LORI A. BIEDERMAN

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CURRENT POSITION

Adjunct Associate Professor, Iowa State University. 2019 to present

PROFESSIONAL PREPARATION

Ph.D.	2007	Rangeland Ecology & Management	Texas A&M University
M.S.	2000	Conservation Biology	University of Minnesota
B.A.	1995	Biology	Gustavus Adolphus College

GRANTS AND CONTRACTS

Biederman LA. 2020. Funds for Graduate Field trip. Friends of Lakeside Laboratory. $4500.

Biederman LA. 2018. Bringing Dark Data to Light; Digitizing Natural History Collections at Iowa Lakeside Laboratory. Friends of Lakeside Laboratory. $4000.

Harpole WS, **Biederman LA**. 2014-2016. A Global Test for Non-linear Responses of Grassland Diversity to Nitrogen Deposition. National Science Foundation. $300,000. DEB# 1353092

Biederman LA. 2013-2015. Latitudinal and soil texture effects on western prairie fringed orchid phenology. Iowa Department of Natural Resources. $15,600.

Biederman LA, Harpole WS. 2014. Determining threshold responses of plant-soil feedbacks to nitrogen deposition. Ecology Initiative, Leopold Center for Sustainable Agriculture. $48,325.

Biederman LA. 2012. Analysis of potential phenological triggers for western prairie fringed orchid senescence. Minnesota Department of Natural Resources. $5000.

Biederman LA. 2011. A degree-day model to describe western prairie fringed orchid phenology. Minnesota Department of Natural Resources. $1250.

GRANTS AND CONTRACTS continued

Harpole, WS, **Biederman LA**. 2011-2013. Biochar and managed perennial ecosystems; testing for synergy in ecosystem function and biodiversity. Ecology Initiative, Leopold Center for Sustainable Agriculture, Iowa State University. $102,692.

Biederman LA, Cushing EC. 1998. Grant for Conservation Biology Research in Minnesota, Natural Heritage and Non-Game Program, Minnesota Department of Natural Resources. $3720.

PUBLICATIONS

Carroll O, Batzer E, Bharath S, Borer E, Campana S, Esch E, Hautier Y, Ohlert T, Seabloom E, Adler P, Bakker J, **Biederman L**, and 18 others. 2021. Nutrient identity modifies the destabilizing effects of eutrophication in grasslands. *Ecology Letters doi: 10.1111/ele.13946*

Ebling A, Strauss AT, Adler PB, Arnillas CA, Barrio IC, **Biederman LA**, and 30 others. 2021. Nutrient enrichment increases invertebrate herbivory and pathogen damage in grasslands. *Journal of Ecology doi: 10.1111/1365-2745.13801*

Radujkovic D, Verbruggen E, Seabloom EW, Bahn M, **Biederman LA**, and 24 others. 2021. Soil properties as key predictors of global grassland production: have we overlooked micronutrients? *Ecology Letters doi: 10.1111/ele.13894*

Schleuss P, Widdig M, **Biederman L**, Borer L, Crawley M, Kirkman K, Seabloom E, Wragg P, Spohn M. 2021. Microbial substrate stoichiometry governs nutrient effects on nitrogen cycling in grassland soils. *Soil Biology & Biochemistry doi: 10.1016.j.soilbio.2021.108168*

Seabloom E, Batzer E, Chase J, Harpole S, Adler P, Bagchi S, Bakker J, Barrio IC, **Biederman L**, and 26 others. 2021. Species loss due to nutrient addition increases with spatial scale in global grasslands. *Ecological Letters doi: 10.1111/ele.13838*

Seabloom E, Adler PB, Alberti J, **Biederman LA**, and 25 others. 2021. Increasing effects of chronic nutrient enrichment on plant diversity loss and ecosystem productivity over time. *Ecology soi: 10.1002/ecy.3218*

