JESSICA R. MIESEL

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SUMMARY OF INTERESTS

Ecosystem ecologist focused on understanding fire effects on terrestrial carbon pools and fluxes, and biogeochemical processes in natural and managed ecosystems, with a key focus on characterizing pyrogenic carbon in fire-prone ecosystems. Teaching strategies integrate leadership and professional development topics with disciplinary training in natural resources and environmental sciences.

EDUCATION

Ph.D. Evolution, Ecology and Organismal Biology, The Ohio State University — 2009
Graduate Minor in Environment and Natural Resources
Dissertation: Restoring Mixed-Conifer Forests with Fire and Mechanical Thinning: Effects on Soil Properties and Mature Conifer Foliage
Advisor: Ralph E.J. Boerner

B.Sc. Life & Earth Sciences, Otterbein College — 2001
Summa cum laude and With Honors. Ecology concentration, Chemistry minor
Honors Thesis: Natural Establishment of Conifer Seedlings on the Muddy River Mudflow, Mount St. Helens, Washington

PROFESSIONAL EXPERIENCE

Associate Professor, Plant, Soil and Microbial Sciences, Michigan State University	2021–present
Associate Professor, Forestry, Michigan State University	2021–present
Assistant Professor, Plant, Soil and Microbial Sciences, Michigan State University	2017–2021
Assistant Professor, Forestry, Michigan State University	2013–2021
Faculty Affiliate, Gender, Justice & Environmental Change	2015–present
Faculty Affiliate, Environmental Science & Policy Program	2014–present
Faculty Affiliate, Ecology, Evolution, & Behavior Program	2013–present
Postdoctoral Associate, Forest Ecosystem Restoration and Ecology, School of Environment & Natural Resources, The Ohio State University (Advisor: P. C. Goebel) Visiting Scholar, Forest and Wildlife Ecology, UW-Madison	2011–2012
Postdoctoral Associate, Grassland Ecology, Department of Agronomy, University of Wisconsin, Madison (Advisors: R. Jackson and M. Renz)	2009–2011
Graduate Teaching Associate, Department of Evolution, Ecology and Organismal Biology (EEOB), The Ohio State University	2005–2008
Graduate Research Associate, EEOB, The Ohio State University	2004, 2005
Assistant Land Steward, Michigan Chapter of The Nature Conservancy	2004
Botany and Fire Biological Technician, Green Mountain National Forest	2002-2003
Backcountry Ecology and Botany Technician, Colorado Natural Heritage Program	2002
Fire Effects Monitor, Rocky Mountain National Park, National Park Service	2001
Fisheries and Aquatic Habitat Technician, Division of Surface Water, Ohio EPA	2000
Vegetation Monitor, Mount St. Helens National Volcanic Monument, US Forest Service	1999

OTHER TRAINING

Forest Vegetation Simulator (FVS). USDA Forest Service, Virtual. April 2020.

Interagency Fuels Treatment Decision Support System (IFTDSS): Fire Behavior Modeling and Hazard & Exposure Analysis. Lake States Fire Science Consortium & Kalamazoo Nature Center, Kalamazoo, MI. 06 February 2020.

IR/Raman Spectroscopy Training Course. Bruker Optics, Billerica, MA. 11 – 14 September 2017.

Mid-infrared spectral library data access & modeling workshop (with R. Ferguson). USDA NRCS Kellogg Soil Survey Laboratory, Lincoln, NE. 06 – 10 February 2017.

Combining Computational Models and Experimental Data. KINEROS soil erosion modeling workshop held at University College Dublin, Ireland, 13 July 2015.

Practical Techniques for Infrared Spectral Interpretation. Unity Lab Services, ThermoFisher Scientific, Madison, WI. 4 – 8 May 2015.

Milestones in Fire Effects on Soil Erosion Research. Short-course held at Mykolas Romeris University, Lithuania. 01 July 2013.

Summer Soil Institute. Colorado State University Summer Soil Institute, Fort Collins, CO. 12 – 26 June 2011.

National Wildfire Coordinating Group wildland firefighter qualifications and training:
S-130 Firefighter Training (Active: Firefighter Type II; Technical Specialist/Fire Ecologist)
S-190 Introduction to Wildland Fire Behavior
S-290 Intermediate Wildland Fire Behavior
S-212 Wildfire Powersaws
RX-340 Introduction to Fire Effects

PROFESSIONAL DEVELOPMENT IN LEADERSHIP AND COLLABORATION

Life and Leadership Potentials workshop. Institute for Professional Excellence in Coaching, online. 30 July – 01 August 2021.

Race in America. Seven-week short-course on international inclusion, diversity, and racial awareness. Global Equity Forward, online. 22 January – 15 March 2021.

Faculty Mentor Education Workshop. MSU Kellogg Biological Station, Hickory Corners, MI. 29 January 2020.

ADVANCEGeo Partnership: Bystander Intervention Train the Trainer Workshop. ADVANCEGeo, Kansas State University, Lawrence, KS. 08-09 January 2020.

Leadership Skills for Success in the Scientific Workforce. Earth Science Women's Network, Boulder, CO. 28-30 October 2018.

Building Capacity for Resilience as a Leader. MSU Human Resources Leadership Seminar, East Lansing, MI. 06 December 2017.

Conflict, Collaboration & Consensus in Natural Resources. Michigan State University Extension. Workshop held at the Kettunen Center, Tustin, MI. 2-3 March and 14-15 April 2015.

Faculty Success Program. National Center for Faculty Development & Diversity. Fifteen-week online workshop. Spring 2015. (Participant in Alumni program, Summer 2015 – present.)

Networking and Communication. 2012 Environmental Science Women's Network Professional Development Workshop, Madison, WI. 4-6 June 2012.

6th Annual Writing Retreat for Women in the Geosciences. Geoscience Academics in the Northeast (funded by NSF ADVANCE Grants NSF-0620101 and NSF-0620087). 29 July – 3 August 2012.

Public Participation & Engagement: Inclusive Processes and Tools for Collaboration. UW-Madison Office of Human Resource Development (facilitated by H. Webne-Behrman), Madison, WI. 26 October – 30 November 2009.

Preparing Future Faculty Fellow. Competitive professional development program focused on training PhD students for careers as faculty members; included teaching mentorship with faculty member at Wittenberg University (Springfield, OH). The Ohio State University (2008 – 2009).

AWARDS AND HONORS

Certified Wildland Fire Ecologist, Association for Fire Ecology	2018
Fellow, Au Sable Institute of Environmental Studies	2008 - 2010
Preparing Future Faculty Fellow, The Ohio State University	2008 - 2009
The Byron Fellowship for Emerging Leaders	2009
Janice C. Beatley Herbarium Fund Award, The Ohio State University	2006, 2008
Edward J. Ray Award for Scholarship & Service, OSU Council of Graduate Students	2007, 2008
Green Mountain National Forest Employee Merit Award	2003
President's Scholar, Otterbein College	1997 - 2001
Outstanding Honors Program Student, Otterbein College	2001
James V. Miller and George J. Phinney Endowed Awards	2001
Life Science Endowed Awards (Torch & Key, and E. Jeanne Willis)	2000

MEDIA

1. Rudolph, C. USDA NIFA research award profiled in MSUToday. 17 February 2022: https://msutoday.msu.edu/news/2022/msu-researcher-receives-$750K-grant-to-examine-effects-of-wildfire-burn-severity-on-soil-health.
2. Orttenburger, M. 2021. Sparks and flames: A series about the past, present and future of fire in Michigan. https://sparksandflamesmi.com/. Interviewed as topical expert on fire and climate change.
3. Mayer, A. 2021. Senators, forest advocates looking to bring back more prescribed burns. AgriPulse, 07 July 2021. https://www.agri-pulse.com/articles/16071-senators-forest-advocates-looking-to-bring-back-more-prescribed-burns. Interviewed as topical expert on prescribed fire.
4. Interviewed by Detroit NPR (WDAT, Tia Graham) on California fire research. 10 July 2020.
5. Interviewed by WCMU Public Radio (Hunter Dood) on fire research award and fire in Michigan jack pine forests. 07 July 2020.
6. Rudolph, C. CalFire research award profiled in MSU AgBioResearch news. 07 July 2020: https://www.canr.msu.edu/news/msu-researcher-receives-454-000-grant-to-evaluate-forest-resilience-recovery-from-wildfires.
7. Profiled in Otterbein University alumni magazine by K. Forester. 2020. Alumna Protects Communities through Wildfire Research. Otterbein Towers 93(1):23.

8. Interviewed by Detroit NPR (WDAT, Allison Pirog) on fire risk in Michigan's Northern Lower Peninsula and Upper Peninsula. 20 June 2020.
9. Maezumi, S.Y., J.R. Miesel, P.E. Higuera, and L. Kobziar. 2020. Fire as a fundamental ecological process. Journal of Ecology the Blog. 08 June 2020: https://jecologyblog.com/2020/06/08/fire-as-a-fundamental-ecological-process/
10. Leman, J. 2019. Severe wildfires spark population boom in fungi and bacteria. Nature news, 16 January 2019: https://www.nature.com/articles/d41586-019-00151-8. Interview as topical expert on recent publication.
11. Miesel, J. 2018. ESA Early Career Ecologist Section blog post on workplace bullying and harassment is highlighted on the NSF ADVANCEGeo's webpage for tips on Responding to Hostile Behaviors: https://serc.carleton.edu/advancegeo/resources/responding.html.
12. Thompson, E. 2017. Following carbon in an age of fire. EOS 98, 11 September 2017: https://doi.org/10.1029/2017EO080981. AGU Journals: Biogeosciences Research Spotlight on Maestrini et al. (2017).
13. "Black Carbon in the Environment" Environmental Science and Policy Program Interdisciplinary Team Working Group featured in Whetstone, H. 2015. The biochar boon. MSU AgBioResearch Futures 33 (1 & 2):10-14.

FUNDING

Research awards

1. Integrating biochar into best agricultural practices for soil health in corn-soybean systems. 01 July 2022 – 30 June 2024. Michigan State University Project GREEEN $80,000. Lead Investigator.
2. Sustaining critical forest ecosystem services from the ground up: Evaluating the consequences of burn severity on soil health. 01 January 2022 – 29 September 2022. USDA NIFA $749,163. Lead Investigator.
3. Investigating interactions between soil microbial communities and soil organic matter dynamics along climate and vegetation gradients. 01 October 2021 – 29 September 2022. FICUS Research, US DOE User Award for Environmental Molecular Sciences Laboratory and the Joint Genome Institute, in-kind Value of EMSL Support $142,031. Lead Investigator.
4. Lake States Fire Science Consortium Knowledge Exchange Renewal. 01 October 2021 – 30 September 2023. Joint Fire Science Program $46,207 (Total award $300,000). Lead Investigator: E. Toman. Co-Investigator.
5. Determining opportunities and challenges for incorporating biochar into a sustainable regional bio-economy. 01 July 2021 – 30 June 2023. Michigan State University Project GREEEN $80,000. Lead Investigator.
6. Developing biochar Extension and demonstration programming for Michigan's plant industries. 01 July 2021 – 30 June 2023. Michigan State University Project GREEEN $49,898. Lead Investigator.
7. Developing spectral libraries for predicting soil properties in Michigan. 01 July 2020 – 30 June 2022. Michigan State University Project GREEEN $70,000. Lead Investigator.

