

Curriculum Vitae
Jacob Michael Jungers

Research Assistant Professor
University of Minnesota
Dept. of Agronomy and Plant Genetics
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EDUCATION

- 2014 **Ph.D. Conservation Biology**, University of Minnesota
2008 **B.S. Biology**, emphasis in Ecology, University of Wisconsin – Oshkosh
2008 **B.S. Environmental Studies**, emphasis in Applied Environmental Science
University of Wisconsin – Oshkosh

EMPLOYMENT

- 2017 – current **Research Assistant Professor**, Department of Agronomy and Plant Genetics,
University of Minnesota
2016 – 2017 **USDA AFRI Postdoctoral Fellow**, University of Minnesota
2015 – 2016 **The Land Institute and Malone Family Foundation Fellow**, University of
Minnesota
2014 – 2015 **Research Associate**, Department of Agronomy and Plant Genetics,
University of Minnesota
2010 – 2014 **Graduate Research Assistant**, Conservation Biology Graduate Program,
University of Minnesota
2009 – 2010 **Research Coordinator**, Department of Ecology, Evolution and Behavior,
University of Minnesota
2008 – 2009 **Junior Scientist**, Cedar Creek Ecosystem Science Reserve

RESEARCH STATEMENT

My research objective is to improve and develop new cropping systems that provide high-value agricultural products, mitigate environmental pollution, and reduce greenhouse gas emissions. My research focuses on improving nutrient use efficiency of crops and cropping systems to increase farmer profitability and agricultural sustainability. I rely on the basic principles of ecology, field and laboratory experimentation, statistical analysis, and simulation modeling to contribute information to scientists, farmers, and policy makers.

GRANTS AND FELLOWSHIPS

- 2019 – 2024 Gutknecht, J. (PI), C. Fernandez, M. Hunter, **J. Jungers**, C. Sheaffer. Source: USDA NIFA. *Perennial crops to enhance soil health and sustain yields for climate extremes*. Recommended for funding: \$500,000.
- 2019 – 2022 **Jungers, J.** (PI of UMN subcontract). Source: Minnesota Environment and Natural Resources Trust Fund. *Accelerating perennial crop production to prevent nitrate leaching*. Recommended for funding: \$201,949.
- 2019 – 2022 Sheaffer, C., **J. Jungers**, V. Picasso Risso, J. Goplan, K. Fernandez. Source: USDA NIFA Alfalfa and Forage Research Program. *Evaluating Alfalfa Winter Survival*. \$297,557.
- 2019 – 2022 **Jungers, J.** (PI), T. Crews, V. Picasso, and C. Sheaffer. Source: Sustainable Agriculture Research & Education (SARE). *Intercropping the perennial grain Kernza with legumes for sustained economics and environmental benefits*. \$199,946.
- 2018 – 2020 **Jungers, J.** (PI), D. Wyse, C. Sheaffer, J. Anderson, P. Bajgain. Source: University of Minnesota Provost Office. *Accelerating commercialization of Forever Green crops for diversification of Midwest Agriculture*. \$125,000.
- 2018 – 2020 Johnson, G. (PI), A. Garcia y Garcia, **J. Jungers**, J. Strock, M.S. Wells. Source: Minnesota Soybean Research and Promotion Council. *Managing perennial biomass and food crops in Buffer Areas*. \$126,644.
- 2018 – 2021 **Jungers, J.** (PI), C. Sheaffer, D. Wyse. Source: General Mills Foundation. *Agronomics to increase and sustain intermediate wheatgrass grain yield: A pathway towards carbon sequestration*. \$213,357.
- 2018 – 2022 **Jungers, J.** (PI). Source: The Land Institute and Malone Family Land Preservation Foundation Perennial Agriculture. *Future Research on Agronomics and Environmental Impacts of Kernza Production in the Upper Midwest*. \$400,725.
- 2018 – 2020 **Jungers, J.** (PI of UMN subcontract), J. Gutknecht, and C. Sheaffer. Source: Minnesota Environment and Natural Resources Trust Fund. *Preventing nitrate contamination of groundwater using perennial grains*. \$250,000.
- 2017 – 2020 **Jungers, J.** (PI), J. Anderson, P. Bajgain, J. Gutknecht, C. Sheaffer, N. Tautges, and D. Wyse. Source: Minnesota Department of Agriculture – Forever Green Initiative. *Measuring intermediate wheatgrass root growth and morphology to enhance ecosystem services, prolong grain yield, and inform plant breeding*. \$137,000.

