

Curriculum Vitae

James M. Yoder

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Work Address:
Eastern Mennonite University
1200 Park Rd.
Harrisonburg, VA 22802
540-432-4410 yoderjm@emu.edu

Home Address:
450 Maryland Ave.
Harrisonburg, VA 22801
540-421-9912

EDUCATION

- 2004 **Ph.D.** Department of Evolution, Ecology, and Organismal Biology, The Ohio State University, Columbus, Ohio
- 2001 **M.S.** Department of Evolution, Ecology, and Organismal Biology, The Ohio State University, Columbus, Ohio
- 1994 **B.S.** Honors, Biology, Eastern Mennonite University, Harrisonburg, Virginia
Minors: Computer Science, English

PROFESSIONAL EXPERIENCE

- 2019 - present PROGRAM DIRECTOR, BIOLOGY, BIOCHEMISTRY, CLINICAL LAB SCIENCE, ENVIRONMENTAL SCIENCE, & PUBLIC HEALTH
Eastern Mennonite University, Harrisonburg, VA
- 2008 - present PROFESSOR OF BIOLOGY
Eastern Mennonite University, Harrisonburg, VA
- 2005 - present CURATOR, D. Ralph Hostetter Museum of Natural History, Eastern Mennonite University, Harrisonburg, VA
- 2022 – present HONORARY PROFESSOR
Macquarie University, Sydney, Australia
- 2010 - 2021 CROSS-CULTURAL LEADER, New Zealand (2010, 2012, 2015) & Navajo Nation (2017, 2021)
Eastern Mennonite University, Harrisonburg, VA

GRANTS & AWARDS

- 2025 [NSF-S-STEM Track II](#) "Interdisciplinary Pathways to STEM Success and Sustainability: A Place-Based Restoration Effort", 2025-2031. Co-Principal Investigator, March 2025
- 2024 NSF-IRES grant Track I: Tephritid fruit fly Multidisciplinary Australian Research Collaboration for Biosecurity, 2022-2024 (#1854034). \$298,700. Principal Investigator (PI) for year three of the grant (Matt Siderhurst PI for years 1-2). Also led groups of 6-7 undergraduate research students to Australia to collaborate with Australian Department of Agriculture and Fisheries researchers in North Queensland from 2022-2024.
- 2019 Virginia Department of Environmental Quality, 2018-19 Citizen Monitoring Grant. Funded w/ Doug Graber Neufeld, \$3,890, August 2019
- 2018 “Wood Turtle (*Glyptemys insculpta*) Survey and Population Assessment of Slate Lick-Shoemaker River Area, Rockingham County, VA” – Contract with the Virginia Department of Natural Heritage and the U.S. National Forest Service, \$2,365 (3/18)
- 2016 J.M. Yoder. “Bennett’s Run Stream Restoration Riparian Planting Project” – Virginia Trees for Clean Water Grant from the Virginia Department of Forestry for \$3,600 (10/16)
- 2014 J. M. Yoder, D. Graber Neufeld, and B. Wagner. “Changing Agricultural Impacts on Shenandoah Headwaters”— Chesapeake Bay Stewardship Fund Implementation Grant from the National Fish and Wildlife Foundation for \$200,000 (9/14)

2008	Cessna, S. and J. M. Yoder. "Acquisition of Instrumentation to Support Integrated Research and Teaching in Interdisciplinary Environmental Plant Biology"—A National Science Foundation Major Research Instrumentation grant for \$103,130 (9/08)
2006	Faculty Release Time Grant (6 SH and \$500), Eastern Mennonite University
2006	Quality Service Award, Eastern Mennonite University, Harrisonburg, VA
1998	Sidney Pressey Honors Course Enrichment Grant, University Honors Center, Ohio State University, Columbus OH
1998	Graduate Teaching Award, Department of Zoology, Ohio State University, Columbus OH
1995-96	University Fellowship, Ohio State University, Columbus OH

RESEARCH & PROFESSIONAL INTERESTS

Jim is the current program director for the Biology, Biochemistry, Medical Laboratory Sciences, Public Health and Environmental Science programs. He advises environmental science and biology majors and primarily teaches in the areas of evolution, ecology, and conservation biology. He earned his Ph.D. from the Ohio State University and his primary research interests include conservation biology, landscape ecology, behavioral ecology, and animal movement. Early research focused on population and behavioral responses of species to habitat fragmentation. His dissertation research at The Ohio State University, conducted in collaboration with the Ohio Division of Wildlife, examined the effects of fragmented habitat on the dispersal and population dynamics of ruffed grouse in southeastern Ohio.