8. Ecosystem resilience and climate-adaptive forest management strategies. 01 October 2020 – 30 September 2025. USDA Forest Service, Northern Research Station $159,997. Lead Investigator: C. Kern. Co-Investigator.
9. Lake States Fire Science Consortium Knowledge Exchange Renewal. 01 October 2020 – 30 September 2021. Joint Fire Science Program $19,735 (Total award $153,000). Lead Investigator: E. Toman. Co-Investigator.
10. Evaluating forest resilience and carbon recovery using a chronosequence of co-located pre-, active-, and post-wildfire measurements in California mixed-conifer forests. 01 April 2020 – 31 March 2024. California Climate Investments, CAL FIRE Forest Health Research Program $453,078. Lead Investigator.
11. Biochar and environmental quality: investigating effects of novel agricultural amendments on soil organic matter content and stability. 01 July 2019 – 30 June 2021. Michigan State University Project GREEEN $80,000. Lead Investigator.
12. Which organisms benefit from biochar: microbes, weeds, or conifer seedlings? 01 Oct 2017 – 01 August 2020. Michigan Department of Agricultural & Rural Development Specialty Crop Block Grant (in partnership with the Michigan Christmas Tree Association) $74,673. Lead Investigator.
13. Lake States Fire Science Consortium Knowledge Exchange Renewal. 01 October 2017 – 30 September 2020. Joint Fire Science Program $54,882 (Total award $449,484). Lead Investigator: E. Toman. Co-Investigator.
14. Manipulating soil heating patterns to optimize barrens restoration. 01 October 2015 – 15 August 2020. Joint Fire Science Program $312,412 (Total award $380,022). Lead Investigator: B. Sturtevant. Co-Investigator; Institutional Lead. *Additional $55,407 provided as budget modifications during award.*
15. Can biochars protect Christmas tree seedlings from freezing cold temperatures and drying soils? Investigating seedling growth responses and relationships with symbiotic soil microbes. 01 June 2017 – 31 May 2019. Michigan State University Project GREEEN $39,952. Lead Investigator.
16. Persistent Effects of Prescribed Fire in Red Pine Ecosystems: Lessons from a 50-year-old Study. USDA Forest Service Forest Health Monitoring Program, Fire Plan $47,239 (Total award $92,083). 01 May 2014 – 30 April 2019 (project start date delayed to May 2015 because of late notification of award in 2014). Lead Investigator: C. Kern. Co-Investigator.
17. Characterizing ectomycorrhizal truffles and mushrooms in Christmas tree farms and nurseries to develop novel secondary specialty crops. Michigan State University Project GREEEN $79,961. 01 July 2016 – 30 June 2018. Lead Investigator: G. Bonito. Co-Investigator.
18. Lake States Fire Science Consortium Knowledge Exchange Renewal. Joint Fire Science Program $39,471 (Total award $262,497). 01 October 2015 – 30 September 2017. Lead Investigator: P.C. Goebel. Co-Investigator.
19. Establishment of a field comparison of contrasting biochar types and application rates for Michigan Christmas tree production. Michigan Christmas Tree Association, 01 August 2015 – 31 July 2016, $5,991. Lead Investigator.
20. Black Carbon in the Environment. Michigan State University, Environmental Science and Policy Program Interdisciplinary Team Building Initiative $20,000. 01 September 2014 – 31 August 2016. Lead Investigator.

21. How Does Wildfire Severity Influence Post-Fire Nutrient Cycling in Forest Soil? USDA Forest Service Forest Health Monitoring Program, Fire Plan $46,000. 01 June 2014 – 31 May 2016. Lead Investigator.
22. Fire Science Network and Delivery System for Fire-Dependent Ecosystems of the Northern Lake States. Joint Fire Science Program $26,036 (Total award $299,313). Lead Investigator: P.C. Goebel. 15 August 2013 – 14 August 2015. Co-Investigator.
23. Biochar amendments in sandy soils: evaluating effects on soil moisture, nutrient losses and tree seedling growth. Michigan State University Project GREEEN $64,887. 01 May 2013 – 30 May 2015. Lead Investigator.
24. Eastern Tallgrass Prairie and Oak Savanna Fire Science Consortium. Joint Fire Science Program $300,000. 14 November 2011 – 31 December 2013. Lead Investigator: P. Zedler, University of Wisconsin-Madison. Collaborator (UW-Madison prohibits postdoctoral associates as Co-Investigators).
25. Eastern Tallgrass Prairie and Oak Savanna Fire Science Consortium (Planning Grant). Joint Fire Science Program $71,743. 15 March 2011 – 31 March 2012. Lead Investigator: P. Zedler, University of Wisconsin-Madison. Collaborator (UW-Madison prohibits postdoctoral associates as Co-Investigators); co-initiated proposal team and coordinated proposal development and submission.

Other awards

1. Professional Development Microgrant: Partnership building for new research directions with Tribal institutions. MSU College of Agriculture and Natural Resources and AgBioResearch $1,434. Spring 2021.
2. Professional Development Microgrant: Soil heating instrumentation and analysis workshop. MSU College of Agriculture and Natural Resources and AgBioResearch $3,000. Spring 2018.
3. Teaching and Learning Environment funding for portable greenhouse gas analyzer to support undergraduate field educational opportunities; MSU Office of the Provost $63,700 (plus $5,000 match from Department of Forestry). Awarded Summer 2016.
4. Non-Recurring Funds for acquiring a portable X-Ray Fluorescence analyzer, MSU AgBioResearch, $54,000 (plus $6,000 match from Department of Forestry). Spring 2016.
5. Professional Development Microgrant: Mid-infrared spectroscopy for soil analysis. MSU College of Agriculture and Natural Resources and AgBioResearch $2,500. Spring 2016.
6. Teaching and Learning Environment funding for modernizing Forest Ecology (FOR 404) and other course field laboratory instruments, MSU Office of the Provost $47,565. Awarded Summer 2015.
7. Special Foreign Travel Fund award, MSU International Studies and Programs Dean's Office $871. Summer 2015.

PEER-REVIEWED PUBLICATIONS

Symbols indicate ‡ postdoctoral, †† graduate or † undergraduate student advisees

Submitted

Córdova Martínez, S.C., A. Kravchenko, **J. Miesel**, and G.P. Robertson. *In Review, 2022.* Whole-profile changes in soil carbon and nitrogen after 25 years of agricultural and conservation management. Global Change Biology.

Uhelski, D.M., E. Kane, R. Chimner, K. Heckman, **J. Miesel,** and L. Xie. *In Review, 2022.* Pyrogenic carbon content of peat soils estimated using FTIR spectrometry. Mires and Peat.

Shuman, J., J. Balch, R. Barnes, P. Higuera, C. Roos, D. Schwilk, E. Stavros,...**J. Miesel** (+80 additioanl authors). *In Review, 2022.* Reimagine Fire Science for the Anthropocene. PNAS Nexus.

‡Birch, J.D., M.B. Dickinson, A. Reiner, E. Knapp, J.A. Lutz, and **J.R. Miesel.** *In Review, 2022.* Wildfire fuel consumption and fire energy are determined primarily by pre-fire forest floor loading in California mixed-conifer ecosystems. International Journal of Wildland Fire.

Ochoa-Hueso, R., M. Delgado-Baquerizo, A.C. Rissch, L. Ashton, D. Augustine, N. Belanger, S. Bridgham, A.J. Britton, J.J. Camerero, G. Cornelissen, J.A. Crawford, A. Diochon, Feike Dijkstra, S. Earl, J. Edgerley, H. Epstein, A. Felton, J. Fortier, D. Gagnon, K. Greer, H.M. Griffiths, C. Halde, H.M. Hanslin, L.I. Harris, J. Hartsock, P. Hendrickson, K.A. Hovstad, J.Hu, A. McIntosh, A.D. Jani, K. Kent, D. Kerdraon-Byrne, S. Darshan, S.Khalsa, D.Y.F. Lai, F. Lambert, J.M. LaMontagne, S. Lavergne, B.A. Lawrence, K. Littke, A.C. Leeper, M.A. Licht, M.A. Liebig, J.S. Lynn, J.E. Maclean, V. Martinsen, M.D. McDaniel, **J.R. Miesel,** J. Miller, M.J. Mulvaney, G. Moreno, L. Newstead, R.J. Pakeman, J. Pergl, B.D. Pinno, J. Piñeiro, K. Quigley, P. Reed, V. Rolo, J. Rudgers, P.M. Rutherford, E.J. Sayer, L. Serrano-Grijalva, M. Strack, N. Sukdeo, A. Taylor, B. Truax, L.J.S. Tsuji, N. van Gestel, K. Van Sundert, M. Vítková, R. Weigel, M.J. Wilton, Y. Yano, E. Teen, T.M. Radtke, B.M. Vaness, E. Bremer. *In Review, 2022.* Bioavailability and coupling of chemical elements in soils worldwide. Nature Geoscience.

Published

1. ††Adkins, J., K.M. Docherty, and **J.R. Miesel.** 2022. Copiotrophic bacterial traits increase with burn severity one year after a wildfire. Frontiers in Forests and Global Change. *In Press.* https://doi.org/10.3389/ffgc.2022.873527
2. Brady, M.K., E.J. Hanan, M.B. Dickinson, **J.R. Miesel,** L. Wade, and J. Greenberg. 2022. How interactions between wildfire and seasonal soil moisture fluxes drive nitrogen cycling in northern Sierra Nevada forests. International Journal of Wildland Fire. *In Press.*
3. Brady, M., M. Dickinson, **J. Miesel,** C. Wonkka, K. Kavanagh, A. Lodge, W. Rogers, H. Starns, D. Tolleson, M. Treadwell, D. Twidwell, and E. Hanan. 2022. Soil Heating in Fire (SheFire): a model and measurement method for estimating soil heating and effects during wildland fires. Ecological Applications. *In Press.* https://doi.org/10.1002/eap.2627
4. Helmberger, M., **J.R. Miesel,** L.K. Tiemann, and M.J. Grieshop. 2022. Soil fauna generate microplastics from polystyrene foam debris. Journal of Insect Science. *In Press.*
5. Nash, J., **J.R. Miesel**, G.M. Bonito, M.L. Sakalidis, H. Ren, D. Warnock, L.K. Tiemann. 2021. Biochar restructures plant-soil-microbe relationships in a woody cropping system. Soil Science Society of America Journal 85(60):2019-2039. https://doi.org/10.1002/saj2.20334
6. ††O'Neil, C.M., J. Nash, L. Tiemann, and **J.R. Miesel.** 2021. Mycorrhizal symbioses enhance competitive weed growth in biochar and nutrient-amended soils. Frontiers in Agronomy 3:731184. https://doi.org/10.3389/fagro.2021.731184
7. ††Adkins, J., and **J.R. Miesel.** 2021. Post-fire effects of soil heating intensity and pyrogenic organic matter on microbial anabolism. Biogeochemistry 154:555-571. https://doi.org/10.1007/s10533-021-00807-6

8. ††Ren, H., D. Warnock, L. Tiemann, ‡K. Quigley, and **J. Miesel.** 2021. Evaluating foliar characteristics as early indicators of plant response to biochar amendments. Forest Ecology and Management 489:119047. https://doi.org/10.1016/j.foreco.2021.119047

