

CASE M. PRAGER

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EDUCATION AND TRAINING

2020 – present	Postdoctoral Research Fellow, University of Michigan Department: Ecology and Evolutionary Biology Advisor: Dr. Aimee Classen
2017 - 2020	Postdoctoral Research Fellow, University of Copenhagen Department: Natural History Museum of Denmark and Department of Biology Advisors: Drs. Aimee Classen and Nate Sanders
2017	PhD, Columbia University Department: Ecology, Evolution and Environmental Biology (E3B) Advisors: Drs. Shahid Naeem and Kevin Griffin
2011	MA, Columbia University Department: Conservation Biology, E3B Advisor: Dr. Shahid Naeem
2008-2009	Fulbright Fellow , Biology, Galapagos Islands, Ecuador
2008	BA, Occidental College, <i>Summa Cum Laude</i> Major: Science and Society Minor: Spanish Cultural and Literary Studies

FELLOWSHIPS, AWARDS, AND HONORS

2011-2017	NSF Graduate Research Fellowship
2011-2017	Columbia University Faculty Fellowship
2014	Academic Administration Fellow, Office of the Provost, Columbia University
2011	Exploration Fund Grant, Explorer's Club
2011	E3B Department Travel Grant, Columbia University
2008	Phi Beta Kappa
2008	Mortar Board National Senior Honor Society
2007-2008	Arnold and Mabel Beckman Program Scholars Award
2007	NSF Research Experience for Undergraduates, La Selva Biological Station, Costa Rica

PUBLICATIONS

*Undergraduate co-author

21.

20. Anujan, K., S.A. Heilpern, **C. Prager**, B. Weeks, and S. Naeem. 2021. Trophic complexity alters the diversity-multifunctionality relationship in experimental grassland mesocosms. *Accepted*.
19. **Prager, C.M.**, X. Jing, M. Sundquist, J.A. Henning, S. Lavorel, Q.D. Read, N.J. Sanders, P. Miedl*, and A.T. Classen. The interaction between climate and multiple dimensions of plant diversity regulates ecosystem carbon exchange along an elevational gradient. *In Press*. *Ecosphere*.
18. Jing, X., **Prager, C.M.**, Classen, A.T., Maestre, F., He, J.S., Sanders, N.J. Standardization methods provide a meaningful way to compare biodiversity-ecosystem multifunctionality relationships across studies. *In Press*. *Journal of Plant Ecology*.
17. **Prager, C.M.**, N.T. Boelman, J.U.H. Eitel, J.T. Gersony, H.E. Greaves, M.A. Heskell, T.S. Magney, D.N.L. Menge, S. Naeem, C. Shen*. L.A. Vierling and K.L. Griffin. A mechanism of expansion: Arctic deciduous shrubs capitalize on increasing nutrient availability *Oecologia* 192 (3), 671-685.
16. Greaves, H.E., Eitel, J.U.H., Vierling, L.A., Boelman, N.T., Griffin, K.L., Magney, T.S., **Prager, C.M.** 2019. 20 cm resolution mapping of tundra vegetation communities provides an ecological baseline for important research areas in a changing Arctic environment *Environ. Res. Commun.* 1, 105004.
15. Magney, T.S., B.A. Logan, J. Reblin, N.T. Boelman, J.U.H. Eitel, H.E. Greaves, K.L. Griffin, **C.M. Prager** and L.A. Vierling. 2017. Xanthophyll cycle activity in two prominent Arctic shrub species. *Arctic, Antarctic and Alpine Research* 49(2): 277-289.
14. Griffin, K.L. and **C.M. Prager**. 2017. Where does the carbon go? Thermal acclimation of respiration and increased photosynthesis in trees at the temperate-boreal ecotone. *Tree Physiology* 37(3): 281-284.
13. **Prager, C.M.**, S. Naeem, N.T. Boelman, J.U.H. Eitel, H.E. Greaves, M.A. Heskell, T.S. Magney, D.N.L. Menge, L.A. Vierling and K.L. Griffin. 2017. A gradient of nutrient enrichment reveals non-linear impacts of fertilization on Arctic plant diversity and ecosystem function. *Ecology and Evolution*. 7(7): 2449-2460.
12. Greaves, H.E., L.A. Vierling, J.U.H. Eitel, N.T. Boelman, T.S. Magney, **C.M. Prager**, K.L. Griffin. 2017. Applying terrestrial lidar for evaluation and calibration of airborne lidar-derived shrub biomass estimates in Arctic tundra. *Remote Sensing Letters*. 8(2): 175-184.
11. Naeem, S., **C.M. Prager**, B.C. Weeks, A. Varga, D.B. Flynn, K.L. Griffin, B. Muscarella, S. Wood, and B. Schuster. 2016. Biodiversity as a multidimensional construct. *Proceedings of the Royal Society B*. 283(1844): 20153005.
10. Naeem, S., R. Chazdon, J.E. Duffy, **C.M. Prager**, and B. Worm. 2016. Biodiversity and human well-being: an essential link for sustainable development. *Proceedings of the Royal Society B*. 283(1844): 20162091. DOI: 10.1098/rspb.2016.2091.
9. Gersony, J.T., **C.M. Prager**, N.T. Boelman, J.U.H. Eitel, L. Gough, H. Greaves, K.L. Griffin, T.S. Magney, S. Sweet, L. Vierling, and S. Naeem. 2016. Scaling thermal properties from the leaf to the canopy in the Alaskan arctic tundra. *Arctic, Antarctic and Alpine Research*. 48(4): 739-754.
8. Taylor, B.N., A.E. Patterson, M. Ajayi*, R. Arkebauer, K. Bao, N. Bray, R.M. Elliott, P.P.G. Gauthier, J.