In 2006, he began a long-term collaborative study working with Shenandoah National Park research botanist, Wendy Cass. The research was conducted by 2-3 EMU undergraduates per year (including summers) as well as SNP personnel. The project includes intense on-site field sampling as well as mapping and analysis of exotic plant spread and impact using GIS. The project addressed two specific research questions that focused on the exotic plants invading the Shenandoah National Park: 1) What is the rate of spread of the three most threatening exotic species beginning to invade the Big Meadows Swamp Natural Heritage area and 2) What is the impact of these exotics on the continued viability of the eight rare plant species located within the area?

In the fall of 2014, Jim initiated a stream restoration and monitoring project in the German River and Crab Run watersheds, located near Bergton, VA. This was a collaborative project with initial funding provided by a grant from the National Fish and Wildlife Foundation grant that included partnering with EMU colleague Dr. Doug Graber Neufeld, Ecosystem Services, LLC., Tom Akre at the Smithsonian Conservation Biology Institute and EMU's Center for Justice and Peace. The immediate goals of the project were to conduct a watershed assessment and restore two sections of stream as well as assess potential strategies to encourage adoption of best management practices by community members. His students specifically worked on stream macroinvertebrate monitoring to determine the impacts of restoration and long-term population trends of Wood turtles in the watersheds.

In 2018, he became involved in nitrogen footprint tracking, joining the Nitrogen Footprint Working Group, which is centered at the University of New Hampshire Center for Sustainability and the University of Virginia. Current projects include tracking carbon and nitrogen footprints at both EMU and for the City of Harrisonburg, as well as working on footprint reduction scenarios and goal setting.

Most recently, in the fall of 2021, he joined colleague Dr. Matt Siderhurst to collaborate on the study of movement of Tephritid fruit flies and other insects using harmonic radar technology. In the summers of 2022, 2023 & 2024 he accompanied 20 undergraduate students to Australia as part of Dr. Siderhurst's NSF IRES grant to continue the work harmonic radar work on Queensland fruit flies with researchers at Macquarie University in Sydney, James Cook University in Townsville, NSW and researchers at the Department of Agricultural and Fisheries in Mareeba, NSW. Jim and Matt are continuing to collaborate on various projects, tracking insect movements using harmonic radar to better model outbreaks and dispersal of agricultural pests. During the fall of 2024, he initiated research on the feasibility of using harmonic radar to study the questing behavior and individual movement of local tick species.

Jim is also heavily involved in study abroad education and has led intercultural trips to New Zealand in the summer of 2010 (6 weeks), fall 2012 (full semester), and summer of 2015 (6 weeks) with his wife, Kathy Yoder. The trips focused on sustainability issues related to tourism, natural resource conservation, and agriculture as well as indigenous Maori culture, restorative justice and New Zealand history. He also co-led two 3-week summer cross-cultural trips to the Navajo Nation in Arizona, focusing on similar themes with the Navajo and Apache peoples, first with Dr. Gloria Rhodes (2017) and most recently with Kathy Yoder (2021). In March 2023, he led a 3-week alumni cross-cultural trip to New Zealand, and in the summer of 2027, he will co-lead a 3-week intercultural trip to Washington, D.C., focusing on urban sustainability and Environmental Justice with WCSC faculty member Ann Butwell. In addition to intercultural trips, Jim has co-led three research trips to Sydney and North Queensland, Australia, with 20 students from EMU, Bridgewater, and JMU over a three-year period.

In addition, Jim has been the curator of EMU's D. Ralph Hostetter Museum of Natural History since 2007.