- 2017 – 2020 Wyse, D. (PI), J. Anderson, T. Crews, L. DeHaan, J. Gutknecht, F. Iutzi, N. Jordan, **J. Jungers**, C. Sheaffer, X. Zhang. Source: General Mills, Inc. Foundation. *Reducing greenhouse gas emissions through the development of the novel perennial grain crop Kernza®*. \$500,000.
- 2017 – 2019 Hegeman, A. (PI), **J. Jungers**, C. Sheaffer. Source: Minnesota Department of Agriculture Specialty Crop Block Grant. Cultivation of fireweed (*Chamerion angustifolium*), a native medicinal herb. \$51,053.
- 2017 – 2020 Sheaffer, C. (PI), J. Gutknecht, J. Grossman, **J. Jungers**, D. Wyse. Source: USDA Integrated Research, Education and Extension – Organic Transitions. *Perennial and annual organic transition systems to optimize soil health, carbon sequestration, and profitability*. \$498,508.
- 2016 – 2018 **Jungers, J.** (PI). Source: USDA AFRI Postdoctoral Fellowship. *Quantifying the greenhouse gas mitigation potential of a potential perennial grain crop; intermediate wheatgrass*. \$149,807.
- 2015 – 2016 **Jungers, J.** (PI). Source: The Land Institute and Malone Family Land Preservation Foundation Perennial Agriculture Research Fellowship. *Agronomic methods for increasing perennial grain yields of Kernza intermediate wheatgrass*. \$103,713.
- 2016 – 2019 Sheaffer, C. (PI), B. Ismail, **J. Jungers**, D. Wyse. Source: Minnesota Department of Agriculture – Forever Green Initiative. *Harvest timing and techniques to optimize Kernza grain yield and grain quality*. \$124,749.
- 2016 – 2019 Picasso, V. (PI), L. DeHaan, B. Heins, **J. Jungers**, L. Paine, C. Sheaffer, D. Schaefer Sustainable Agriculture Research & Education (SARE). Grazing management of “Kernza” intermediate wheatgrass as a dual-purpose crop. \$200,000.
- 2016 – 2018 Sheaffer, C. (PI), K. Cassida, **J. Jungers**, V. Marrone, S. Snapp, D. Wyse. Source: Ceres Trust Fund. *Grain and forage from intermediate wheatgrass – A new perennial grain crop*. \$179,284.
- 2016 – 2017 Sheaffer, C. (PI), J. Anderson, B. Heins, **J. Jungers**, W. Sadok, D. Wyse. Source: Minnesota Department of Agriculture – Forever Green Initiative. *Advanced management practices for enhancing profitability of intermediate wheatgrass*. \$98,405.
- 2014 – 2016 Sheaffer, C. (PI), J. Anderson, N. Ehlke, **J. Jungers**, D. Wyse. Source: University of Minnesota – Forever Green Initiative. *Solving production challenges to provide commercial perennial grain demands using intermediate wheatgrass*. \$92,780.

- 2014 – 2017 Sheaffer, C. (PI), G. Johnson, **J. Jungers**, M. S. Wells, D. Wyse. Source: Minnesota Department of Agriculture. *Growing polycultures for multiple high-value outputs: natural products, seed, and biomass*. \$233,300.
- 2014 – 2017 Zutz, M. **J. Jungers**, C. Sheaffer, D. Wyse. Source: Minnesota Department of Agriculture. *Intermediate wheatgrass: Managing a new perennial grain for food, forage, and bioenergy*. \$150,000.

PEER-REVIEWED PUBLICATIONS

In review

Heineck, G. C., **J. M. Jungers**, E. Gilbert, I. McNish, E. Watkins. In review. Using R-based Image Analysis to Quantify Rusts on Perennial Ryegrass. *The Plant Phenome Journal*.

Jungers, J. M., R. Noland, D. E. Kaiser, D. A. Samac, J. A. Lamb, M. S. Wells, J. F. S. Lamb, C. C. Sheaffer. In Review. Potassium fertilization affects alfalfa forage yield, nutritive value, root traits, and stand persistence. *Agronomy Journal*.