Wilfahrt PA, Asmus AL, Seabloom EL, Henning JA, Adler P, Arnillas CA, Bakker JD, Biederman L, and 27 others. 2021. Temporal rarity is a better predictor of local extinction risk than spatial rarity. *Ecology doi: 10.1002/ecy.3504*

Bharath S, Borer ET, **Biederman LA**, Blumenthal DM, Fey PA, Gherardi LA, Knops JMH, Leakey ADB, Yahdjian L, Seabloom EW. 2020. Nutrient addition increases grassland sensitivity to droughts. *Ecology* doi: 10.1002/ecy.2981

PUBLICATIONS continued

Biederman LA, Weldon SM, Anderson DS, Leoschke MJ. 2020. Precipitation contributes to plant height, but not reproductive effort, for western prairie fringed orchid (*Platanthera praeclara* Sheviak & Bowles); evidence from herbarium records. *Ecology & Evolution* doi: 10.10002/ece3.6647

Broadbent A, Firn J, McGree J, Borer E, Buckley Y, Harpole WS, Komatsu K, MacDougall A, Orwin K, Ostle NJ, Seabloom E, Bakker J, **Biederman L**, and 11 others. 2020. Dominant native and non-native graminoids differ in key leaf traits irrespective of nutrient availability. *Global Ecology and Biogeography* doi: 10.1111/geb.13092

Firn J, McGree JM, Harvey E, Flores-Moreno H, Schuetz M, Buckley YM, Borer ET, Seabloom EW, La Pierre KJ, MacDougall AM, Prober SM, Stevens CJ, Sullivan LL, Porter E, Ladouceur E, Allen C, Moromizato KH, Morgan JW, Harpole WS, Hautier Y, Eisenhauer N, Wright JP, Adler PB, Arnillas CA, Bakker JD, **Biederman L**, and 17 others. 2020. Author Correction: Leaf nutrients, not specific leaf area, are consistent indicators of elevated nutrient inputs. *Nature Ecology & Evolution* doi: 10.1038/s41559-020-1213-7

Risch AC, Zimmermann S, Moser B, Schuz M, Hagedorn F, Firn J, Fay P, Addler PB, **Biederman LA**, and 26 others. 2020. Global impacts of fertilization and herbivore removal on soil net nitrogen mineralization are modulated by local climate and soil properties. *Global Change Biology* doi: 10.1111/gcb.15308

Seabloom EW, Adler P, Alberti J, **Biederman L**, and 25 others. 2020. Increasing effects of chronic nutrient enrichment on plant diversity loss and ecosystem productivity over time. *Ecology* doi: 10.1002/ecy.3218

Sitters J, Wubs ERJ, Bakker L, Crowther T, Adler P, Bagchi S, Bakker J, **Biederman L**, and 22 others. 2020. Nutrient availability controls the impact of mammalian herbivores on soil carbon and nitrogen pools in grasslands. *Global Change Biology* doi: 10.1111/gcb.15023

Widdig M, Schleuss P, **Biederman LA**, Borer ET, Crawley MJ, Kirkman KP, Seaboom EW, Wragg PD, Spohn M 2020. Microbial carbon use efficiency in grassland soils subjected to nitrogen and phosphorus addition. *Soil Biology & Biochemistry* doi: 10.1016/j.soilbio.2020.107815

Bennett AE, Preedy K, Golubski A, Umbanhower K, Borrett SR, Byrne L, Apostol K, Bever JD, **Biederman L**, and 21 others. 2019. Beyond the black box: promoting mathematical collaborations for elucidating interactions in soil ecology. *Ecosphere* doi: 10.1002/ecs2.2799

Borer ET, Lind EM, Firn J, Seabloom EW, Anderson TM, Bakker ES, **Biederman L**, LaPierre KJ, MacDougall AS, Moore JL, Risch AC, Schultz M, and Stevens CJ. 2019. More salt, please: global patterns, responses and impacts of foliar sodium in grasslands. *Ecology Letters* doi: 10.111/ele.13270