PUBLICATIONS

- Moses, Ethan R., Meredith GM Lehman, Adesola J. Johnson, Allysen M. Welty Peachey, James M. Yoder, Stefano G. De Faveri, Jodie Cheesman, Nicholas C. Manoukis, and Matthew S. Siderhurst. "Tracking individual *Bactrocera tryoni*: Wind effects and natural movement." *Entomologia Experimentalis et Applicata* (2025). <https://doi.org/10.1093/ee/nvae108>
- Welty Peachey, Allysen M., Ethan R. Moses, Adesola J. Johnson, Meredith GM Lehman, James M. Yoder, Stefano G. De Faveri, Jodie Cheesman, Nicholas C. Manoukis, and Matthew S. Siderhurst. Wind effects on individual male and female *Bactrocera jarvisi* (Diptera: Tephritidae) tracked using harmonic radar. *Environmental Entomology* 54, no. 1 (2025): 1-14. <https://doi.org/10.1093/ee/nvae108>
- Hurst, A.L., O'Brien, A.L., Miller, N.D., Peachey, A.M.W., Yoder, J.M., De Faveri, S.G., Cheesman, J., Manoukis, N.C. and Siderhurst, M.S., 2024. Tracking and modeling the movement of Queensland fruit flies, *Bactrocera tryoni*, using harmonic radar in papaya fields. *Scientific Reports*, 14(1), p.17521. <https://doi.org/10.1038/s41598-024-67372-4>
- Dukes, E., E. Castner, A. Leach, J. N. Galloway, J. Lloret, S. Messenger, A. Zheng, S. Baumgarn, J. Yoder, E. Royal, D. Wisteman. 2021. Introducing the nitrogen footprint in SIMAP: A review of improvements in nitrogen footprint methodology for institutions. *Sustainability and Climate Change* 14: 415-423. <http://doi.org/10.1089/scc.2021.0048>
- Yoder, J.M and B.J. Miller. 2014. Using Accreditation to Foster Education for Sustainability in Higher Education: The Implementation of the Peace with Creation Project at Eastern Mennonite University, In H.E. Muga and K. D. Thomas (eds). *Cases on Pedagogical Innovations for Sustainable Development*. New York: IGI Global, U.S.
- Graber Neufeld, D.S., and Yoder, J. 2011. The Role of Feeding Adaptations in Resource Competition between Invasive and Native Clams. Proceedings of ABLE. Pages 78-87, in Tested Studies for Laboratory Teaching, Volume 32 (K. McMahon, Editor). Proceedings of the 32nd Conference of the Association for Biology Laboratory Education (ABLE), 383 pages.
- Yoder, J.M, C.A. Yoder, C.A. Devadason, and W. Cass. 2007. The Use of GIS in Determining the Spread and Impact of Invasive Plant Species within a Wetland Community (Abstract) *Virginia Journal of Science* 58
- Yoder J.M. 2006. How the story of Jesus and the life of the church has shaped my interactions with students and my teaching practices. Proceedings of the 2006 Mennonite University Faculty Conference. Mennonite Education Agency.
- Yoder J. M., D. A. Swanson, E. A. Marschall. 2004. The Cost of Dispersal: Predation as a function of movement in Ruffed grouse. *Behavioral Ecology* 15: 469-476.
- Connor, E.F., J. M. Yoder, A. C. Courtney. 2000. Individuals-area relationships: The relationship between animal population density and area. *Ecology* 81:734-748
- Connor, E.F., J.M. Yoder, J.A. May. 1999. Density-related predation by *Poecile carolinensis* on the Leaf-Mining Moth, *Cameraria hamadryadella* at three spatial scales. *Oikos* 87:105-112
- Yoder, J.M., J.L. Dooley, J.F. Zawacki, M.A. Bowers. 1996. Female aggression in *Microtus pennsylvanicus*: Arena trials in the field. *American Midland Naturalist* 135: 1-8.