Sheaffer, C. C., J. M. Jungers. In review. Summer seeding alfalfa and red clover following spring grains. *Crop, Forage, and Turfgrass Management*.

Published

Jungers, J. M., L. R. DeHaan, D. J. Mulla, C. C. Sheaffer, D. L. Wyse. 2019. Reduced nitrate leaching in a perennial grain crop compared to maize in the Upper Midwest, USA. *Agriculture, Ecosystems and Environment*. **272**:63-73.

Tautges, N., **J. M. Jungers**, L. DeHaan, D. Wyse, C. C. Sheaffer. 2018. Maintaining grain yields of the perennial cereal intermediate wheatgrass in monoculture vs. biculture with alfalfa in the Upper Midwestern U.S. *Journal of Agricultural Science*. **156**:758-773.

Frahm, C. S., Tautges, N., **Jungers, J. M.**, Ehlke, N., Wyse, D. L., Sheaffer, C. C. 2018. Responses of intermediate wheatgrass to plant growth regulators and nitrogen fertilizer. *Agronomy Journal*. **110**:1028-1035.

Jungers, J. M., C. S. Frahm, N. E. Tautges, N. Ehlke, M. S. Wells, D. L. Wyse, C. C. Sheaffer. 2018. Growth, development, and biomass partitioning of the perennial grain crop *Thinopyrum intermedium*. *Annals of Applied Biology*. **172**:346-354.

Ryan, M.R., T. Crews, S. Culman, L. DeHaan, R. Hayes, **J. M. Jungers**, B. Bakker. 2018. Managing multifunctionality in perennial grain crops. *BioScience*. **68**:294-304.

Tautges, N., C. Flavin, T. Michaels, N. Ehlke, J. Lamb, **J. M. Jungers**, C. Sheaffer. 2017. Rotating alfalfa with dry bean as an alternative to corn-soybean rotations in organic systems in the Upper Midwest. *Renewable Agriculture and Food Systems*. **34**:41-49.

Jungers, J. M., L. DeHaan, K. Betts, C. C. Sheaffer, D. L. Wyse. 2017. Intermediate wheatgrass grain and forage yield responses to nitrogen fertilization. *Agronomy Journal*. **109**:462-472.

Jungers, J. M., J. O. Eckberg, K. Betts, M. E. Mangan, D. L. Wyse, C. C. Sheaffer. 2017. Plant roots and GHG mitigation in native perennial bioenergy cropping systems, *Global Change Biology: Bioenergy*. **9**:326-338.

Jungers, J. M., M. Brakke, A. Rendahl, C. C. Sheaffer. 2016. Identifying base temperature for alfalfa germination: Implications for frost seeding. *Crop Science*. **56**:2833-2840.

M. B. Kantar,* C. E. Tyl,* K. M. Dorn,* X. Zhang,* **J. M. Jungers**,* J. M. Kaser,* R. R. Schendel,* J. O. Eckberg,* B. C. Runck,* M. Bunzel, N. R. Jordan, R. M. Stupar, M. D. Marks, J. A. Anderson, G. A. Johnson, C. C. Sheaffer, T. C. Schoenfuss, B. Ismail, G. E. Heimpel, D. L. Wyse. 2016. Perennial grain and oilseed crops. *Annual Reviews of Plant Biology*. **67**:703-729.
*These authors contributed equally to this work.

Jungers, J. M., A. Clark, K. Betts, M. Mangan, C. C. Sheaffer, D. L. Wyse. 2015. Long-term biomass yield and species composition in native perennial bioenergy cropping systems. *Agronomy Journal*. **107**:1627-1640.

Jungers, J. M., T. Arnold, C. L. Lehman. 2015. Effects of harvesting biomass from conservation grasslands on waterfowl nest success and density. *American Midland Naturalist*. **173**:122-132.

Gamble, J., **J. M. Jungers**, D. L. Wyse, G. Johnson, J. A. Lamb, C. C. Sheaffer. 2015. Effect of harvest date on biomass yield, moisture, mineral concentration, and mineral export in low-input grasslands in Minnesota. *BioEnergy Research*. **8**:740-749.