Gersony*, R. Gibson*, M. Guerin, S. Lavenhar, C. Leland, L. Lemordant, W. Liao, J. Melillo, R. Oliver, **C.M. Prager**, W. Schuster, N.B. Schwartz, C. Shen*, K. Pavlis Terlizzi, K.L. Griffin. 2016. Growth and physiology of a dominant understory shrub, *Hamamelis virginiana*, following canopy disturbance in a temperate hardwood forest. *Canadian Journal of Forest Research*. 47(999): 193-202.

7. Greaves, H.E., L.A. Vierling, J.U.H. Eitel, N.T. Boelman, T.S. Magney, **C.M. Prager**, and K.L. Griffin. 2016. Fine-scale mapping of aboveground shrub biomass in Arctic tundra using terrestrial and airborne lidar. *Remote Sensing of Environment*. 184: 361-373.

6. Boelman, N.T., T.S. Magney, B.A. Logan, K.L. Griffin, J.U.H. Eitel, H. Greaves, **C.M. Prager**, and L.A. Vierling. 2016. Spectral determination of concentrations of functionally diverse pigments in increasingly complex arctic tundra canopies. *Oecologia*. 182(1): 85-97.

5. **Prager, C.M.**, A. Varga, P. Olmsted, C. Ingram, M. Cattau, C. Freund, R. Wynn-Grant and S. Naeem. 2016. An assessment of adherence to basic ecological principles by Payments for Ecosystem Service projects. *Conservation Biology*. 30(4): 836-845.

4. Magney, T.S., J.U.H. Eitel, K.L. Griffin, N.T. Boelman, H. Greaves, **C.M. Prager**, B.A. Logan, G. Zheng, L. Ma, L. Fortin*, R. Oliver, and L.A. Vierling. 2016. LiDAR Canopy Radiation Model Reveals Patterns of Photosynthetic Partitioning in an Arctic Shrub. *Agricultural and Forest Meteorology*. 221: 78-93.

3. Greaves, H.E., L.A. Vierling, J.U.H. Eitel, N.T. Boelman, T.S. Magney, **C.M. Prager**, and K.L. Griffin. 2015. Estimating aboveground biomass and leaf area of low-stature Arctic shrubs with terrestrial LiDAR. *Remote Sensing of Environment*. 164: 26-35.

2. Naeem, S., J.C. Ingram, A. Varga, T. Agardy, P. Barten, R. Benner, G. Bennett, E. Bloomgarden, L.L. Bremer, P. Burkill, M. Cattau, C. Ching, M. Colby, D.C. Cook, R. Costanza, F. Declerck, C. Freund, T. Gartner, J. Gunderson, D. Jarrett, A.P. Kinzig, A. Kiss, A. Koontz, P. Kumar, J. R. Lasky, S. Lynch, M. Masozera, D. Meyers, F. Milano, L. Naughton, E. Nichols, L. Olander, P. Olmsted, E. Perge, C. Perrings, S. Polasky, J. Potent, **C.M. Prager**, F. Quétier, K. Redford, K. Saterson, S. Swinton, G. Thoumi, M. Van Patten, M.T. Vargas, S. Vickerman, W. Weisser, D. Wilkie, S. Wunder. 2015. Get the Science Right when Paying for Nature's Services. *Science*. 347(6227): 1206-1207.

1. Jain, M., D.F.B. Flynn, **C.M. Prager**, G.M. Hart, C.M. Devan, F. Ahrestani, M.I. Palmer, D.E. Bunker, J.M.H. Knops, C.F. Jouseau, S. Naeem. 2014. The importance of rare species. A trait-based assessment of the potential for rare species to contribute to ecosystem function in tall-grass prairies. *Ecology and Evolution*. 4(1): 104-112.

