity for understanding and appreciation of the importance of pollination and pollinators for adults via the annual Crested Butte Wildflower Festival. As a lab group, we host several different activities each year.*

2018—on going. Training in Science Communication (for scientists). *As part of an NSF funded project, I've led*

numerous science communication workshops for undergraduate and graduate students (at the CBG, RMBL, and elsewhere). These hands-on training workshops focus on science communication for a variety of audiences via writing, oral presentation, and visual design. To date, these workshops have provided training opportunities for more than 150 people.

2013—on going. Director and Co-founder, The Art-Science Exchange Project (Rocky Mountain

Biological Laboratory). *This artist in residence project seeks to enhance the intellectual collaboration between the arts and the sciences, with the primary goal of improving communication of complex biological phenomena to a broad audience. The collaborative products of the art-science exchange move far beyond the scientific community, making their way into society very differently than typical outreach programs. This program has revealed that alternative forms of engagement with scientific ideas and materials can captivate a diverse public audience, including those initially uninterested in science. This program has supported nine artist fellows since 2013.*

2012—on going. Education programming and presentations on plants, pollinators, and pollination.

I regularly give presentations on pollination ecology for children (K-12) and adults at the Chicago Botanic Garden, the Rocky Mountain Biological Laboratory, various garden clubs, schools, and science camps, (including Chicago Public Schools and Chicago Urban Agriculture Programs). As part of these education and outreach activities, I have designed a diversity of education materials tailored to different audiences. As a lab group, we now have an extensive set of educational resources that we share and use regularly.

2013–2015. Science Writer/Columnist, Crested Butte News, Crested Butte, CO.

Over three years I ran a science column for the Crested Butte News, where I wrote 14 general audience articles highlighting research projects at the Rocky Mountain Biological Laboratory.

MEDIA COVERAGE OF RESEARCH

Print: *New York Times, Los Angeles Times, Chicago Tribune, High Country News, Earthweek – Dairy of the Planet, Northwestern Research News, and various local newspapers.* Online: *New York Times (2), Science (2), Nature, National Geographic News (2), TIME Magazine, Yale Climate Change Connections (2), Los Angeles Times, News Week, Mother Jones/Climate Desk/Grist, Live Science, The Christian Science Monitor, High Country News (2), Scientific American, Climate Wire, and other online media.*

Press releases: *National Science Foundation (3), University of Maryland (2), University of Arizona, Northwestern University.*