Jungers, J. M., C. C. Sheaffer, J. A. Lamb. 2015. Effects of nitrogen, phosphorus, and potassium fertilizers on prairie biomass yield, ethanol yield, and nutrient removal. *BioEnergy Research*. **8**:279-291.

Jungers, J. M., D. L. Wyse, C. C. Sheaffer. 2015. Establishing native, perennial bioenergy crops with cereal grain companion crops. *BioEnergy Research*. **8**:109-118.

Jungers, J.M., J. E. Fargione, C. C. Sheaffer, D. L. Wyse, C. L. Lehman. 2015. Short-term harvesting of bioenergy from conservation grasslands maintains plant biodiversity. *Global Change Biology: Bioenergy*. **7**:1050-1061.

Jungers, J. M., J. E. Fargione, C. C. Sheaffer, D. L. Wyse, C. L. Lehman. 2013. Energy potential of biomass from conservation grasslands in Minnesota, USA. *PLoS One*. **8**(4): e 61209.

Jungers, J. M., C. L. Lehman, C. C. Sheaffer, D. L. Wyse. 2012. Characterizing grassland biomass for energy production and habitat in Minnesota. Proceeding to the 22nd North American Prairie Conference. 168-171.

Williams, S., **J. M. Jungers**, K. Johnson, C. Satyshur, M. DonCarlos, R. Dunlap, T. Mielke, J. Schaffer, D. Tilman, D. Wyse, R. Moon, T. Arnold, C. Lehman. 2012. Bioenergy from reserve

prairies in Minnesota: Measuring harvest and monitoring wildlife. Proceedings from Sun Grant National Conference: Science for Biomass Feedstock Production and Utilization, Volume 2, Chapter 5, New Orleans.

Jungers, J. M., J. J. Trost, C. L. Lehman, D. Tilman. 2011. Energy and conservation benefits from managed prairie biomass. *Aspects of Applied Biology: Biomass and Energy Crops IV*. **112**:147-151.

EXTENSION PUBLICATIONS

Sheaffer, C. C., N. J. Ehlke, K. A. Albrecht, **J. M. Jungers**, J. J. Goplen. 2018. Forage Legumes: Clovers, birdsfoot trefoil, cicer milkvetch, crownvetch and alfalfa. *Minnesota Agricultural Experiment Station*. Bulletin 608-2018.

Sheaffer, C. C., **J. M. Jungers**, J. Larson. 2018. Alfalfa field crop trial results. *Minnesota Agricultural Experiment Station*.

https://www.maes.umn.edu/sites/maes.umn.edu/files/2018_alfalfa_final.pdf

Sheaffer, C. C., **J. M. Jungers**, T. Hoverstad, W. Ihlenfeld. 2018. Corn silage field crop trial results. *Minnesota Agricultural Experiment Station*.

https://www.maes.umn.edu/sites/maes.umn.edu/files/2018_corn_silage_final2.pdf

EXTENSION PROGRAMMING AND PRESENTATIONS

- Co-developer of the Minnesota Winter Kernza Grower Meeting
- Co-developer of the “Kernza Growers Handbook”
- Developer of the NC SARE funded “Kernza Growers Network”
- Organizer of four field days on perennial crops and water quality
- Leader of the regional Kernza commercialization community meeting

MENTORING

Postdoctoral researchers

Nicole Tautges (2017-2018)

Christopher Fernandez (2018-current)

Mitchell Hunter (2018-current)

Manbir Rakkar (2018-current)

PhD students

Michelle Dobbratz (co-advising)

Garett Heineck (committee chair)

MS students

Evelyn Reilly (advising)

Stella Pey (co-advising)

Galen Bergquist (co-advising)

Dominic Christensen (co-advising)