PUBLICATIONS continued

Firn J, McGree J, Harvey E, Flores-Moreno H, Schuetz M, Buckley Y, Borer E, Seabloom E, La Pierre K, MacDougall AS, Prober S, Stevens C, Sullivan L, Porter E, Ladouceur E, Allen C, Harumi Moromizato K, Morgan J, Harpole W, Hautier Y, Eisenhauer N, Wright J, Adler P, Arnillas C, Bakker J, **Biederman L**, and 17 others. 2019. Leaf nutrients, not specific leaf area, are consistent indicators of elevated nutrient inputs. *Nature Ecology & Evolution* doi: 10.1038/s41559-018-0790-1

Risch AC, Zimmerman S, Ochoa-Hueso R, Schutz M, Frey B, Firn JL, Fay PA, Hagedom F, Borer ET, Seabloom EW, Harpole WS, Knops JMH, McCulley RL, Broadbent AAD, Stevens CJ, Silveira ML, Adler PB, Baez S, **Biederman LA**, and 25 others. 2019. Soil net nitrogen mineralisation across global grasslands. *Nature Communications* doi: 10.1038/s41467-019-12948-2

Peterson DAM, **Biederman LA**, Andersen D, Ditonto TM, Roe K. 2019. Mitigating gender bias in student evaluations. *PLoS ONE* doi: 10.1371/journal.pone.0216241

Widdig M, Schleuss P-M, Weig AR, Guhr A, **Biederman LA**, Borer ET, Crawley MJ, Kirkman KP, Seabloom EW, Wragg PD, Spohn M. 2019. Nitrogen and phosphorus additions alter the abundance of phosphorus-solubilizing bacteria and phosphatase activity in grassland soils *Frontiers in Environmental Science* doi: 10.3389/fenvs/2019.00185

Biederman LA, Anderson D, Sather N, Pearson J, Beckman K, Prekker J. 2018. Using phenological monitoring and historical records to determine environmental triggers for emergence and anthesis in the rare orchid *Platanthera praeclara* Sheviak & Bowles. *Global Ecology and Conservation* doi: 10.1016/j.gecco.2018.e00461

Anderson MT, Griffith DM, Grace JM, Lind EM, Adler PB, **Biederman LA,** and 16 others. 2018. Herbivory and eutrophication mediate grassland plant nutrient responses across a global climate gradient. *Ecology* doi: 10.1002/ecy.2175

Holdapp D, Borer ET, Harpole WS, Lind EM, Seabloom EW, Adler PB, Alberti J, Armillas CA, Bakker JD, **Biederman L,** and 21 others. 2018. Spatial heterogeneity in species composition constrains plant community responses to herbivory and fertilisation. *Ecology Letters* doi:10.1111/ele.13102

Biederman L, Mortensen B, Fay P, Hagenah N, Knops J, La Pierre K, Laungani R, Lind E, McCulley R, Power S, Seabloom E, Tognetti P. 2017. Nutrient addition shifts plant community composition towards earlier flowering species in some prairie ecoregions in the U.S. Central Plains. *PLoS ONE* doi: 10.1371/journal.pone.0178440

Mortensen B, Danielson B, Harpole WS, Alberti J, Arnillas C, **Biederman L**, Borer E, Cadotte M, Dwyer J, Hagenah N, Hautier Y, Peri P, Seabloom E. 2017. Herbivores safeguard plant diversity by reducing variability in dominance. *Journal of Ecology* doi: 10.1111/1365-2745.12821

PUBLICATIONS continued

Biederman LA, Phelps J, Ross BJ, Polzin M, Harpole WS. 2017. Biochar and manure alter few aspects of prairie development: a field test. *Agriculture, Ecosystems and Environment* doi: 10.1016/j.agee.2016.11.016

Tredennick AT, Adler PB, Grace JB, Harpole WS, Borer ET, Seabloom EW, Anderson MT, Bakker JD, **Biederman LA**, and 32 others. 2016. Comment on "Worldwide evidence of a unimodal relationship between productivity and plant species richness" *Science* doi: 10.1126/science.aad6236