9. ‡Quigley, K., R. Kolka, B. Sturtevant, M. Dickinson, C. Kern, D. Donner, and **J. Miesel**. 2021. Restoring open canopy ecosystems from the ground up: Repeated prescribed burns correspond with increased soil hydraulic conductivity in sandy pine barrens. Science of the Total Environment 767:144258. https://doi.org/10.1016/j.scitotenv.2020.144258

10. ††Adkins, J., K.M. Docherty, J.L.M. Gutknecht, and **J.R. Miesel.** 2020. How do soil microbial communities respond to fire in the intermediate term? Investigating direct and indirect effects associated with burn severity. Science of the Total Environment 745:140957. https://doi.org/10.1016/j.scitotenv.2020.140957

11. Eskandari, S., **J.R. Miesel**, and H.R. Pourghasemi. 2020. The temporal and spatial relationships between climatic parameters and fire occurrence in northeastern Iran. Ecological Indicators 118:106720. https://doi.org/10.1016/j.ecolind.2020.106720

12. ‡Quigley, K., R. Kolka, B. Sturtevant, M. Dickinson, C. Kern, D. Donner, and **J. Miesel.** 2020. Prescribed burn frequency, vegetation cover, and management legacies influence soil fertility: Implications for restoration of imperiled pine barrens habitat. Forest Ecology and Management: 470-471: 118163. https://doi.org/10.1016/j.foreco.2020.118163

13. McLauchlan, K. K., P. E. Higuera, **J. Miesel,** B. M. Rogers, J. Schweitzer, J. K. Shuman, A. Tepley, J. M. Varner, T. T. Veblen, S. A. Adalsteinsson, J. K. Balch, P. Baker, E. Batllori, E. Bigio, P. Brando, M. Cattau, M. L. Chipman, J. Coen, R. Crandall, L. Daniels, N. Enright, W. S. Gross, B. J. Harvey, J. A. Hatten, S. Hermann, R. E. Hewitt, L. N. Kobziar, J. B. Landesmann, M. M. Loranty, S. Y. Maezumi, L. Mearns, M. Moritz, J. A. Myers, J. G. Pausas, A. F. A. Pellegrini, W. J. Platt, J. Roozeboom, H. Safford, F. Santos, R. M. Scheller, R. L. Sherriff, K. G. Smith, M. D. Smith, and A. C. Watts. 2020. Fire as a fundamental ecological process: research advances and frontiers. Journal of Ecology 2020;00:1-23. https://doi.org/10.1111/1365-2745.13403

14. Ren, H., B. Huang, V. Fernández-García, **J. Miesel**, L. Yan, and C. Lv. 2020. Biochar and rhizobacteria amendments improve several soil properties and bacterial diversity. Microorganisms 8:502. https:// doi:10.3390/microorganisms8040502

15. ‡Quigley, K., †R. Wildt, B. Sturtevant, R. Kolka, M. Dickinson, C. Kern, D. Donner, and **J. Miesel.** 2019. Fuels, vegetation and prescribed fire dynamics influence ash production and characteristics in a diverse landscape under active pine barrens restoration. Fire Ecology 15:5. https://doi.org/10.1186/s42408-018-0015-7

16. Fernández-García, V., **J. Miesel,** J. Baeza, E. Marcos, and L. Calvo. 2019. Wildfire effects on soil properties in fire-prone pine ecosystems: indicators of burn severity legacy at the medium-term after fire. Applied Soil Ecology 135:147-156. https://doi.org/10.1016/j.apsoil.2018.12.002

17. ††Adkins, J., J. Sanderman, and **J.R. Miesel.** 2019. Soil carbon pools and fluxes vary across a fire severity gradient three years after wildfire in a Sierra Nevada mixed-conifer forest. Geoderma 333:10-22. https://doi.org/10.1016/j.geoderma.2018.07.009

18. ‡Maestrini, B., and **J.R. Miesel.** 2018. Investigating the contribution of the coarse fraction to total pyrogenic carbon stocks in forest soil. Organic Geochemistry 125:161-164. https://doi.org/10.1016/j.orggeochem.2018.09.009

19. **Miesel, J.,** A. Reiner, C. Ewell, ‡B. Maestrini, and M. Dickinson. 2018. Quantifying the response of total and pyrogenic carbon stocks across fire severity gradients in mixed-conifer forests: Results from pre- and post-fire measurements from active wildfire incidents. Frontiers in Earth Science – Biogeosciences 6:41. https://doi.org/10.3389/feart.2018.00041

20. ††James, J.A., C.K. Kern, and **J.R. Miesel**. 2018. Legacy effects of prescribed fire season and frequency on soil properties in a *Pinus resinosa* forest in northern Minnesota. Forest Ecology and Management 415-416:47-57. https://doi.org/10.1016/j.foreco.2018.01.021

21. ‡Santos, F., S. Wagner, D. Rothstein, R. Jaffe, and **J. Miesel.** 2017. Impact of fire history on pyrogenic carbon stocks and dissolved pyrogenic carbon in spodosols in Northern Michigan. Frontiers in Earth Science – Biogeoscience 5:80. https://doi.org/10.3389/feart.2017.00080

22. ‡Maestrini, B., E.C. Alvey, M.D. Hurteau, H. Safford, and **J.R. Miesel.** 2017. Fire severity alters the distribution of pyrogenic carbon stocks across ecosystem pools in a Californian mixed-conifer forest. Journal of Geophysical Research – Biogeosciences 122(9):2338-2355. http://dx.doi.org/10.1002/2017JG003832

23. †Uhelski, D., and **J.R. Miesel.** 2017. Physical location in the tree during forest fire influences element concentrations of bark-derived pyrogenic carbon from charred jack pines (Pinus banksiana Lamb.). Organic Geochemistry 110:87-91. http://dx.doi.org/10.1016/j.orggeochem.2017.04.014

24. **Miesel, J.R.,** L.C. Jach-Smith, M.J. Renz, and R.D. Jackson. 2017. Distribution of switchgrass (*Panicum virgatum* L.) aboveground biomass in response to nitrogen addition and across harvest dates. Biomass and Bioenergy 100:74-83. https://doi.org/10.1016/j.biombioe.2017.03.012

25. Kolka, R., B. Sturtevant, **J. Miesel,** P. Townsend, P. Wolter, S. Fraver, and T. DeSutter. 2017. Emissions of forest floor and mineral soil carbon, nitrogen and mercury pools and relationships with fire severity. International Journal of Wildland Fire 26(4):296-305. http://dx.doi.org/10.1071/WF16128

26. Eskandari, S., and **J.R. Miesel.** 2017. Comparison of the fuzzy AHP method, the spatial correlation method, and the Dong model to predict fire high-risk areas in Hyrcanian forests of Iran. Geomatics, Natural Hazards and Risk 8(2):933-949. http://dx.doi.org/10.1080/19475705.2017.1289249

27. ‡Pereira, P., A. Cerdá, D. Martin, X. Úbeda, D. Depellegrin, A. Novara, J. Martínez-Murillo, O. Menshov, and **J. Miesel.** 2017. Short-term low severity spring grassland fire impacts on soil extractable elements and soil ratios in Lithuania. Science of the Total Environment 517:4469-4475. https://doi.org/10.1016/j.scitotenv.2016.10.210

28. ‡Maestrini, B., and **J. Miesel.** 2017. Modification of the weak nitric acid digestion method for the quantification of black carbon in organic matrices. Organic Geochemistry 103:136-139. https://doi.org/10.1016/j.orggeochem.2016.10.010

29. Weichman, M.L., M.D. Hurteau, J.P. Kaye, and **J.R. Miesel**. 2015. Charcoal C content following prescribed burning in a mixed-conifer forest, Sierra Nevada, California. PLoS ONE 10(8):e0135014. https://doi.org/10.1371/journal.pone.0135014.

30. **Miesel, J.R.,** W.C. Hockaday, R.K. Kolka, and P.A. Townsend. 2015. Soil organic matter composition and quality across fire severity gradients in coniferous and deciduous forests of the southern boreal region. Journal of Geophysical Research-Biogeosciences 120(6):1124-1141. https://doi.org/10.1002/2015JG002959.

31. ††Michelotti, L.A., and **J.R. Miesel.** 2015. Source material and concentration of wildfire-produced pyrogenic carbon influence post-fire nutrient dynamics. Forests 6(4):1325-1342. Available open access at http://www.mdpi.com/1999-4907/6/4/1325.

32. Kolka, R., B. Sturtevant, P. Townsend, **J. Miesel,** P. Wolter, S. Fraver, and T. DeSutter. 2014. Forest floor and upper mineral soil carbon, nitrogen and mercury pools shortly after fire and comparisons utilizing fire severity indices. Soil Science Society of America Journal 78:S58-S65. https://doi.org/10.2136/sssaj2013.08.0351nafsc.

33. Marín-Spiotta, E., K.E. Gruley, J. Crawford, E.E. Atkinson, **J.R. Miesel**, S. Greene, C. Cardona-Correa, and R. Spencer. 2014. Paradigm shifts in soil organic matter research affect interpretations of aquatic carbon cycling: Transcending disciplinary and ecosystem boundaries. Biogeochemistry 117:279-297. https://doi.org/10.1007/s10533-013-9949-7.

34. **Miesel, J.R.,** R.K. Kolka, P.A. Townsend, and W.C. Hockaday. 2015 *(published in advance in 2013)*. Fire severity effects on soil organic matter in northern Minnesota, USA. FLAMMA 6(1):23-25.

35. **Miesel, J.,** P.C. Goebel, R.G. Corace III, D. Hix, R. Kolka, B. Palik, and D. Mladenoff. 2012. *Review:* Fire Effects on Soils in Lake States Forests: A Compilation of Published Research to Facilitate Long-Term Investigations. Forests 3:1034-1070. https://doi.org/10.3390/f3041034.

36. **Miesel, J.R.** 2012. Differential responses of *Pinus ponderosa* and *Abies concolor* foliar characteristics and diameter growth to thinning and prescribed fire treatments. Forest Ecology and Management 284:163-173. http://dx.doi.org/10.1016/j.foreco.2012.07.054.

37. **Miesel, J.R.,** M.J. Renz, J.E. Doll, and R.D. Jackson. 2012. Effectiveness of weed management in establishment of switchgrass and a native species mixture for biofuels. Biomass and Bioenergy 36:121-131. https://doi.org/10.1016/j.biombioe.2011.10.018.

38. **Miesel, J.R.,** R.E.J. Boerner, and C.N. Skinner. 2011. Soil nitrogen mineralization and enzymatic activities in fire and fire surrogate treatments in California. Canadian Journal of Soil Science 91:935-946. https://doi.org/10.4141/CJSS10098.

39. **Miesel, J.R.,** R.E.J. Boerner, and C.N. Skinner. 2009. Mechanical restoration of California mixed conifer forests: Does it matter which trees are cut? Restoration Ecology 17:784-795.

40. Boerner, R., C. Giai, J. Huang, and **J. Miesel**. 2008. Initial effects of fire and mechanical thinning on soil enzyme activity and nitrogen transformations in eight North American forest ecosystems. Soil Biology and Biochemistry 40:3076-3085.