PRESENTATIONS: * INVITED, † POSTER

Professional Society Meetings

- 2018 ***Water quality benefits from perennial grain crops.** Invited talk for 2018 ASA CSSA Annual Meeting symposium titled “Perennial grains for sustainable intensification of agricultural systems” – Baltimore, MD.
- 2018 **Nitrate leaching reductions to groundwater beneath a new perennial grain crop.** Presentation at the 2018 Minnesota Water Resources Conference – St. Paul, MN.
- 2018 ***Agronomic and water quality research on intermediate wheatgrass at UMN.** Invited talk for the 3rd Annual International Kernza Conference – Lindsborg, KS.
- 2017 ***Quantifying the environmental benefits of Kernza[®].** Invited talk and panelist for the Perennial Grains Symposia at the Annual Green Lands Blue Waters Conference – Madison, WI.
- 2017 **Limited nitrate leaching beneath intermediate wheatgrass.** 2017 ASA, CSSA, and SSSA Annual Meeting – Tampa, FL.
- 2017 **The potential for water quality benefits from a new perennial grain crop: Intermediate wheatgrass.** Soil & Water Conservation Society International Conference – Madison, WI.
- 2017 ***Quantifying the environmental benefits of Kernza[®].** 2nd Annual International Kernza Conference – St. Paul, MN.
- 2016 **Nitrogen fertilizer rates for optimized grain production of intermediate wheatgrass.** 2016 ASA, CSSA, and SSSA Annual Meeting – Phoenix, AZ.
- 2016 ***Agronomic methods for maximizing intermediate wheatgrass grain yields.** International Kernza Research Conference – Wilson, KS.
- 2015 ***The effect of nitrogen fertilization and species composition on greenhouse gas mitigation potential in perennial grassland bioenergy cropping systems.** ASA, CSSA, and SSSA Annual Meeting – Minneapolis, MN (submitted oral presentation abstract was selected as invited symposia speaker).
- 2015 ***Agronomic methods to increase intermediate wheatgrass grain yields.** Green Lands Blue Waters Annual Conference – Minneapolis, MN (moderator of breakout session and invited speaker).

- 2014 ***Agronomic methods to increase intermediate wheatgrass grain yields.** New Roots for Ecological Intensification – Workshop hosted by The Land Institute – Estes Park, CO.
- 2013 **Complementarity in ecosystem services: Creating a vision for agriculture, energy, and society.** Ecological Society of America Annual Meeting – Ignite talk. Minneapolis, MN.
- 2013 **†Linking plant community composition to bioenergy potential in conservation grasslands.** Ecological Society of America Annual Meeting. Minneapolis, MN.
- 2013 **Can conservation grasslands be managed for wildlife and bioenergy?** Midwest Conservation Biomass Alliance Annual Meeting – Kirksville, MO.
- 2012 **†Managing conservation grasslands for bioenergy and wildlife: Measuring the effects of biomass harvest on waterfowl and pheasants.** The Wildlife Society Annual Meeting – Portland, OR.
- 2011 **Energy and conservation benefits from managed prairie biomass.** Association for Applied Biologists Biomass and Energy Crops Conference – Champaign, IL.
- 2010 **†Managing prairies for bioenergy and wildlife: Supporting ecosystem services and local renewable energy.** North American Prairie Conference – Cedar Falls, IA.

Extension Presentations

- 2019 **Kernza Yield Components.** Remote presentation for the Cornell Perennial Grains Meeting – Ithaca, NY.
- 2018 **Kernza Field Day.** Organized and presented at a Kernza field day – Chatfield, MN.
- 2018 **Kernza Field Day.** Organized and presented at a Kernza field day – Pipestone, MN.
- 2018 ***The Kernza Kraze: An update on agronomics and commercialization.** Invited talk for the annual Minnesota Turf Seed Council Symposium – Roseau, MN.
- 2017 **Kernza Field Day.** Presented at a Kernza field day supported by MDA Demonstration grant on A-Frame Farms – Madison, MN.
- 2016 ***Progress on managing intermediate wheatgrass.** Field talk to ~50 farmers – Roseau, MN.

- 2016 ***Agronomic methods for maximizing intermediate wheatgrass grain yields.** Northern Grass Seed Growers Symposium – Roseau, MN.
- 2015 ***Intermediate wheatgrass: A new perennial grain crop.** Northern Grass Seed Growers Symposium – Roseau, MN.
- 2014 ***Managing grasslands for bioenergy and ecosystem services.** Northern Grass Seed Growers Symposium – Roseau, MN.
- 2013 ***Bioenergy from native polycultures.** Forever Green Field Research Day – St. Paul, MN.