Abbott K, Karst, J, **Biederman L**, Borett S, Hastings A, Walsh V, Miller L, Bever JD. 2015. Spatial heterogeneity in soil microbes alters outcomes of plant competition. *PLoS ONE* doi: 10.1371/journal.pone.0125788

Seabloom E, Borer E, Buckley Y, Cleland E, Davies K, Firn J, Harpole WS, Hautier Y, Lind E, MacDougall A, Orrock J, Prober S, Adler P, Anderson T, Bakker J, **Lori Biederman**, and 50 more. 2015. Plant species' origin predicts dominance and response to nutrient enrichment and herbivores. *Nature Communications* doi: 10.1038/ncomms8710

Borer E, Seabloom E, Gruner D, Harpole WS, Hillebrand H, Lind E, Adler P, Alberti J, Anderson T, Bakker J, **Biederman L,** and 44 others. 2014. Herbivores and nutrients control grassland plant diversity via light limitation. *Nature* doi:10.1038/nature13144

Biederman LA, Beckman J, Prekker J, Anderson D, Sather NP, Dahle R. 2014. Phenological Monitoring aids habitat management of threatened plant. *Natural Areas Journal* 34: 105-110. doi: 10.3375/043.034.0112

Harpole WS, **Biederman LA**. 2014. On the importance of accurate reporting: a response to comments on "Biochar and its effects on plant productivity and nutrient cycling: a meta-analysis". *Global Change Biology – Bioenergy* 6: 172-174. Doi: 10.1111/gcbb.12093

Seabloom E, Borer E, Buckley Y, Cleland E, Davies K, Firn J, Harpole, WS, Hautier Y, Lind E, MacDougall A, Orrock J, Prober S, Adler P, Alberti J, Anderson T, Bakker J, **Biederman L**, and 56 others. 2013. Predicting invasion in grassland ecosystems: is exotic dominance the real embarrassment of richness? *Global Change Biology* 19: 3677-3687. Doi: 10.1111/gcb.12370

Biederman LA, Harpole WS. 2013. Biochar and its effects on plant productivity and nutrient cycling: a meta-analysis. *Global Climate Change – Bioenergy* 5: 202-214. Doi: 10.1111/gcbb.1203

PUBLICATIONS continued

Adler PB, Seabloom EW, Borer ET, Hillebrand H, Hautier Y, Hector A, Harpole WS, O'Halloran LR, Grace JB, Anderson TM, Bakker JD, **Biederman LA**, and 46 others. 2011. Productivity is a poor predictor of species richness. *Science* 333: 1750-1753. Doi: 10.1126/science.1204498

Biederman LA, Whisenant SG. 2011. Amendment placement directs soil carbon and nitrogen cycling in severely disturbed soils. *Restoration Ecology* 19: 360-370. Doi: 10.111/j.1526-100X.2009.00564.x

Biederman LA, Whisenant SG. 2011. Using mounds to create microtopography alters plant community development in restoration. *Restoration Ecology* 19: 53-61. Doi: 10.1111/j.1526-100X.2009.00564.x

Biederman LA, Boutton TW. 2010. Spatial variation in biodiversity and trophic structure of soil nematode communities in a subtropical savanna parkland: Responses to woody plant encroachment. *Applied Soil Ecology* 46: 168-176. Doi: 10.1016/j.apsoil.2010.08.014

Biederman LA, Boutton TW. 2009. Biodiversity and tropic structure of soil nematode communities are altered following woody plant invasion of grasslands. *Soil Biology & Biochemistry* 41:1943-1950. Doi: 0.1016/j.soilbio.2009.06.019

Biederman LA, Whisenant SG. 2009. Organic amendments direct grass population dynamics in a landfill prairie restoration. *Ecological Engineering* 35: 678-686. Doi: 10.1016/j.ecoleng.2008.10.016

Biederman LA, Boutton TW, Whisenant SG. 2008. Nematode community development early in ecological restoration: The role of organic amendments. *Soil Biology & Biochemistry* 40: 2366-2374. Doi: 10.1016/j.soilbio.2008.05.017

Galatowitsch SM, **Biederman LA.** 1998. Seed banks of temporary flooded *Carex* meadows and implications for restoration. *International Journal of Ecology and Environmental Sciences* 24:253-270.