41. **Miesel, J.R.,** C.N. Skinner, and R.E.J. Boerner. 2007. Impact of fire on soil resource patterns in a northern California montane ecosystem. Pages 94-102 *in* R.E. Masters and K.E.M. Galley (eds.). Proceedings of the 23rd Tall Timbers Fire Ecology Conference: Fire in Grassland and Shrubland Ecosystems. Tall Timbers Research Station & Land Conservancy, Tallahassee, FL.

OTHER PUBLICATIONS

Symbols indicate ‡ postdoctoral, †† graduate or † undergraduate student advisees

1. Nash, J., **J. Miesel,** G. Bonito, M. Sakalidis, ††H. Ren, D. Warnock, & L. Tiemann, L. (2021). Biochar alters soil properties, microbial community diversity, and enzyme activities, while decreasing conifer performance. *bioRxiv*. https://doi.org/10.1101/2021.05.17.444392

2. Sturtevant, B., **J. Miesel,** M. Dickinson, R. Kolka, C. Kern, D. Donner, M. Bushman, and K. Quigley. 2020. Joint Fire Science Program Project Report: Manipulating soil heating patterns to optimize barrens restoration (15-1-05-13). Joint Fire Science Program, published online at: https://www.firescience.gov/projects/15-1-05-13/project/15-1-05-13_final_report.pdf.
3. O'Neil, C., J.Miesel, and C. Gould. 2020. Biochar: An emerging soil amendment. MSU Extension online article. 17 June 2020: https://www.canr.msu.edu/news/biochar-an-emerging-soil-amendment
4. Maezumi, S.Y., J.R. Miesel, P.E. Higuera, and L. Kobziar. 2020. Fire as a fundamental ecological process. Journal of Ecology the Blog. 08 June 2020: https://jecologyblog.com/2020/06/08/fire-as-a-fundamental-ecological-process/
5. Dickinson, M., L. Loncar, A. Reiner, S. Dailey, J. Bednarczyk, C. Drake, J. Gordon, M. Heckel, B. Kleckler, **J. Miesel,** and L. Wade. 2019. Fire Behavior Assessment Team (FBAT) Report, 2019 Walker Fire, Plumas National Forest. Technical Report. USDA Forest Service, Adaptive Management Enterprise Team. 34 pp. Available online.
6. †Peters, K., and **J. Miesel**. 2019. Long-term changes in the woody understory and ground layer of oak savanna after repeated burning. Lakes States Fire Science Consortium Research Brief. Lake States Fire Science Consortium Research Brief RB-19-7.
7. †Peters, K., and **J. Miesel**. 2019. Varying effects of high visitor traffic, prescribed burns, and deer browse on understory vegetation of protected parks. Lakes States Fire Science Consortium Research Brief. Lake States Fire Science Consortium Research Brief RB-19-6.
8. †Peters, K., and **J. Miesel**. 2019. Considerations when utilizing fire as a management tool in the presence of an Oriental bittersweet invasion. Lakes States Fire Science Consortium Research Brief. Lake States Fire Science Consortium Research Brief RB-19-5.
9. **Miesel, J.,** G. Bonito, and M. Sakalidis. 2019. Which organisms benefit from biochar: microbes, weeds, or conifer seedlings? Great Lakes Christmas Tree Journal 15(1):8-9.
10. **Miesel, J.R.,** R. Kolka, and P. Townsend. 2018. Wildfire and fire severity effects on post-fire carbon and nitrogen cycling in forest soil. *Pages 151-156 In:* Potter, K.M. and B.L. Conkling, eds. Forest health monitoring: national status, trends and analysis 2017. Gen. Tech. Rep. SRS-233. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 190 p.
11. †† Brooke, C., and **J. Miesel. 2018.** Vegetation responses to a stand-replacing fire in an old-growth southern boreal forest. Lakes States Fire Science Consortium Research Brief. Lake States Fire Science Consortium Research Brief RB-18-1.
12. **Miesel, J.** 2018. Bullying and harassment in the workplace: Resources for targets and their allies. Early Career Ecologist Section News, Ecological Society of America. Article available at: http://esa.org/earlycareer/bullying-and-harassment-in-the-workplace-resources-for-targets-and-their-allies/. Infographic available at: http://esa.org/earlycareer/news/. Published online 18 April 2018. *Invited blog post.*
13. †† Brooke, C., and **J. Miesel.** 2017. The potential of Spring Dip timing in red pine and jack pine foliage moisture changes on fire behavior and spread. Lakes States Fire Science Consortium Research Brief. Lake States Fire Science Consortium Research Brief RB-17-5.
14. ††Brooke, C., and **J. Miesel.** 2017. Interactions among fire, human activity, and climate in the Great Lakes region. Lakes States Fire Science Consortium Research Brief. Lake States Fire Science Consortium Research Brief RB-17-4.

15. ††Brooke, C., and **J. Miesel.** 2017. The Oak Triangle: reviewing the role of oaks in the Lake States in the face of climate change, fire, & predation. Lakes States Fire Science Consortium Research Brief RB-17-3.
16. **Miesel, J.,** and E. Caretti. 2016. Fire season influences vegetation communities in red and white pine forests at Voyageurs National Park. Lake States Fire Science Consortium Research Brief RB-16-5.
17. †Caretti, E., and **J. Miesel.** 2016. Salvaging fire-damaged timber. Lake States Fire Science Consortium Research Brief RB-16-4, October 2016.
18. †Caretti, E., and **J. Miesel.** 2016. Regeneration of northern white cedar deeryards in Upper Michigan. Lake States Fire Science Consortium Research Brief RB-16-3, October 2016.
19. †Caretti, E., and **J. Miesel.** 2016. Managing oak forests in the Eastern United States: When and where should fire be applied? Lake States Fire Science Consortium Research Brief RB-16-2, October 2016.
20. †Caretti, E., and **J. Miesel.** 2016. Effects of mechanical and prescribed fire treatments on jack pine regeneration and arthropod communities in the Baraga Plains. Lake States Fire Science Consortium Research Brief RB-16-1, October 2016.
21. Bonito, G., G.M. Niccolò, **J. Miesel,** and B. Cregg. 2016. Mushroom and truffle specialty crop resources for the Michigan Christmas Tree industry. Great Lakes Christmas Tree Journal 11(3):8-9.
22. **Miesel, J.** 2014. Lake States knowledge gap assessment project. Lake States Fire Science Consortium Research Brief RB-14-6, July 2014. Available online at: http://www.lakestatesfiresci.net/research.htm.
23. **Miesel, J.** 2014. Citation database for regional fire science publications. Lake States Fire Science Consortium Research Brief RB-14-5, July 2014. *Available online at:* http://www.lakestatesfiresci.net/research.htm.
24. **Miesel, J.** 2013. Can biochar improve growing conditions for the Christmas tree industry? Great Lakes Christmas Tree Journal 8:10-12.
25. **Miesel, J.** 2013. Citation database for peer-reviewed scientific literature and agency publications addressing fire science topics focused on the Lake States region. Lake States Fire Science Consortium. January 2013. Web: http://www.lakestatesfiresci.net/referencesearch.htm. Updated annually.

INVITED PRESENTATIONS

Submitted presentations are listed on page 20

1. Clark, K., A. Coates, L. Loudermilk, M. Midgley, and J. Miesel. Fire and the carbon cycle. Fueling Collaboration Season 2 panel. 18 November 2021. Available online at: https://www.youtube.com/watch?v=woRzDl_wo6M
2. Miesel, J., and B. Comer. 2021. Introduction to the Great Lakes Biochar Network and biochar basics. Great Lakes Biochar Network Fall 2021 Webinar Series. 28 October 2021. Available online at: https://www.canr.msu.edu/biochar/index
3. Miesel, J. 2021. How does fire affect soil carbon? Direct and indirect effects, and recommendations for biogeoscientists. Oak Ridge National Laboratory Fire Community Database Workshop (virtual). 01 September 2021.
4. Miesel, J. 2020. Restoring open-canopy habitats from the ground up: What does soil have to do with it? Keynote presentation for the Green Ribbon Initiative Science Summit (virtual). 04 November 2020.

5. Miesel, J. 2020. What can biochar tell us about charcoal in ancient gardens? Virtual Conference: Menominee Agricultural Practices, Historical Perceptions and Late Prehistoric Reality. Sustainable Development Institute, College of the Menominee Nation. Winter 2020. Virtual presentation. Available online at: http://www.menominee.edu/com_ser.aspx?id=2008
6. O'Neil, C., and J. Miesel. 2020. Biochar: An emerging soil amendment. MSU Extension Webinar. Online. 30 June 2020.
7. Miesel, J., J. Adkins, K. Quigley, M. Dickinson, R. Kolka, B. Sturtevant, K. Docherty, and J. Gutknecht. What does severity mean for the below-ground ecosystem? Investigating patterns in soil nutrient pools and dynamics across gradients of burn severity. 8th International Fire Ecology and Management Congress, Tucson, AZ. 18 – 22 November 2019.
8. Miesel, J.R. Workplace bullying. Invited presentation for organized panel (M. Rinkus): Facing Difficult Truths: Incivility, Harassment, and Sexual Assault in Natural Resources. International Symposium on Society and Natural Resources, University of Wisconsin–Oshkosh. Oshkosh, WI. 04 June 2019.
9. Miesel, J.R. Restoring historically "open" ecosystems with prescribed fire: What is the role of soil heating? Department of Environmental Sciences, University of Toledo. Toledo, MI. 03 April 2019.
10. Sturtevant, B., K. Quigley, M. Dickinson, C. Kern, R. Kolka, and J. Miesel. Pine woodland and barren restoration: What is possible with late dormant season burns? Lake States Fire Science Consortium Webinar Series. Online. 18 April 2019.
11. Miesel, J.R., M. Dickinson, D. Donner, C. Kern, R. Kolka, K. Quigley, and B. Sturtevant. Manipulating soil heating patterns to optimize barrens restoration. Fifth Annual Burning Issues Workshop, DOD Fort Custer Training Center. Augusta, MI. 05 February 2019.
12. Miesel, J.R. 2018. Investigating ecosystem response to wildland fires: lessons from immediate and delayed post-fire measurements of forest vegetation and soils. Department of Forest and Wildlife Ecology, University of Wisconsin-Madison. Madison, WI. 26 February 2018.
13. Miesel, J.R. 2018. Managing fire-dependent systems with invasive species considerations. Fourth Annual Burning Issues Workshop and Michigan Prescribed Fire Council Annual Meeting: Breaking Burning Barriers. Fort Custer, MI. 07 February 2018.
14. Miesel, J.R. 2017. Investigating biomass, soil and ecosystem processes to understand fire effects on forest carbon. Department of Forest Resources, Virginia Tech. Blacksburg, VA. 27 March 2017.
15. Miesel, J.R. 2017. The impact of biochar on soil moisture, nutrients, and conifer seedling growth. Powering Michigan Agricultural Conference. East Lansing, MI. 09 March 2017.
16. Miesel, J.R. 2017. Biochar and its potential use in Michigan Christmas tree production. Michigan Christmas Tree Association Annual Meeting. Traverse City, MI. 02 March 2017.
17. Miesel, J.R. 2017. Investigating the aboveground and belowground ecosystems to understand wildfire effects on forest carbon. National Soil Survey Center, USDA Natural Resources Conservation Service. Lincoln, NE. 07 February 2017.
18. Miesel, J. 2016. Fires in the wild west: Forest carbon, black carbon and post-fire nutrient dynamics. Scientific Colloquium, Goddard Space Flight Center, NASA. Greenbelt, MD. 30 March 2016. Abstract available at: http://scicolloq.gsfc.nasa.gov/Miesel.html.