Outreach Presentations

- 2019 **Overview of Kernza Agronomics Research.** Co-delivered with M. Hunter and C. Fernandez at the Forever Green Research Meeting – St. Paul, MN.
- 2018 **Perennial grain crop research.** Field tour presentation to Izaak Walton League – St. Paul, MN.
- 2018 ***Brown Bag Lunch Seminar.** Co-presented with Don Wyse to Minnesota Department of Agriculture employees and live via webEx to remote agency participants – St. Paul, MN.
- 2018 ***Forever Green research on Kernza perennial grains.** Field talk to ~60 attendees of the US Water Alliance One Water Summit – St. Paul, MN.
- 2018 ***The Forever Green Initiative.** Legislative testimony before the Minnesota House Agriculture Finance Committee hearing – St. Paul, MN.
- 2018 **† Intermediate wheatgrass (Kernza®) agronomics at the University of Minnesota.** Poster presentation to R&D executives from Pepsico – St. Paul, MN.
- 2018 **Accelerating perennial crop production to prevent nitrate leaching.** Legislative testimony before the Legislative Citizen Commission for Minnesota Resources for research funding – St. Paul, MN.
- 2017 **Preventing nitrate contamination of groundwater using perennial crops.** Legislative testimony before the Legislative Citizen Commission for Minnesota Resources for research funding – St. Paul, MN.
- 2017 **Kernza® intermediate wheatgrass: A new perennial grain crop.** Presentation to a food company CEO sustainability task force – St. Paul, MN.

- 2017 **Kernza® intermediate wheatgrass: A new perennial grain crop.** Presentation to Lukas Walton and Walton Family Foundation visitors – St. Paul, MN.
- 2017 ***UMN Forever Green Initiative.** Sustainable Farming Association, Crow Wing Chapter – Minneapolis, MN.2017
- 2016 ***Profitable perennials for improving water quality and providing healthy grains.** Buffer Science and Design Symposium – St. Paul, MN.
- 2016 ***Forever Green research on Kernza® perennial grains.** Field talk to ~120 attendees of the National Association for Conservation Districts Leadership Forum – St. Paul, MN.
- 2016 ***New crops for sustainable agriculture.** Field talk to class of high school students from River’s Edge Academy – St. Paul, MN.
- 2016 ***Environmental and agronomic research on intermediate wheatgrass.** Field talk to ~123 Minnesota legislators, state department commissioners, and NGO leaders – St. Paul, MN.
- 2014 ***Reducing nitrogen pollution in ground water with perennial grasses.** Legislative Citizen Committee on Minnesota Natural Resources – St. Paul, MN.
- 2014 **Projects for MCBA.** Midwest Conservation Biomass Alliance – Facilitator and presenter – St. Paul, MN.
- 2014 ***Managing conservation grasslands for bioenergy and wildlife.** Minnesota Department of Natural Resources Science Chat Webinar – St. Paul, MN.
- 2013 **Can conservation grasslands be managed for wildlife and bioenergy?** University of Minnesota Conservation Biology Seminar Series – St. Paul, MN.
- 2013 **Managing WMAs for wildlife and bioenergy: Ecologic and economic tradeoffs.** Research results summary to the Minnesota Department of Natural Resources – Hutchinson, MN.
- 2012 ***Ecology and management of biomass and energy.** Third Crops Meeting – Perennial Crops for Bioenergy – Fairmont, MN.
- 2011 Research summary to visiting Norwegian delegates – St. Paul, MN.
- 2010 ***Analyzing bioenergy potential of conservation grasslands: Tracking ecosystem changes in a biomass harvesting system.** Minnesota Department of Natural Resources Briefing – Lac Qui Parle, MN.
- 2010 *[†]Tallgrass Prairie for Biofuel Conference – Ridgetown, Ontario.

2010 *Missouri Prairie Foundation Board of Directors meeting – Gray Summit, MO.

Academic Seminars

- 2018 ***Enhancing agricultural productivity and sustainability with alfalfa and new perennial crops.** Seminar for USDA-ARS Plant Science Unit and the University of Minnesota Dept. of Soil, Water, and Climate – St. Paul, MN.
- 2017 ***Progress and pitfalls in the development of a perennial grain crop.** University of Wisconsin Agronomy and Horticulture Program Seminar – Madison, WI.
- 2016 ***Harnessing the power of perennials.** Seminar for the University of Wisconsin Oshkosh Biology Dept. – Oshkosh, WI.
- 2016 ***Progress and pitfalls in the development of a perennial grain crop.** Seminar for USDA-ARS and Washington State University– Pullman, WA.
- 2015 ***Agronomic methods to increase intermediate wheatgrass grain yields.** UMN’s Forever Green Seminar Series. 2015 – St. Paul, MN.
- 2012 **Assessing bioenergy potential of conservation grasslands in Minnesota.** University of Minnesota Conservation Biology Seminar Series – St. Paul, MN.
- 2010 **Managing prairies for bioenergy and wildlife.** Cedar Creek LTER Seminar – Bethel, MN.
- 2008 †Oshkosh Undergraduate Research Highlights. 2008 – University of Wisconsin, Oshkosh, WI.