Non-Peer Reviewed Publications and Technical reports

Biederman L, Mortensen B, Fay P, Hagenah N, Knops J, La Pierre K, Laungani R, Lind E, McCulley R, Power S, Seabloom E, Tognetti P. 2017. How do nutrients change flowering in prairies? *Science Journal for Kids*

Merchant SM, **Biederman LA**. 1999. Minnesota's railroad rights-of-way prairie: A report to the 1999 Legislature. Minnesota Department of Natural Resources Biological Report no. 61. St. Paul, Minnesota.

PUBLIC DATASETS

Biederman LA, Weldon S. Dataset associated with “Biederman et al. 2020”. doi: 10.6084/m9.figshare.12318590

Biederman LA, Anderson D, Sather N, Pearson J, Beckman K, Prekker J. 2018. *Platanthrea praeclara* phenology data. doi: 10.6084/m9.figshare.6144353

Biederman L and 18 others. 2017. Prairie plant cover data associated with the manuscript “Nutrient addition shifts plant community composition towards earlier flowering species in some prairie ecoregions in the U.S. Central Plains.” doi: 10.6084/m9.figshare.4810663

Biederman LA. 2016. Plant species trait information associated with “Nutrient addition shifts plant community composition towards earlier flowering species in some prairie ecotypes in the U.S. Central Plains.” doi: 10.6084/m9.figshare.4037022

Biederman LA. 2016. Phenological niche breadth analysis for some North American prairie ecotypes. doi: 10.6084/m9.figshare.4037064

Biederman LA. 2016. Full dataset associated with “Biochar and manure alter few aspects of prairie development: a field test.” doi: 10.6084/m9.figshare.4012419.v1

Biederman LA. 2016. Dataset associated with “Biochar and its effects on plant productivity and nutrient cycling: a meta-analysis.” doi: 10.6084/m9.figshare.4438274

PUBLIC ACTIVE LEARNING ACTIVITES

Biederman LA. 2016. Prokaryote metabolism. doi: 10.6084/m9.figshare.4512668

Biederman LA. 2016. Protostome classification. doi: 10.6084/m9.figshare.4513577

OTHER POSITIONS HELD

Adjunct Assistant Professor, Iowa Lakeside Laboratory Regent’s Resource Center 2018 – 2019.

Adjunct Assistant Professor, Iowa State University. 2012-2019.

Associate Scientist, Community Ecology Laboratory, Iowa State University. 2009-2012.

Research Assistant, Plant Physiological Ecology Laboratory, Department of Ecosystem Science and Management, Texas A&M University. 2009.

Postdoctoral Associate, Stable Isotope Laboratory, Department of Ecosystem Science and Management, Texas A&M University. 2007-2008.

Graduate Research Assistant. Restoration Ecology Laboratory. Department of Rangeland Ecology and Management, Texas A&M University. 2002-2007.

Native Prairie Association of Texas. Botanical Contractor. 2001.

OTHER POSITIONS continued

Natural Heritage and Non-Game Research Program, Minnesota Department of Natural Resources. Botanical Contractor. 2000.

County Biological Survey, Minnesota Department of Natural Resources. Natural Resources Specialist- Botanist. 1999.