19. Miesel, J.R., W.H. Hockaday, and R.K. Kolka. 2014. How does wildfire severity influence soil black carbon in a Minnesota boreal forest? American Geophysical Union Fall Meeting. San Francisco, CA. 15-19 December 2014. Invited, in organized special session.
20. Miesel, J.R. 2014. The formation, function and fate of black carbon in forest soils. Department of Biological Sciences Seminar, Western Michigan University, Kalamazoo, MI. 25 April 2014, and Biology and Earth Sciences Department Seminar, Otterbein University, Westerville, OH. 29 April 2014. Included new data not presented in the previous (Hanover) seminar by the same title.
21. Miesel, J.R. 2013. The formation, function and fate of black carbon in forest soils. Hanover Seminar, Department of Forestry, Michigan State University. 01 October 2013.
22. Miesel, J.R. 2013. Forest management and climate effects on fire regimes in North American forests: a belowground perspective. Kellogg Biological Station, Michigan State University. 06 September 2013. Included additional data not presented in seminar of the same title delivered to the University of Zürich.
23. Miesel, J.R. 2013. Forest management and climate effects on fire regimes in North American forests: a belowground perspective. Soil Science and Biogeochemistry Unit Seminar, Department of Geography, University of Zürich, Switzerland. 08 July 2013.
24. Miesel, J.R. 2013. Lake States Fire Science Consortium knowledge gaps assessment: What we know (and don't know) about fire science in the Lake States region. Lake States Fire Science Consortium Webinar Series. 21 March 2013. Available online: http://www.lakestatesfiresci.net/webinar_3_21_13.htm.
25. Miesel, J.R., G. Corace III, P.C. Goebel, D.M. Hix, R.K. Kolka, B.J. Palik, and D.J. Mladenoff. 2012. Lake States Fire Science Consortium knowledge gaps assessment: increasing awareness and accessibility of regional results by management and research communities. 5th International Fire Ecology and Management Congress, Portland, OR. 3 – 7 December 2012. Included in oganized special session.
26. Miesel, J.R. 2012. Restoring mixed-conifer forests with fire and thinning: Effects on forest soil and foliar characteristics of mature conifers. Michigan State University Department of Forestry. 25 April 2012.
27. Miesel, J.R. 2008. Creating Community in the Classroom. Ohio State University Center for Life Sciences Education Graduate Teaching Associate Workshop, Columbus, OH. 16 January 2008.
28. Miesel, J.R. 2007. Ecological restoration of California mixed-conifer forests. Ohio State University Herbarium Lecture Series, Columbus, OH. 14 November 2007.
29. Miesel, J.R. 2007. Honors Program Alumni Panel, Otterbein College Honors Program Senior Reporting Day. Otterbein College, Westerville, OH. 16 May 2007. Panel member.
30. Miesel, J.R. 2005. Fire Effects on Soil. Michigan Prescribed Fire Council 5th Annual Workshop, Kalamazoo, MI. 10 September 2005.

TEACHING

Graduate instruction

Soil Spectroscopy (CSS 893.302, 1 credit) Fall 2021
Instructed with graduate advisee Faisal Sherif

Ecosystem Ecology and Global Change (IBIO 897/CSS 893, 3 credits) *Re-developed for* Spring 2022
Lead instructor; co-instructor with Dr. Lisa Tiemann

Scientific Communication and Professional Development (CSS 880, 1 credit) Spring 2018 - present
Lead instructor Spring 2019 – present for graduate-level course designed to prepare students to become successful professionals; Co-Instructed with Dr. Steve Pueppke in Spring 2018.

Biogeochemistry (CSS 893.002, 1 credit) Spring 2019
Co-Instructor for graduate-level special topics seminar course with Dr. Lisa Tiemann.

Soil Heating: Instrumentation, Analysis, and Environmental Consequences (CSS 893.01, 1 credit) Fall 2018

Black Carbon in the Environment (ESP 891, 1 credit), MSU Fall 2015
Co-Instructor for graduate-level special topics seminar course with Dr. Wei Zhang.

Environmental Justice and Ecology (AGR 875.003, 1 credit), UW-Madison Spring 2010
Instructor, graduate-level special topics seminar course, including mentoring students in development of focused conversations with community members and organizations addressing environmental justice issues.

Ecology in Environmental Justice (EEOB 881, 1 credit), OSU Spring 2009
Course Developer and Coordinator, graduate-level special topics seminar course developed to explore examples and opportunities for ecologists to engage with environmental justice issues and community members, sponsored by Prof. R.E.J. Boerner. The Ohio State University.

Undergraduate instruction

Fire and Environmental Quality (CSS 411, 3 credits) Spring 2021

Wildland Fire (FOR 412, 2 credits), MSU Spring 2017
Classroom and field activities instructed in partnership with natural resource management agency personnel; held as joint course with Grand Valley State University. Purchased fire gear and fire behavior monitoring supplies for enhancing teaching resources; $36,376 Teaching and Learning Environment funding, awarded Summer 2016.

Forest Ecology (FOR 404, 3 credits), MSU Fall semesters, annually 2014-2016
Lecture-based course focused on ecological interactions in forested ecosystems.

Forest Ecology Laboratory (FOR 404-L, 1 credit), MSU Fall semesters, annually 2014-2016
Field and laboratory course focused on application of forest ecology methods and data interpretation. 1 credit hour. Awarded $47,565 Teaching and Learning Environment funding for modernizing forest ecology measurement equipment and enhancing Departmental teaching resources, Summer 2015. Awarded $69,673 from same program to purchase portable soil gas analyzer, Summer 2016.

Forestry Field Studies (FOR 420, 3 credits), MSU Annually 2014-2016
Co-Instructor (split temporally) for field-based capstone course with Drs. MacFarlane and Chhin.

Independent Study (FOR 490, 1 credit), MSU 2015
Independent study in black carbon measurement and characterization, including field sampling and laboratory analyses. Two Independent Studies instructed to date. Products include a student poster presented at the University Undergraduate Research and Arts forum, and a research note in published in Organic Geochemistry (Uhelski & Miesel 2017).

Classroom and Laboratory Graduate Teaching Assistant, The Ohio State University 2005 - 2008
Twelve academic terms (Quarter system) of introductory and upper-level laboratory and field classes in the Department of Evolution, Ecology and Organismal Biology at the Ohio State University, including: Local Flora, Ecology, Evolution, Field Zoology, Vertebrate Physiology, Honors Biology, Introductory Biology, and Human Biology.

Guest Lectures

Michigan State University courses

Bioenergy Feedstock Production (CSS 467): Forest Soils & Woody Biomass Production	Annually 2018-20
Green Chemistry: Freshman Seminar (UGS 101-313): The Chemistry of Wildland Fires	2017, 2019-2020
Contemporary Issues in Forests and the Environment (FOR 110): Fire and Forests	Annually 2013-16
Forest Ecology (FOR 404): Ecosystem Disturbance and Fire Ecology	2013
Plant Ecology (PLB 441): Fire Ecology	2013

Invited lectures for courses at other Universities

Fire Effects on Soil & Water Quality (California State University Channel Islands, M. Woo): The Biogeochemistry of Fire	2020
Advanced Wildland Fire (Grand Valley State University, T. Aschenbach): The Fire Environment	2020
Wildland Fire (Grand Valley State University, T. Aschenbach): Fire Ecology	2019, 2021
Fire Ecology (Grand Valley State University, P. Nyami): Fire Effects on Soils	2018

Other instruction experience

Co-Instructor 3–7 Oct. 2005
Provided instruction to land management professionals in classroom and field activities for Soils section of the National Wildfire Coordinating Group course RX 340: Introduction to Fire Effects. Michigan Department of Natural Resources, Cadillac, MI.

High School Science Instructor 2003
Instructed high school Meteorology and Geology. The Adirondack School of Northeastern New York, Greenwich, NY.

Pedagogical training

Summer Online Instruction Readiness for Educational Excellence (SOIREE) July 2020
Five-day workshop focused on resources and strategies for effective online instruction.

Faculty Mentor Education Workshop, MSU Kellogg Biological Station January 2020
One-day workshop focused on resources and strategies for effective academic mentoring and advising.

Preparing Future Faculty Fellow, The Ohio State University 2008-2009
Competitive professional development program focused on training PhD students for careers as faculty members; included mentorship with faculty member at Wittenberg University (Springfield, OH).

ADVISING

Postdoctoral Scholars

1. Tyler Refsland (02/2021 – present).
2. Joseph Cooper (10/2020 – present).
3. Kathleen Quigley (01/2017 – 01/2020). Currently: Research Ecologist, USDA Forest Service.
4. Paulo da Silva Pereira (01/2016 – 04/2016). Currently: Faculty, Mykolo Romeris University, Lithuania.
5. Bernardo Maestrini (02/2015 – 11/2016). Currently: Research Scientist, Wageningen University.
6. Fernanda Santos (02/2014 – 04/2015). Currently: Postdoctoral Associate, Oak Ridge National Laboratory.

Graduate Students

Major Advisor

1. Arlo Robles (MSc student, Crop & Soil Sciences, Fall 2021 – present)
2. Faisal Sherif (MSc student, Crop & Soil Sciences, Fall 2020 – present).
3. Chase O'Neil (MSc Crop & Soil Sciences, Fall 2021). Plant Sciences Fellowship.
4. Jaron Adkins (PhD Crop & Soil Sciences, Fall 2020). MSU Enrichment Fellowship; NSF Graduate Research Fellowship. Currently: post-doctoral researcher, Utah State University.
5. Chase Brooke (PhD student, Forestry, Fall 2017 – Summer 2018; withdrew for personal reasons). Plant Science Fellowship. Currently: Agriculture & Natural Resources Extension Agent, Texas A&M University.
6. Joshua James (MSc Forestry, Spring 2018). Academic Achievement Graduate Assistantship awardee. Currently: Fire Ecologist, National Park Service.
7. Lucas Michelotti (MSc Forestry, Spring 2016). Plant Science Fellowship. Currently: Lab Manager, University of Georgia.