PRESENTATIONS

- Movements of male and female colony-reared *Bactrocera jarvisi* tracked using harmonic radar in northern Queensland papaya fields. Adesola Johnson, Allysen Welty-Peachey, Ethan Moses, Meredith Lehman, James Yoder, Matthew Siderhurst, Jodie Cheesman and Stefano De Faveri. Eastern Branch Meeting, Entomological Society of America, March 2024
- Harmonic radar tracking of tephritid fruit fly natural movement. Ethan Moses, Allysen Welty Peachey, Stefano De Faveri, Jodie Cheesman, Matthew Siderhurst, James Yoder, Adesola Johnson and Meredith Lehman. Eastern Branch Meeting, Entomological Society of America, March 2024
- Assessing the persistence of directional bias in the movement of Queensland fruit flies, *Bactrocera tryoni*, using harmonic radar tracking. Meredith Lehman, Ethan Moses, Adesola Johnson, Allysen Welty Peachey, Stefano De Faveri, Jodie Cheesman, Matthew Siderhurst and James Yoder. Eastern Branch Meeting, Entomological Society of America, March 2024

Persistent directional bias in the movement of Queensland fruit flies, *Bactrocera tryoni*, tracked using harmonic radar in papaya fields. Anika Hurst, Allison O'Brien, Nicole Miller, Allysen Welty Peachey, Stefano De Faveri, James Yoder, Matthew Siderhurst and Jodie Cheesman. Eastern Branch Meeting, Entomological Society of America, March 2024

Counting the Cost: Carbon and Nitrogen Footprinting. J. Yoder. Mennonite Higher Education Sustainability Summit. Eastern Mennonite University, August 2022.

Nitrogen Footprint Tracking: From University to Community. J. Yoder. 10th Americas RCE Meeting 2021: Creating an Ongoing Learning Space for Sustainable Development in the Americas. Virtual, October 2021

Headwaters of the North Fork of the Shenandoah Restoration Project: Stream Restoration, Monitoring and Community Engagement to Increase Watershed Health. J. Yoder, D. Graber Neufeld, J. Docherty, B. Wagner. Mid-Atlantic Stream Restoration Conference, Baltimore, MD. September 2017.

Nutrient loading, sedimentation and overall watershed health assessment in the headwaters of the North Fork of the Shenandoah River. J. Reist, T. Denlinger, D.S. Graber Neufeld, and J.M. Yoder. Virginia Academy of Science Annual Meeting, Fredericksburg, VA. May 2016.

Ecological watershed monitoring in the headwaters of the north fork of the Shenandoah River using macroinvertebrate and turtle surveys. D. Mendoza, S. Stoner, R. Keiner, D. S. Graber Neufeld & J.M. Yoder, Virginia Academy of Science Annual Meeting, Fredericksburg, VA. May 2016.

An Integrated Ecological and Water Quality Assessment of the Headwaters of the North Fork of the Shenandoah River, B. Yoder, J. Parker, D. G. Neufeld and J. Yoder. Virginia Academy of Science Annual Meeting, Harrisonburg, VA. May 2015.

Changing Agricultural Impacts on Shenandoah Watershed. J. Yoder, D. Graber-Neufeld, J. Docherty¹ & B. Wagner. National Fish and Wildlife Foundation, Agricultural Networking Forum, Cumberland, MD. November 2014.

New Zealand. Yoder, J.M. Eastern Mennonite High School chapel, Harrisonburg, VA. May 6, 2013.

Measurement Of Invasive Plant Cover Changes To Prioritize And Assess Exotic Plant Control Efforts In A Rare Virginia Wetland. Yoder, J.M., Shenk, A., and Cass, W.. Annual Meeting of the Mid-Atlantic Chapter of the Ecological Society of America. Blacksburg, VA. April 2012

Let's Get Serious about Integrating Sustainability into General Education: Strategies for Staff and Faculty. Stewart, M, Yoder, J.M., Lantz-Trissel, J., and Rowe, D. Panel Discussion. Annual Meeting of the Association for the Advancement of Sustainability in Higher Education. Pittsburgh, PA. October 2011.

Environmental Sustainability: A QEP for the 21st Century. Yoder, J.M. and Aracena, B., Southern Association of Colleges and Universities Annual Meeting. Louisville, KY. December 2010.

Developing a Culture of Sustainability at EMU. Yoder, J.M. Virginia Mennonite Retirement Community Annual Board Retreat. Harrisonburg, VA. October 2010.

Measurement of native and invasive plant cover changes to improve planning and management in a rare Virginia wetland (poster). Harman, C.H., Yoder J.M., Cass, W.B. Annual Meeting of the Ecological Society of America. Pittsburgh, PA. August 2010.