In review or revision

Jing, X., **C.M. Prager**, E.T. Borer, L. Chen, H. Chu, N.J. Gotelli, D.S. Gruner, J.S. He, K. Kirkman, A. MacDougall, R. McCulley, S.M. Prober, E.W. Seabloom, Y. Shi, C. Stevens, T. Yang, B. Zhu, A.T. Classen, N.J. Sanders. Differences in species composition predict dissimilarity in the functioning of grassland ecosystems. *In revision*.

PROFESSIONAL AND VOLUNTEER EXPERIENCE

Reviewer:	<i>Biotropica, Ecology, Ecology Letters, Ecosphere, Functional Ecology, Global Change Biology, Insectes Sociaux, Journal of Applied Ecology, Journal of Environmental Management, New Phytologist, Nature Ecology and Evolution</i>
2018	Proposal Reviewer – National Science Foundation, Office of Polar Programs
2015	Search committee member, new faculty hire (E3B, Columbia University)
2012 - 2015	Coordinator (for Columbia), Penn, Princeton, Rutgers, Columbia (PPRC) Student Ecology and Evolution Conference
2012	Department Representative, Graduate School of Arts and Sciences Council, Columbia University
2011	Member, Earth Institute Student Advisory Council, Columbia University
2011	Section co-organizer, Girls Science Day, Columbia University
2009 - 2010	Student Representative to the faculty (E3B, Columbia University)
2009-2010	Discovery Room Volunteer, American Museum of Natural History

TEACHING AND MENTORING

Spring 2019	<i>Instructor</i> Natural Resources 103, Ecology, Ecosystems and Environment, Rubenstein School of Environment and Natural Resources
2017 - 2018	<i>Guest Lecturer</i> Natural Resources 103, Ecology, Ecosystems and Environment, Rubenstein School of Environment and Natural Resources Lectures: “Ecosystem structure and function”, “Food webs and energy flow” and “Impacts of global change on biodiversity and ecosystem function”
2016	<i>Science Coordinator</i> Summer Ecosystem Experiences for Undergraduates, Earth Institute Center for Environmental Sustainability, Columbia University. Course: Agro-Ecological Food Systems – undergraduate intensive summer course based in New York City and the Harlem and Hudson valleys.
2013 - 2019	<i>Mentor</i> Worked with undergraduate students (4 Columbia College; 1 Barnard College; 1 UVM) on senior thesis projects, focusing on project design, data collection and analysis. Fieldwork for 5 of the projects took place at the Arctic Long Term Ecological Research (ARC LTER) site at Toolik Lake, AK.
2006 - 2014	<i>Teaching Assistant</i> Columbia University (Dept. of Ecology, Evolution and Environmental Biology) Courses: Environmental Biology I and II (two semester undergraduate core biology course for majors); Conservation Biology (graduate); Conservation Biology (undergraduate) Columbia University, School of International and Public Affairs (SIPA)

Courses: Introduction to Ecology; Urban Ecology

Occidental College, Department of Biology

Courses: Biodiversity; Biology of California

SELECT PRESENTATIONS

- 2018 New Orleans, LA – Multiple dimensions of plant diversity regulate ecosystem carbon exchange Ecological Society of America Annual Meeting. Oral Presentation.
- 2016 San Francisco, CA – A gradient of nutrient enrichment reveals contrasting non-linear impacts of fertilization on Arctic plant diversity and ecosystem function. American Geophysical Union, San Francisco, CA. Oral Presentation.
- 2016 Oak Ridge, TN – Plant physiology, diversity and ecosystem C storage in the face of global change. Oak Ridge National Laboratory. Invited Talk.
- 2015 Baltimore, MD – Plant diversity effects on carbon cycling in the Arctic. Ecological Society of America Annual Meeting. Oral Presentation.
- 2015 Woods Hole, MA – Leaf-level physiological responses to nutrient enrichment: Lessons from the Arctic. Arctic Long-term Ecological Research (ARC LTER) Annual Meeting, Marine Biological Laboratory. Poster.
- 2009 Lima, Peru – Understanding invasion in the Galapagos archipelago, Ecuador.” Fulbright Andean Seminar. Oral Presentation.

OUTREACH PRESENTATIONS

- 2018 What is biodiversity and why does it matter? Phillips Exeter Academy, Exeter, NH. Invited Talk.
- 2015 Sustaining earth’s biodiversity. Anne Lamont Memorial Lecture, The Spence School, New York City. Invited talk (jointly w/ Dr. Shahid Naeem)

MEMBERSHIP & AFFILIATIONS

Ecological Society of America, American Geophysical Union

SKILLS AND LANGUAGES

Computer: Adobe Photoshop and Illustrator, Microsoft Office, R programming language and environment

Languages: English and Spanish (working proficiency)