Dissertation, Thesis and Qualifying Exam Committees

1. Nafisa Ahmed (MSc Forestry, 2021 – present; Major advisor: R. Pokharel)
2. Nan Nourn (PhD Fisheries & Wildlife, 2020 – present; Major advisor: D. Kramer)
3. Brian Liang (MSc Plant, Soil & Microbial Sciences, 2020 – present; Major advisor: L. Tiemann)
4. Toby Santamaria (PhD Plant Biology, 2020 – present; Major advisor: L. Brudvig)
5. Emily Conway (PhD Plant Biology, 2020 – 2022; Major advisor: L. Brudvig)
6. Tracy Melvin (PhD Fisheries & Wildlife, 2017 – present; Major advisor: G. Roloff)
7. Tracy Swem (MSc Fisheries & Wildlife, 2017; Major advisor: G. Roloff)
8. Pete Schlott (MS Plan B Forestry, 2014; Major advisor: M. Walters)

Foreign Host

1. Bello Tesleem Taye (Visiting Postdoctoral Scholar, March 2023 - present), International Institute of Tropical Agriculture, Ibadan, Nigeria
2. Waqas Umar (Visiting PhD student, 6 weeks in Spring 2020), Department of Forestry and Range Management, Pir Mehr Ali Shah Aird Agriculture University, Rawalpindi, Pakistan
3. Víctor Fernández García (Visiting PhD student, Fall 2016), Department of Biodiversity and Environmental Management, University of Leon, Spain
4. Mauro Pinelli (Visiting BSc student for undergraduate thesis research, Jul-Dec 2016), Università degli Studi di Sassari, Italy
5. Han Ren (Visiting PhD student, March 2016 – March 2017), College of Forestry, Guangxi University, China

Undergraduate and High School Students

Michigan State University

1. Kya Sparks (independent research, Fall 2021 – Spring 2022)
2. Camryn Brent (independent research, Fall 2019 – Spring 2021)
3. Megan Orlando (independent research, Fall 2019, Spring 2020)
4. Emma Zielinski (MSU High School Honors Science Program, Summer 2018)

5. Ellie Elorza (MSU High School Honors Science Program, Summer 2017)
6. Becky Wildt (independent research, Spring 2017, Summer 2017; College of Agriculture & Natural Resources Undergraduate Research Award)
7. Eleanor Domer (independent research, Spring 2017; College of Agriculture & Natural Resources Undergraduate Research Award)
8. Dominic Uhelski (FOR 490 Independent Study, Spring 2015, Summer 2015)
9. Diana Lu (MSU High School Honors Science Program, Summer 2014)

University of Wisconsin-Madison

10. Samantha Lasko (Fall 2012)
11. Jennifer Strangstalien (Fall 2012)
12. Caitlin Bergstrom (Spring 2012)
13. Erik Bobel (Spring 2012)
14. Andrea Vertz (Spring 2012)
15. Forrest Howk (Fall 2011)
16. Sean Rausch (Fall 2011)
17. Anum Samdani (Fall 2011)
18. Dylan Willis (Fall 2011)
19. Maddy Raudenbush (Post-BSc., Spring 2011)

OUTREACH

Presenter, Michigan Christmas Tree Association Mid-Michigan grower's meeting. MSU Tree Research Center, Lansing, MI. 27-28 July 2018. ~50 participants.

Presenter, Michigan Christmas Tree Association Research Field Trip for board members and Research Committee. MSU's Tree Research Center, Lansing, MI. 11 September 2014. ~20 participants.

Visiting Expert (Wildfire), Haslett Middle School Girl's Robotics Team (Theme: Nature's Fury). Haslett, MI. 14 October 2013. ~15 participants.

Presenter, Superior National Forest Leadership Team Meeting (invited video-conference presentation). Char in the Pagami Creek fire area. 19 February 2015. 30+ participants.

SYNERGISTIC ACTIVITIES

1. Group Facilitator, Fire Community Database Workshop (virtual). Hosted by Oak Ridge National Laboratory (F. Santos, J. Mao). 02 September 2021.
2. Facilitator, ADVANCEGeo Partnership: Bystander Intervention Workshop (virtual). Hosted by the College of Agriculture and Natural Resources at Michigan State University. 14 July 2021.
3. Co-organizer and host, X-Ray Fluorescence Spectroscopy workshop for the Department of Plant, Soil and Microbial Sciences, East Lansing, MI. 13 & 20 December 2019. Led by Dr. Kathleen Quigley (Miesel lab postdoctoral scholar).
4. Organizer. Oral Session: Mid-infrared (MIR) spectroscopy for characterizing soil organic matter composition. 2019 ASA-CSSA-SSSA International Annual Meeting, San Antonio, TX. 10-13 November 2019. With Michael SanClements.

5. Co-Organizer. Panel: Facing difficult truths: Incivility, harassment, and sexual assault in natural resources. 25th International Symposium on Society and Resource Management, Oshkosh, WI. 02-07 June 2019. With Marisa Rinkus and others.
6. Co-organizer and presenter, Careers in Wildland Fire. In partnership with US Fish & Wildlife Service. Michigan State University, East Lansing, MI. 17 February 2019. ~15 participants.
7. Co-Organizer. Symposium: Soils of wildfire-affected landscapes: Linking belowground ecology & watershed processes. 2018-2019 International Soils Meeting, San Diego, CA. 09-09 January 2019. With C. Rhoades, Y. Pressler, and J. Hatten.
8. Organizer. Special Session: Connecting direct and indirect measures of soil heating to first- and second-order fire effects using wildfire, prescribed fire, and laboratory investigations. 7th International Fire Ecology & Management Congress, Orlando, FL. 01 December 2017. With B. Sturtevant, C. Kern, M. Dickinson.
9. Initiator and developer of second annual MSU Department of Forestry Undergraduate Leadership Retreat. Co-facilitated with B.K. Laursen, with leadership support from Department of Forestry personnel and US Fish & Wildlife Service personnel. Michigan DNR RAM Center, Roscommon, MI. 09-11 October 2015.
10. Initiator and developer of first annual MSU Department of Forestry Undergraduate Leadership Retreat. Co-facilitated with M.H. McDonough, with leadership support from Department of Forestry personnel and US Fish & Wildlife Service personnel. Michigan DNR RAM Center, Roscommon, MI. 12-14 September 2014.
11. Organizer. Lake States Fire Science Consortium information resources for fire practitioners and researchers. The Science, Practice & Art of Restoring Native Ecosystems Conference, East Lansing, MI. 19 January 2013.
12. Co-organizer. Environmental Justice Education and Community Partnerships Addressing Global Warming and Planetary Stewardship. Ecological Society of America 95th Annual Meeting, Pittsburgh, PA. 03 August 2010. With L.M. Jablonski, C.H. Nilon, M.E. Lam, and G.A. Middendorf.
13. Co-organizer. Environmental Justice in Ecology Curricula and Community Engagement. Ecological Society of America 94th Annual Meeting, Albuquerque, NM. 04 August 2009. With L.M. Jablonski, G.A. Middendorf, M.E. Lam, and C.H. Nilon.

SERVICE

Professional Society Service

Division Chair, Forest, Range, and Wildland Soils, Soil Science Society of America (elected: Chair 2021; incoming to past chair seat in leadership committee: 2020-2022). *Officers committee, 2020-2023.*
6th Fire Effects on Soil Properties Conference (FESP6) 2017 Scientific Committee (2016 – 2017)
Association for Fire Ecology Board of Directors (elected, December 2014 – present)
Mentoring Futures Steering Committee, Association for Fire Ecology Board of Directors (2020 – present)
Finance Committee, Association for Fire Ecology Board of Directors, (2015 – present)
Governance Committee, Association for Fire Ecology Board of Directors (2015 – present)
Secretary, Association for Fire Ecology (elected, March 2016 – 2020)
The Stewardship Network Student Poster Judge (2011, 2012)
Student Association for Fire Ecology Poster Judging Committee (2006)

University Service

Michigan State University

College and University
Graduate & Postdoc Awards Committee, Ecology, Evolution and Behavior Program (Fall 2020 – present)
University Committee on Student Affairs (elected, Fall 2018 – 2020)
Plant Sciences Fellowship Committee (Fall 2015 – 2017)

Department of Plant, Soil and Microbial Sciences:
Co-Chair, Diversity, Equity and Inclusion Committee (2019 – present)
Students, Staff and Academic Faculty Equity Team (2018 – 2019)
Soil and Plant Nutrient Laboratory Committee (2018 – present)

Department of Forestry
ad hoc Online Professional Forestry MSc program Planning Committee (2020)
Graduate Advisory Committee (2013 – 2017)
ad hoc Undergraduate Advisor hiring committee (Fall 2014 – 2015)
ad hoc Forest Properties Committee (2014 – 2015)
ad hoc Space Master Plan Committee (2013 – 2014)

The Ohio State University

Department of Evolution, Ecology and Organismal Biology (EEOB)
Graduate Admissions Committee (2007-2008)
College Advisory Committee (2006-2007)
Graduate Studies Committee (2005-2006, 2008-2009)

Peer-Review

Journal referee

Biogeochemistry, Ecosystems, Forests, Global Change Biology, Journal of the Torrey Botanical Society, Plant and Soil, International Journal of Wildland Fire, Science of the Total Environment, Geoderma, SOIL, Land Degradation & Development, PLoS ONE, Forest Ecology & Management, Soil Science Society of America Journal, Peer-J, Environmental Science & Technology, Ecological Processes, Ecological Applications, Environment International, Frontiers in Forests & Global Change, Fire Ecology, Journal of Environmental Management

Panel member

NSF Navigating the New Arctic (2019)
NSF Division of Environmental Biology, Ecosystem Sciences (2016)

Proposal reviewer (ad-hoc)

USDA AFRI Small Business Innovation Research Program (2020)
Natural Environment Research Council, United Kingdom Research and Innovation (2020)
NSF EPSCOR (2020)
NSF Navigating the New Arctic (2020)
Reinforcing Women in Research (REWIRE) Fellowship Programme, University of Vienna (2019)
The Ohio State University SEEDS Program (2019)
Michigan DNR research contract proposal (2018)

Deutsche Forschungsgemeinschaft (German Research Foundation, 2018)
Department of Defense, Strategic Environmental Research and Development Program
Joint Fire Science Program Graduate Student Innovation Program (2016)

Other service as reviewer

External Examiner (PhD dissertation review), University of Sydney (2015)
Northwoods Climate Change Response Framework project report (2013)
Joint Fire Science Program final project report (2013)

PROFESSIONAL AFFILIATIONS

American Geophysical Union
Association for Fire Ecology
Earth Science Women's Network
Ecological Society of America
International Association of Wildland Fire
Soil Science Society of America
Lake States Fire Science Consortium
FIRElinks EU Consortium

CONFERENCE AND OTHER PRESENTATIONS (SUBMITTED)

Invited presentations are listed on page 11
Symbols indicate ‡ postdoctoral, †† graduate or † undergraduate student advisees

1. Birch, J.D., M. Dickinson, E. Knapp, A. Reiner, and J. Miesel. 2021. Pre-fire ground fuel loadings drive fire energy in low and medium severity fire in California mixed-conifer forests. 9th International Fire Ecology and Management Congress. Virtual Event. 30 November – 03 December 2021.
2. Bello, T.T., and J. Miesel. 2021. Understanding the contributions of nematode community structures in forest soil post-fire regeneration processes: a review. 9th International Fire Ecology and Management Congress. Virtual Event. 30 November – 03 December 2021.
3. Miesel, J.R., ‡K. Quigley, R. Kolka, M. Dickinson, C. Kern, D. Donner, and B. Sturtevant. 2020. Prescribed fire effects on soil nutrient exchange rates in contrasting vegetation cover types. ASA-CSSA-SSSA International Annual Meeting, Virtual. 9 – 13 November 2020. Poster.
4. Brady, M., E. Hanan, J.R. Miesel, J. Greenberg, M. Dickinson, C. Ewell, and L. Wade. 2020. Effects of wildfire on belowground carbon and nitrogen dynamics in the Sierra Nevada. Ecological Society of America, Virtual Meeting. 03 – 06 August 2020. Oral presentation.
5. †Brent, C., ††C. O'Neil, J. Nash, L. Tiemann, and J. Miesel. Efficacy of biochar soil amendment on mycorrhizal colonization and nutrient availability of velvet leaf (*Abutilon theophrasti*). 2020. The Science, Practice & Art of Restoring Native Ecosystems Conference, East Lansing, MI. 17 – 18 January 2020. Poster.
6. †Orlando, M., ††J. Adkins, and J. Miesel. 2020. Soil heating due to fire increases soil carbon-dioxide emissions and decreases microbial carbon storage during post-fire recovery. The Science, Practice & Art of Restoring Native Ecosystems Conference, East Lansing, MI. 17 – 18 January 2020. Poster.
7. Miesel, J., J. McGowan-Stinski, E. Toman, C. Goebel, D. Hix, D. Kashian, R. Kolka, B. Palik, and B. Sturtevant. Training the next generation of fire professionals to bridge research-management communities. The Science, Practice & Art of Restoring Native Ecosystems Conference, East Lansing, MI. 17 – 18 January 2020. Poster.
8. ††Adkins, J., and J. Miesel. How does pyrogenic organic matter influence post-fire soil carbon efflux? Insights from a manipulative lab experiment. 2019. In Special Session: Fire in the Environment:

Pyrogenic Organic Matter Cycling and Environmental Impacts Across Watersheds. American Geophysical Union, San Francisco, CA. 9 – 13 December 2019. Oral presentation.