TEACHING AND RESEARCH EXPERIENCE

- 2018 **Guest lecturer.** Agronomy 5311: Research Methods in Crop Improvement and Production, UMN
- 2017 - 2018 **Guest lecturer.** Food Systems 2101: Plant Production Systems, UMN
- Spring 2016 **Curriculum co-developer & guest lecturer.** Food Systems 2101: Plant Production Systems, UMN
- Summer 2015 **Intern Advisor.** Horticulture 4096: Internships for Environmental Horticulture, UMN
- Spring 2015 **Curriculum co-developer & guest lecturer.** Food Systems 2101: Plant Production Systems, UMN

- Spring 2014 **Curriculum co-developer & guest lecturer.** Food Systems 2101: Plant Production Systems, UMN
- Fall 2013 **Teaching Assistant.** Biology 3407/5407: Ecology, UMN
- 2013 – 2014 **Graduate Research Assistant.** Department of Agronomy and Plant Genetics, UMN
- 2010 – 2013 **Graduate Research Assistant.** Department of Ecology, Evolution and Behavior, UMN
- Fall 2012 **Teaching Assistant.** Biology 2022: General Botany, UMN
- 2009 – 2010 **Research Coordinator.** Department of Ecology, Evolution and Behavior, UMN
- 2008 – 2009 **Project Coordinator.** Proposed Whole Earth Dynamics Graduate Program, UMN
- 2008 **Research Intern.** Cedar Creek Ecosystem Science Reserve
- 2008 **Research Technician.** Department of Microbiology, University of Wisconsin Oshkosh
- 2007 – 2008 **Research Technician.** Stream Ecology Lab, University of Wisconsin Oshkosh

REVIEWER FOR PEER-REVIEWED JOURNALS

Journal of Applied Ecology; Ecological Applications; Ecosystems; Global Change Biology; Bioenergy; Renewable Agriculture and Food Systems; Restoration Ecology; BioEnergy Research; Journal of Soil, Water, and Climate; PLoS One; Biomass and Bioenergy; Acta Agriculturae Scandinavica;

HONORS AND AWARDS

- 2012 **Conservation Biology Travel Award, UMN (\$300)**
- 2011 **Conservation Biology Summer Fellowship, UMN (\$4000)**
- 2010 **Outstanding Conservation Biology Graduate Student Award, UMN**
- 2008 **Westbrook Award, Environmental Studies, UWO**
- 2008 **Environmental Studies Leadership Award, UWO**
- 2007 **Environmental Studies Leadership Certificate of Appreciation, UWO**

ACTIVITIES

Green Lands Blue Waters One Water Summit Delegate 2018
 Chair of the Agronomy Society of America Perennial Grains Community 2018

Vice Chair of the Agronomy Society of America Perennial Grains Community 2017
Member of Agronomy Society of America
Founding member of Midwest Conservation Biomass Alliance
Former member of the Ecological Society of America 2014
Former member of the Wildlife Society 2012
Council of Graduate Students – Program Representative 2011-2012 - UMN
Environmental Studies Club President 2006-2008 - UWO
Elected Campus Sustainability Committee 2007 - UWO

REFERENCES

Dr. Craig Sheaffer, Professor, Department of Agronomy and Plant Genetics, University of Minnesota

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Dr. Clarence Lehman, Professor and General Advisor to the Dean, College of Biological Sciences, University of Minnesota

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Cell phone: 612-325-0745

Richard Warner, Director (retired), Green Lands Blue Waters

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Cell phone: 540-273-2207

Dr. Lee DeHaan, Plant Breeder, The Land Institute

Email: lrdehaan@gmail.com

Office phone: 785-823-5376