HONORS AND FELLOWSHIPS

Teaching Innovation Award for course response to Covid-19 shift to on-line learning, 2020
Professional Improvement Grant, Iowa State University, 2015
Francis and Evelyn Clark Soil Biology Scholarship, Soil Science Society of America, 2006.
Springfield Research Award, Texas A&M University 2006.
Tom Slick Graduate Research Fellowship Award, Texas A&M University, 2005-2006.
Franklin F. Wasko Graduate Research Fellowship, Texas A&M University, 2005-2006.
Regents Graduate Fellowship, Texas A&M University, 2002-2003.
Conservation Biology Fellowship, University of Minnesota, 2000.
J.W. Wilkie Fund for Natural History, University of Minnesota. 1998.
Carolyn M. Crosby Fellowship, University of Minnesota. 1997-1998.
Dayton Natural History Fellowship, University of Minnesota. 1997.
NSF Research Experience for Undergraduates, Harvard Forest, MA. 1994.

INVITED PRESENTATIONS

Bringing dark data to light. Science on the Menu Lecture Series, Iowa Lakeside Laboratory, Miflord Iowa. April 2019.

Using citizen Science and dark data to illuminate the secrets of the Western Prairie Fringed Orchid. Iowa Lakeside Laboratory, Miflord Iowa. July 2018.

Evaluating soil quality indicators following restoration; legacies of site history. Society of Ecological Restoration, Northwest Regional conference. Portland, OR. April 2016.

Ecosystem responses to biochar from agriculture to natural systems. Initiative for a Carbon Negative Economy, Iowa State University, Ames, IA. February 2013.

Using orchid phenology to address management questions. Western Prairie Fringed Orchid Field Day at Pembina Trail Preserve, Crookston, MN. July 2011.

Biochar and ecosystem services; change along a rural gradient. Biochar 2010 - U.S. Biochar Initiative Conference, Ames, IA. June 2010.

CONFERENCE PRESENTATIONS

Onstad Emma and Biederman L. 2021. Dung beetle (Onthophagus) preference for different mammalian dung in Northwest Iowa. Entomological Society of America

CONFERENCE PRESENTATIONS continued

Khadilkar A, Lu C, Zhang J, **Biederman L**. 2020. How do grassland ecosystems respond to long-term N enrichment? Meta-data analysis of global nitrogen addition experiments and data-model inter-comparison. American Geophysical Union Conference.

Widdig M, Schleuss P-M, Weig AR, Guhr A, **Biederman LA**, Borer ET, Crawley MH, Kirkman KP, Seabloom EW, Wragg PD, Spohn M. 2020. Carbon and phosphorus cycling in grassland soils subjected to nitrogen and phosphorus addition. Frontiers in Experimental Research on Changing Environments Conference in Halle, Germany.

Widdig M, Schleuss P-M, **Biederman LA**, Borer ET, Crawley MH, Kirkman KP, Seabloom EW, Wragg PD, Spohn M. 2020. How do microbes partition carbon under nitrogen and phosphorus addition in grassland soils? Biogeomon conference (International Symposium on Ecosystem Behaviour), Estonia.

Weldon S, **Biederman L**. 2019. Capturing Iowa Lakeside Lab's Dark Data. Iowa State University Symposium on Undergraduate Research & Creative Expression. Ames Iowa.

Weldon S, **Biederman L**. 2019. Preciptation patterns drive phenology in western prairie fringed orchid. National Conference on Undergraduate Research. Kennesaw Georgia.

Widdig M, Schleus P-M, **Biederman LA**, Borer ET, Crawley MJ, Kirkman KP, Seabloom EW, Wragg PD, Spohn M. 2019. Microbial carbon use efficency in grassland soils on three continents as dependent on nitrogen and phosphorus addition. European General Assembly, Geophysical Research Abstracts, Vienna Austria.

Widdigg M, Schleus P-M, Weig A, Guhr A, **Biederman LA**, Borer ET, Crawley MJ, Kirkman KP, Seabloom ET, Wragg PD, Spohn M. 2019. Phosphorus-solubilizing bacteria and phosphatase activity influenced by nitrogen and phosphorus addition in six grassland soils on three continents. International Phosphorus Workshop, Zurich Switzerland.