9. Miesel, J., J. McGowan-Stinski, E. Toman, C. Goebel, D. Hix, D. Kashian, R. Kolka, B. Palik, and B. Sturtevant. 2019. Training the next generation of fire professionals to bridge research-management communities. 8th International Fire Ecology and Management Congress, Tucson, AZ. 18 – 22 November 2019. Poster.
10. Dickinson, M.B., A.R. Reiner, C.M. Ewell, N.M. Vaillant, J.R. Miesel, and J.M. Lyderson. 2019. Fire Behavior Assessment Team (FBAT): Applied science on active wildfires. 8th International Fire Ecology and Management Congress, Tucson, AZ. 18 – 22 November 2019. Poster.
11. Miesel, J., Sanderman, J., and F. Sherif. 2019. Mid-infrared spectroscopy for characterizing soil organic matter: Methodological overview and emerging opportunities for soil science. ASA-CSSA-SSSA International Annual Meeting, San Antonio, TX. 10 – 13 November 2019. Oral presentation.
12. Nash, J., D. Warnock, J. Miesel, and L. Tiemann. 2019. Who benefits from biochar? Biogeochemical interactons in a perennial cropping system. ASA-CSSA-SSSA International Annual Meeting, San Antonio, TX. 10 – 13 November 2019. Poster presentation.
13. Kolka, R., K. Quigley, J. Miesel, B. Sturtevant, and T. DeSutter. Prescribed Fire Effects on Forest Floor and Upper Mineral Soil Mercury Concentrations and Stocks During Barrens Restoration. Soil Science Society of America, San Antonio, TX. 10 – 13 November 2019. Poster presentation.
14. ‡Quigley, K.M., J.R. Miesel, R.K. Kolka, and B.R. Sturtevant. 2019. Restoring Wisconsin's critically imperiled pine barrens: How does prescribed fire alter soil properties linked to aboveground communities? North American Forest Ecology Workshop. Flagstaff, AZ. 24 June 2019. Oral presentation.
15. Sturtevant, B.R., M.B. Dickinson, C.C. Kern, ‡K.M. Quigley, J.R. Miesel, R.K. Kolka, and DM Donner. 2019. Can we accelerate pine woodland and barren restoration with mechanical brush/fuel treatments? Effects on duff consumption, soil heating, and hardwood regeneration. North American Forest Ecology Workshop. Flagstaff, AZ. 24 June 2019. Oral presentation.
16. Miesel, J., J. Adkins, A. Reiner, J. Sanderman, C. Ewell, M. Dickinson. Combining immediate and delayed post-fire measurements to investigate forest soil response to wildfire. Biennial Meeting of the Soil Ecology Society, Toledo, OH. 28 – 31 May 2019. Oral presentation.
17. Adkins J., Docherty K., Gutknecht J., and J. Miesel. Differences in microbial community structure across a wildfire severity gradient are driven by soil pH and inorganic nitrogen three years post-fire. Biennial Meeting of the Soil Ecology Society, Toledo, OH. 28 – 31 May 2019. Oral presentation.
18. Nash, J., D. Warnock, J. Miesel, and L. Tiemann. 2019. Who benefits from biochar? Biogeochemical interactons in a perennial cropping system. Biennial Meeting of the Soil Ecology Society, Toledo, OH. 28 – 31 May 2019. Poster presentation.
19. Dickinson, M.B., A.R. Reiner, C.M. Ewell, N.M. Vaillant, J.R. Miesel, and J.M. Lyderson. 2019. Fire Behavior Assessment Team (FBAT): Applied science on active wildfires. 6th International Fire Behavior and Fuels Conference, Albuquerque, NM. 29 April – 03 May 2019. Poster.
20. Sturtevant, B., K. Quigley, M. Dickinson, C. Kern, R. Kolka, and J. Miesel. Pine woodland and barren restoration: What is possible with late dormant season burns? Lake States Fire Science Consortium Webinar Series. Online. 18 April 2019. Webinar.

21. Charland, P., J.A. Harrington, C. Maier, J. McGowan-Stinski, and J.R. Miesel. 2019. Can we improve the potential for fire research to inform management decisions? Society for Ecological Restoration Midwest Great Lakes Annual Meeting, Pella, IA. 12-14 April 2019. Poster.
22. Kolka, R., B. Sturtevant, C. Riggs, J. Miesel, E. Nater, E. Witt, and T. Wickman. 2018. The effect of fire on the cycling of mercury. North American Forest Soils Conference. Quebec City, Canada. 10-16 June 2018. Poster.
23. Dickinson, M.B., A.L. Reiner, C.M. Ewell, N.M. Vaillant, J.R. Miesel, J.M. Lydersen, and B.M. Collins. 2018. Applied science on active wildfires. The Fire Continuum Conference, Missoula, MT. 21-24 May 2018. Poster.
24. Miesel, J.R., R. Kolka, P. Townsend, and K. Docherty. 2017. How well do rapid-response soil burn severity metrics explain delayed observations of post-fire soil carbon and nitrogen mineralization rates? 7th International Fire Ecology and Management Congress, Orlando, FL. 01 December 2017. Oral presentation.
25. ‡Quigley, K.M., B. Sturtevant, R. Kolka, M. Dickinson, C. Kern, D. Donner, and J. Miesel. 2017. Burn severity estimates in relation to post-fire soil and ash properties. Association for Fire Ecology 7th International Fire Ecology and Management Congress. Orlando, Florida. 01 December 2017. Oral presentation.
26. ††Adkins, J., and J. Miesel. 2017. Fire has persistent effects on soil carbon and nitrogen pools important for ecosystem recovery. 7th International Fire Ecology and Management Congress, Orlando, FL. 01 Dec 2017. Oral presentation.
27. ††Adkins, J., and J. Miesel. 2017. Impacts of soil heating on soil carbon storage and microbial carbon processing. 7th International Fire Ecology and Management Congress, Orlando, FL. 28 Nov – 02 Dec 2017. Poster.
28. ††Brooke, C.T., and J.R. Miesel. 2017. Comparisons of spatial variability in soil physical properties across two burn units in the Moquah Pine Barrens of Wisconsin. 7th International Fire Ecology and Management Congress, Orlando, FL. 28 Nov – 02 Dec 2017. Poster.
29. ††James, J.A., Kern C.C., and J.R. Miesel. 2017. Legacy effects of prescribed fire season and frequency on soil properties in a Pinus resinosa forest in northern Minnesota. Association for Fire Ecology 7th Fire Congress, Orlando, FL. 28 November – 2 December 2017. Poster.
30. †Wildt, R., K. Quigley, and J. Miesel. 2017. Quantifying ash characteristics after a prescribed burn in the Chequamegon-Nicolet National Forest. 7th International Fire Ecology and Management Congress, Orlando, FL. 28 Nov – 02 Dec 2017. Poster.
31. Warnock, D., ††H. Ren., J. Miesel, and L. Tiemann. 2017. Who benefits from biochars: Microbes, weeds, or conifer seedlings? Soil Science Society of America 2017 Annual Meeting, Tampa, FL. 22 – 25 Oct 2017. Poster.
32. Fernández-García, V., J. Miesel, E. Marcos, and L. Calvo. 2017. Soil biochemical properties as potential indicators of fire severity three years after fire. 6th International Fire Effects on Soil Properties (FESP6) Meeting, Kruger National Park, South Africa. 21-25 August 2017. Oral presentation.
33. ‡Maestrini, B., and J.R. Miesel. 2017. Influence of fire severity on soil pyrogenic carbon stocks in a California mixed conifer forest. 6th International Fire Effects on Soil Properties (FESP6) Meeting, Kruger National Park, South Africa. 21-25 August 2017. Oral presentation.

34. Miesel, J.R., A.L. Reiner, C.M. Ewell, J. Sanderman, and B. Maestrini. 2017. How does wildfire affect soil total C, pyrogenic C, and nutrient concentrations in mixed-conifer forest? Lessons from pre- and post-fire sampling in active wildfire incidents. 6th International Fire Effects on Soil Properties (FESP6) Meeting, Kruger National Park, South Africa. 21-25 August 2017. Oral presentation; delivered by B. Maestrini.

35. †Caretti, E.M., and J.R. Miesel. 2017. Identifying knowledge and remaining unknowns about fire and invasive species in the Lake States forests. The Science, Practice & Art of Restoring Native Ecosystems Conference, East Lansing, MI. 13 -14 January 2017. Poster.

36. Miesel, J.R., A.L. Reiner, C.M. Ewell, J. Sanderman, ‡B. Maestrini, and ††J. Adkins. 2016. Quantifying fire's impacts on total and pyrogenic carbon stocks in mixed-conifer forests: Results from pre- and post-fire measurements in active wildfire incidents. American Geophysical Union Fall Meeting. San Francisco, CA. 12-16 December 2016. Oral presentation; included in organized session.

37. ‡ Santos, F., S. Wagner, D. Rothstein, J. Miesel, and R. Jaffe. 2015. Evaluating the influence of fire history on dissolved pyrogenic C exported from coniferous and deciduous forest soils in the northern Great Lakes region. American Geophysical Union Fall Meeting, San Francisco, CA. 14-18 December 2015. Poster.

38. ††Adkins, J., ‡B. Maestrini, and J.R. Miesel. 2015. Fire severity impacts on post-fire soil carbon storage and mineralization. Association for Fire Ecology 6th International Fire Ecology and Management Congress, San Antonio, TX. 17 November 2015. Poster.

39. ††James, J.A., C.C. Kern, and J.R. Miesel. 2015. Prescribed fire in red pine ecosystems: Lessons from a 50-year-old study. Association for Fire Ecology 6th International Fire Ecology and Management Congress, San Antonio, TX. 17 November 2015. Poster.

40. Miesel, J.R., W.C. Hockaday, and R.K. Kolka. 2015. How does wildfire severity influence soil organic matter composition and dynamics in southern boreal forest? Association for Fire Ecology 6th International Fire Ecology and Management Congress, San Antonio, TX. 16 – 20 November 2015. Oral presentation.