Peace With Creation: A History of Sustainability at Eastern Mennonite University. Yoder. J.M., Peace on Earth: Anabaptism and Ecological Action in Aotearoa (Symposium), Waikanae, New Zealand, May, 2010

The Use of GIS in Determining the Spread and Impact of Invasive Plant Species Within a Wetland Community (poster). Yoder J.M, C.A. Yoder, C.A. Devadason, and W. Cass. Annual Meeting of the Virginia Academy of Science, Harrisonburg, VA. May, 2007.

Mapping Invasive and Rare Wetland Plant Species to Visualize Competition and Devise a Control Strategy. Cass, W. and J. M. Yoder. Annual Meeting of the George Wright Society, St. Paul MN. April 2007.

How the story of Jesus and the life of the church has shaped my interactions with students and my teaching practices. J. M. Yoder. Mennonite University Faculty Conference, Bluffton, OH. August, 2006.

The Effects of Landscape Characteristics on Ruffed Grouse Movements. Yoder J. M., D. A. Swanson, E. A. Marschall. Annual Meeting of the Ecological Society of America. Portland OR. August 1, 2004.

Ruffed Grouse movements and population dynamics in a fragmented landscape. Yoder J. M., D. A. Swanson, E. A. Marschall. Ohio Avian Conservation and Ecology Conference. Columbus OH. August 6, 2001.

Measuring the Cost of Dispersal: Predation Risk as a Function of Movement Distance in Ruffed Grouse. Yoder J. M., D. A. Swanson, E. A. Marschall. 117Th Stated Meeting of the American Ornithologists' Union. Ithaca NY. August 5-11, 1999.

Dispersal of Ruffed Grouse in a fragmented landscape. Yoder J. M., D. A. Swanson, E. A. Marschall. 60th Annual Midwest Fish and Wildlife Conference. Cincinnati OH. December 6-9, 1998.

Dispersal and population dynamics of Ruffed Grouse in a heterogeneous landscape: Developing a spatial model. Yoder J. M., D. A. Swanson, E. A. Marschall. 115Th Stated Meeting of the American Ornithologists' Union. Minneapolis MN. August 13-17, 1997.

Dispersal and population dynamics of Ruffed Grouse in a heterogeneous landscape. Yoder J. M., D. A. Swanson, E. A. Marschall. 7TH Biennial Southern Grouse Workshop, Greenbrier, WV. October 14-17 1997.

TECHNICAL REPORTS

Yoder J. M. 1996 - 1999. Dispersal and population dynamics of Ruffed Grouse in a heterogeneous landscape. Annual and Quarterly Performance Reports, Ohio Department of Natural Resources, Division of Wildlife, Columbus, OH.

PROFESSIONAL SOCIETY MEMBERSHIPS

1995 - present	Ecological Society of America
1996 - present	Society for Conservation Biology
2002 - 2018	Association for Biology Laboratory Education
2003 - 2008	National Science Teachers Association
2006 - present	American Association for the Advancement of Science
2007 - 2009	Society for Conservation GIS
2023 - present	Entomological Society of America

EMU NON-TEACHING ACTIVITIES

- Program Director, Biology, Biochemistry, Medical Lab Science, Public Health & Environmental Science Programs, Aug. 2019 - present
- Co-Chair, Pathways General Education Curriculum Project Team, 2024-2025
- Creation Care Council, 2007 – present
- Curator, D. Ralph Hostetter Museum of Natural History, 2005 – present
- Advisor for Environmental Science and Environmental Sustainability majors, 2001 - present
- Faculty Advisor for Earthkeepers student organization, 2000 – present
- Institutional Animal Care and Use Committee, 2019 - 2024
- Inter Cultural Committee, 2009 – 2015, 2018 – 2025
- Academic Council, 2019 - 2022
- Oversight Committee, The Center for Sustainable Climate Solutions, 2016 – 2019
- Admissions Committee, 2016 – 2019
- QEP Implementation Team Chair, 2009 – 2015
- Faculty Senate, 2013-2015
- Writing Committee, 2010 – 2014
- Committee on Teacher Education, 2006 – 2014
- QEP Planning Committee, 2008 – 2009
- Admissions Committee, 2007 – 2009
- Biology Faculty Search Committees, 2006 (chair), 2007, 2012, 2019, 2021
- Library Advisory Committee, 2002-2006