Widdig M, Schleuss PM, Weig A, Guhr, A, **Biederman LA**, Borer ET, Crawley MJ, Kirkman KP, Seabloom EW, Wragg PD, Spohn M. 2018. Effects of element inputs on P-solubilizing bacteria and on phosphatase activity in six grassland soils in South Africa, USA and England. Symposium on Phosphorus and Plants, Leuven Belgium.

Powell-Coffman JA, **Biederman LA**, Coffman C, Slagell A. 2014. Transformation of large-enrollment biology courses. PULSE Midwest and Great Plains Regional Conference, St. Louis, MO.

Sather, N, **Biederman L**, Anderson D, Beckman J, Prekker J, Spaeth D. 2014. Phenological data enhance understanding of fluctuations in federally threatened Western Prairie Fringed Orchid populations. Minnesota Society for Conservation Biology Conference. Minneapolis, MN.

CONFERENCE PRESENTATIONS continued

Biederman LA, Harpole WS. 2013. Biochar has mixed effects on prairie restoration. Ecological Society of America Annual Meeting, Minneapolis, MN.

Sather NP, **Biederman LA**, Prekker J. Beckman J, Anderson D. 2012. Phenological response of threatened *Platanthera praeclara* to environmental triggers. Phenology 2012 Conference, Milwaukee, WI.

Biederman LA, Harpole WS, Laird D, Heaton E. 2011. Biochar alters structure in perennial communities. Ecological Society of America Annual Meeting, Austin, TX.

Biederman LA, Harpole WS, Laird D, Heaton E. 2011. The effect of biochar along an agricultural gradient: fertility and plant productivity. 54th International Association for Vegetation Science Symposium, Lyon, France.

Sather NP, Anderson D, **Biederman LA**, Beckman J. 2011. Phenological observation enhances understanding of western prairie fringed orchid (*Platanthera praeclara*) biology in southwestern Minnesota. NatureServe Biodiversity without Boundaries Conference, Lied Lodge, NE.

Biederman LA, Boutton TW, Kantola IB. 2008. Nematode communities change following woody plant invasion of grassland. Ecological Society of America Annual Meeting, Milwaukee, WI.

Biederman LA, Whisenant SG, Boutton TW. 2006 Organic amendments direct soil food web function early in restoration. Soil Ecology Society 11th Biannual Meeting, Moab, UT.

Biederman LA, Whisenant SG. 2006. Amendment treatments direct the development of soil food web structure and function in restoration. Soils and Restoration Ecology Conference, DePaul University, Chicago, IL.

Biederman LA, Whisenant SG, Boutton TW. 2006. Indirect and direct effects of restoration treatments on soil food web structure in a landfill remediation. Soil Science Society of America Meeting, Indianapolis, IL.

Biederman, LA, Whisenant SG. 2006. Organic amendment placement creates differences in grass establishment, growth and resiliency in restoration. Ecological Society of America Annual Meeting, Memphis, TN.

Biederman LA, Whisenant SG. 2005. Changes in soil food web structure and function following amendment treatments in a landfill remediation. Ecological Society of America – INTECOL Joint Meeting, Montreal, Canada.

Biederman LA, Whisenant SG. 2005. Facilitating succession; the use of organic amendment location to initiate ecological processes in restoration. Society for Range Management Meeting, Fort Worth, TX.

CONFERENCE PRESENTATIONS continued

Biederman LA, Whisenant SG. 2003. Organic amendment placement, the soil ecosystem and plant community development on landfill topsoil. Society for Ecological Restoration International Conference, Austin, TX.

COURSES TAUGHT

Biological Processes in the Environment 2018 - present, Iowa state University.
Principles of Biology I, 2013 - present. Iowa State University.
Prairie Ecology 2019. Iowa Lakeside Laboratory.
Field Methods for Data Collection 2018. Iowa Lakeside Laboratory.
Quantitative Analysis of Field Data. 2018. Iowa Lakeside Laboratory.
Rangeland Communities. 2007, 2008. Guest Lecturer. Texas A&M University.
Rangeland Communities. 2005. Teaching Assistant. Texas A&M University.