41. Kolka, R.K., B. Sturtevant, J. Miesel, P. Townsend, P. Wolter, S. Fraver, and T.M. DeSutter. 2015. Post fire forest floor fire severity index relationships with soil carbon, nitrogen and mercury pools. Soil Science Society of America Conference, Minneapolis, MN. 15 – 18 November 2015. Poster.

42. Miesel, J.R., W.C. Hockaday and R.K. Kolka. 2015. What factors control post-fire ecosystem processes in burned forest? Examining the influences of wildfire severity, forest type, and soil organic matter composition on carbon and nitrogen dynamics. 5th International Fire Effects on Soil Properties (FESP5) Meeting, Dublin, Ireland. 12 - 17 July 2015. Oral presentation.

43. ††Michelotti, L.A., and J.R. Miesel. 2015. Source material and concentration of wildfire-produced pyrogenic carbon influence distinctively post-fire nutrient dynamics. Plant Science Graduate Student Research Symposium, Michigan State University, East Lansing, MI, 24 March 2015. Poster presentation.

44. †Uhelski, D.M., ††L.A. Michelotti, and J.R. Miesel. 2015. Does position in the tree affect the extent of bark charring? University Undergraduate Research and Arts Forum, Michigan State University, East Lansing, MI. 10 April 2015. Poster.

45. Kolka, R., B. Sturtevant, J. Miesel, P. Townsend, P. Wolter, S. Fraver, and T. DeSutter. 2014. Post fire forest floor fire severity index relationships with soil mercury pools. Soil Science Society of America Conference. Long Beach, CA. 02 - 05 November 2014. Oral presentation.

46. Miesel, Jessica R., L.M. Jablonski, and C.H. Nilon. 2014. Developing an environmental justice graduate course for ecology students: Insights from interactions with interfaith and activist community members. In IGNITE: Ecology & Religion: How Should Ecologists Engage with Faith Communities? Hitzhusen, G.E., F. Isbell, R. Hammer, and L.M. Jablonski, Organizers. Ecological Society of America 99th Annual Meeting, Sacramento, CA. 10 - 15 August 2014. Oral presentation (presented by C.H. Nilon).

47. †Huck, J.T. and J.R. Miesel. 2014. Can biochar amendments facilitate Christmas tree production in Michigan's sandy soils? University Undergraduate Research and Arts Forum, Michigan State University, East Lansing, MI. 04 April 2014, and The Science, Practice & Art of Restoring Native Ecosystems Conference, East Lansing, MI. 17-18 January 2014. Poster.

48. Goebel, P.C. and J.R. Miesel. 2014. Variability in woody plant composition, stand structure and fuel loadings of wildfire-regenerated jack pine stands. Kirtland's Warbler Recovery Team Meeting, Roscommon, MI. 19 March 2014. Oral presentation.

49. Miesel, J.R., R.K. Kolka, P.A. Townsend, and W.C. Hockaday. 2013. Fire severity effects on forest soil C and N in northern Minnesota, USA. Ecological Society of America 98th Annual Meeting, Minneapolis, MN. 04 – 09 August 2013. Oral presentation.

50. Miesel, J.R., R.K. Kolka, P.A. Townsend, and W.C. Hockaday. 2013. Fire severity effects on soil organic matter in northern Minnesota, USA. 4th International Fire Effects on Soil Properties (FESP4) Meeting, Vilnius, Lithuania. 02 - 05 July 2013. Oral presentation.

51. Kolka, R., S. Fraver, P. Townsend, B. Sturtevant, P. Wolter, J. Miesel, and T. DeSutter. 2013. Canopy and forest floor fire severity index relationships with soil carbon, nitrogen and mercury pools. North American Forest Soils Conference, Whitefish, MT. 16 – 20 June 2013. Poster.

52. Miesel, J.R., R.K. Kolka, P.A. Townsend, and W.C. Hockaday. 2013. Fire severity effects on soil organic matter in northern Minnesota, USA. International Union of Soil Sciences Global Soil C Conference, Madison, WI. 3-6 June 2013. Oral presentation.

53. Miesel, J.R. 2013. Lake States Fire Science Consortium knowledge gaps assessment: Fire effects on bird species and trophic groups. Kirtland's Warbler Recovery Team Meeting, Bath, MI. 13 March 2013. Oral presentation.

54. †Lasko, S.L., J.R. Miesel, D.J. Mladenoff, and P.C. Goebel. 2012. Knowledge gaps assessment of fire effects on reptiles and amphibians in the Lake States region. The Science, Practice & Art of Restoring Native Ecosystems Conference, East Lansing, MI. 18 – 19 January 2013, and University of Wisconsin-Madison Undergraduate Mentored Research Poster Symposium, Madison, WI. 13 December 2012. Poster.

55. †Strangstalien, J.L., J.R. Miesel, D.J. Mladenoff, and P.C. Goebel. 2012. The effects of fire on arthropods in the Lake States region. The Science, Practice & Art of Restoring Native Ecosystems Conference, East Lansing, MI. 18 – 19 January 2013, and University of Wisconsin-Madison Undergraduate Mentored Research Poster Symposium, Madison, WI. 13 December 2012. Poster.

56. Miesel, J.R., P.M. Nelson, P.C. Goebel, R.G. Corace III, and D.M. Kashian. 2012. Forest fuels and vegetation in wildfire-regenerated jack pine (Pinus banksiana Lamb.) forests: informing ecological forestry in the Lake States region. Ecological Society of America 97th Annual Meeting, Portland, OR. 5 - 10 August 2012. Poster.

57. †Bergstrom, C.E., J.R. Miesel, D.J. Mladenoff, and P.C. Goebel. 2012. The effects of fire on pre-settlement and present day forest composition in the Lake States. University of Wisconsin-Madison Undergraduate Mentored Research Poster Symposium, Madison, WI. 08 May 2012. Poster.

58. †Bobel, E.J., J.R. Miesel, D.J. Mladenoff, and P.C. Goebel. 2012. The effects of fire disturbance on mammals in the Lake States region. University of Wisconsin-Madison Undergraduate Mentored Research Poster Symposium, Madison, WI. 08 May 2012. Poster.

59. Corace, R.G. III, P.C. Goebel, R.H. Ziel, and J.R. Miesel. 2012. Bringing fire science information and emerging needs to managers and scientists: the Lake States Fire Science Consortium. Western Great Lakes Resource Management Conference, Ashland, WI. 17-18 April 2012. Poster.

60. †Howk, F., J.R. Miesel, D.J. Mladenoff, and P.C. Goebel. 2012. Reviewing the effects of fire frequency, intensity and seasonal timing on invasive plant species in Great Lakes prairies. The Stewardship Network Conference: The Science, Practice & Art of Restoring Native Ecosystems 2012, Lansing, MI, 20-21 January 2012 and University of Wisconsin-Madison Undergraduate Mentored Research Poster Symposium, Madison, WI, 14 December 2011. Poster.

61. †Rausch, S., J.R. Miesel, D.J. Mladenoff, and P.C. Goebel. 2012. Fire affects vegetation composition in Great Lakes Ecosystems. University of Wisconsin-Madison Undergraduate Mentored Research Poster Symposium, Madison, WI, 14 December 2011. Poster.

62. †Samdani, A., J.R. Miesel, D.J. Mladenoff, and P.C. Goebel. 2012. Concentrations of particulate matter from wildland fires. The Stewardship Network Conference: The Science, Practice & Art of Restoring Native Ecosystems 2012, Lansing, MI. 20-21 January 2012, and University of Wisconsin-Madison Undergraduate Mentored Research Poster Symposium, Madison, WI, 14 December 2011. Poster.

63. †Willis, D., J.R. Miesel, D.J. Mladenoff, and P.C. Goebel. 2012. The use of prescribed fire to control the spread of four invasive plant species in the Great Lakes region. The Stewardship Network Conference: The Science, Practice & Art of Restoring Native Ecosystems 2012, Lansing, MI. 20-21 January 2012, and University of Wisconsin-Madison Undergraduate Mentored Research Poster Symposium, Madison, WI, 14 December 2011. Poster.

64. Miesel, J.R., M.D. Raudenbush, M.J. Renz, and R.D. Jackson. 2011. Nitrogen dynamics, soil respiration, and microbial exoenzyme activity in contrasting perennial bioenergy systems in southwestern Wisconsin. Ecological Society of America 96th Annual Meeting, Austin, TX. 7-12 August 2011. Poster.

65. Miesel, J.R., J.E. Doll, M.J. Renz, S. Bertjens, and R.D. Jackson. 2010. Net ecosystem carbon budgets for contrasting perennial biomass crops in southwestern Wisconsin. Ecological Society of America 95th Annual Meeting, Pittsburgh, PA. 1-6 August 2010. Poster.

66. Miesel, J.R., M.J. Renz, M.D. Raudenbush, J.E. Doll, S. Bertjens, and R.D. Jackson. 2010. Using native species mixtures for bioenergy crops: effects of management practices on yield and other ecosystem services. The Stewardship Network Conference: The Science, Practice & Art of Restoring Native Ecosystems 2010, Lansing, MI. 22-23 January 2010. Poster.

67. Miesel, J.R. 2008. Getting the trees to talk: Effects of large-scale forest restoration treatments on foliar N and P. Ecological Society of America 93rd Annual Meeting, Milwaukee, WI. 3-8 August 2008. Oral presentation.

68. Miesel, J.R., R.E.J. Boerner and C.N. Skinner. 2008. Below-ground impacts of Fire and Fire Surrogate treatments in a northern California mixed conifer ecosystem. Buckeye Ecologists Inaugural Graduate Research Symposium, Columbus, OH. 26 March 2008. Oral presentation.

69. Miesel, J.R., R.E.J. Boerner and C.N. Skinner. 2007. Below-ground impacts of Fire and Fire Surrogate treatments in a northern California mixed conifer ecosystem. 11th Biennial Soil Ecology Society Meeting, Moab, UT. 29 April – 2 May 2007. Poster.

70. Miesel, J.R., C.N. Skinner and R.E.J. Boerner. 2006. Below-ground impacts of Fire and Fire Surrogate treatments in a northern California mixed conifer ecosystem. 3rd International Fire Ecology and Management Congress, San Diego, CA. 13-17 November 2006. Poster.
71. Miesel, J.R., R.E.J. Boerner and C.N. Skinner. 2006. A comparison of two thinning prescriptions for restoration of a California mixed-conifer ecosystem: Influence on soil and forest floor nutrient content and soil enzyme activity. Ecological Society of America 91st Annual Meeting, Memphis, TN. 6-11 August 2006. Poster.
72. Miesel, J.R., Skinner, C.N. and Boerner, R.E.J. Impact of fire on soil resource patterns in a northern California montane ecosystem. Fire in Eastern Oak Forests: Delivering Science to Land Managers. The Ohio State University, Columbus, OH. 15-17 November 2005. Poster.
73. Miesel, J.R., Skinner, C.N. and Boerner, R.E.J. Impact of fire on soil resource patterns in a northern California montane ecosystem. 23rd Tall Timbers Fire Ecology Conference, Bartlesville, OK. 17-20 October 2005. Poster.
74. Miesel, J.R., Skinner, C.N., and Boerner, R.E.J. Impact of ecological restoration treatments on soil resource patterns in mixed conifer forests in the southern Cascade Range of northern California. Soil Ecology Society Biannual Meeting, Chicago, IL. 22-25 May 2005. Poster.