SERVICE

Associate Editor: *Ecology and Evolution* (2016 – 2021).

Associate Editor: *Plant Ecology* (2010 – 2021).

Grant reviewer (ad hoc):

Iowa Science Foundation (2020)
National Science Foundation; Division of Environmental Biology (2017, 2016)
National Science Foundation; Systematic Biology and Biodiversity panel (2013)
National Science Foundation; Population and Community Ecology cluster (2013)
United States Department of Agriculture- Agricultural Research Service; Forage Seed and Cereal Research Unit (2015)
Autonomous Province of Bolzano in Northern Italy (2013)
Hungarian National Research, Development and Innovation Office (2016)

Textbook reviews:

Ecological Restoration and Environmental Change: Renewing Damaged Ecosystems by Alison. Preproposal. (2019)
Life: The Science of Biology, 11th ed. by Sadava et al. Instructor materials. (2016)
An Introduction to Ecological Restoration by Galatowitsch. Soil chapter. (2011)

SERVICE continued

Manuscript referee: *African Journal of Agricultural Research, Agriculture, Ecosystems and Environment, Agricultural Systems, Applied Soil Ecology, Archives of Agronomy and Soil Sciences, Biogeosciences, Biological Conservation, Canadian Field Naturalist, Caribbean Journal of Science, Cogent Food & Agriculture, Crop Protection, Data, Ecological Applications, Ecological Engineering, Ecological Restoration, Ecological Monographs, Ecology, Ecology Letters, Ecology and Evolution, Ecosphere*, *Ecosystems, Ecotoxicology and Environmental Safety, Environmental Science and Pollution Research, Field Crops Research, Forests, Functional Ecology, Global Change Biology, Global Change Biology – Bioenergy, Helminthologia, HortTechnology, Hydrologic Processes, Journal of Geophysical Research: Biogeosciences, Journal of Ecology, Journal of Hazardous Materials, Journal of Nematology, Land Degradation & Development, New Forests, New Phytologist, North American Prairie Conference Proceedings, Oecologia*, *Pedosphere*, *Pesquisa Agropecuária Tropical* (Agricultural Research in the Tropics), *Pakistan Journal of Agricultural Sciences, Pedobiologia, Plant Ecology, Plant & Soil, PLoS ONE, Plant Ecology & Diversity, Proceedings of the Royal Society B, Restoration Ecology, Science of the Total Environment, Science Postprint, Soil Biology & Biochemistry, Soil Science and Environmental management, Soil & Tillage Research, Soil Research, Soil Ecology, Studies in Educational Evaluation, Swedish Journal of Forest Research.*

Institutional service:

Mentor for First-year honors program (2 in 2014, 1 in 2013, 1 in 2012).
Mentor for senior capstone projects (1 in 2021, 1 in 2019, 2 in 2018, 2 in 2017, 1 in 2016, 1 in 2015, 2 in 2014).
Mentor for Biological Illustration project (1 in 2013).
Total Undergraduate mentees (1, in 2021, 1 in 2020, 1 in 2019, 4 in 2018, 3 in 2017, 7 in 2016, 6 in 2015, 19 in 2014-2011)
Mentor for the Research Experiences for Teachers program (2 in 2015)
Mentor for Post-doctoral Researcher (1 in 2015)
Faculty advisor for the ISU Ethical Eating Club (2013 – present)
Department committees: Executive Committee (2018-present), the Biology Program Committee (2018-present), Facilities Committee (2013-2018), ad hoc Biology 211 textbook selection committee (2014), Environmental Health & Safety contact for shared laboratories (2015-2018), Associate Graduate Faculty member for the Ecology and Evolutionary Biology major (2015-present), regular participation in 'Get to know faculty' panels (14 panels since 2015), Biology program representative CALS Family Weekend reception (2018-2019), Iowa Lakeside Laboratory liaison (2013-present), Board of Directors Iowa Lakeside Laboratory (2017-present)