

Credentials

State of Michigan Registered Forester #3301045977	2003-present
International Society of Arboriculture (ISA) Certified Arborist #MI-0424	1998-2008

Education

M.S. 2000. Forestry, Michigan Technological University, School of Forestry and Wood Products (SFWP), Houghton, MI. *Thesis Title: Growth and development of tamarack following bucket mounding site preparation in an upper Michigan mineral wetland*

B.S. 1998. Forestry, Michigan Technological University, SFWP (*Summa Cum Laude, GPA 3.99*)

A.A.S. 1996. Forest Technology, Michigan Technological University, SFWP (*Summa Cum Laude, GPA 3.98*)

Experience

Dec. 2015 to Present: Senior Lecturer/Forester, College of Forest Resources and Environmental Science (CFRES), (formerly School of Forest Resources and Environmental Science), Michigan Technological University (MTU), 1400 Townsend Drive, Houghton, MI 49931, (906) 487-2454. Full time position.

Duties: Teach courses, conduct outreach to k-12 teachers and students, natural resources professionals and the general public, assist other faculty and graduate students with forest research and special projects (especially implementation, plot installation, treatment layout and marking) write grants, implement and administer funded projects, collect forest inventory data, write silvicultural prescriptions, create stand maps using historic documents, ArcGIS, Web Soil Survey, and other software, mark timber and boundaries, GPS boundaries and special features, write timber sale prospectuses and timber sale contracts, obtain stream crossing permits, supervise and administer timber sales, write and update management plans, hire, train, and supervise hourly students

Nov. 2000 to Dec. 2015: Lecturer/Forester, School of Forest Resources and Environmental Science, Michigan Technological University. Full time position. Duties as above.

May to Nov. 2000: Independent Forestry Contractor, Big Creek Forestry, 550 Karen Rd., Marquette, MI 49855, (906) 249-5660. Part time position (approximately 10-20 hours per week).

Duties: marking timber, mapping and marking boundaries, timber trespass assessment and quantification

May 1998 to Nov. 2000: Graduate Research/Teaching Assistant, SFWP, MTU, 1400 Townsend Drive, Houghton, MI 49931, (906) 487-2454. Part-time position (approximately 25 hours per week).

Duties: Conducted forest research as part of a team, including mapping microtopography with a Leica total station, measured seedlings, forest overstory, and herbaceous vegetation, set up, maintainance, and downloading weather stations (PAR sensor, soil moisture, soil temperature, ambient temperature, and wind speed), supervised undergraduate students

Sept. 1995 to May 1998: Student Employee, Daniell Heights Apartments and SFWP, MTU, 1400 Townsend Drive, Houghton, MI 49931, (906) 487-xxxx. Part-time position (approximately 10 hours per week)

Duties: General maintenance including yard work and landscaping, snow removal on roofs and walkways, interior and exterior painting, minor demolition for bathroom upgrades/remodels

May 1992 to Sept. 1994: Arborist, McDuffie Tree Care, 9718 N. US-31, Ellsworth MI 49729, (231) 599-2699. Full time position (approximately 40-50 hours per week)

Duties: All facets of residential tree care including trimming, removals, cabling and bracing, spraying and fertilization, disease diagnosis, integrated pest management and monitoring, tree injections, equipment operation including bucket truck with material handler boom, chipper, stump grinder, and tractor, small-scale logging with tractor and winch, and equipment maintenance.

Winters 1992-3 and 1993-4: Feller/Bucker, Drenth Brothers, Inc., 9448 Six Mile Lake Rd., Ellsworth, MI 49729, (231) 588-2345. Full time position (approximately 40-50 hours per week)

Duties: Manual felling and bucking with chainsaw, bucking for grade, sorting and loading logs, equipment operation including 4x4 Terex front-end loader, and JD440C cable skidder, chainsaw and equipment maintenance.

Aug. 1987 to May 1992: Tree Care Technician/Foreman, Mt. Top/Green Ridge Tree Co., 7528 Chubb Rd., Northville, MI 48167 (248) 348-3730. Full-time position (approximately 45-60 hours per week)

Duties: All facets of commercial and residential tree care as above, also sales, marketing, and public relations, training new employees in equipment operation and tree climbing.

June 1985 to Oct. 1986: Crew Leader, Miehke Seeding/Mulching, 3610 Chippewa Hwy., Manistee, MI 49660.

University and Community Involvement

- MTU Tree Campus USA Committee: 2018-present
- Michigan Tech University Senate, Faculty-at-Large Senator: 2014-2017, SFRES Senator 2017
- Faculty Advisor, Forest Stewards Guild Student Chapter: 2013-present
- Faculty Advisor, Sigma Rho Fraternity: 2002-present
- Michigan Tech Trails and Recreational Forest Management Committee: 2002-2008
- Nara Nature Park Committee: 2004-2014
- Faculty Advisor, MTU Student Chapter of Society of American Foresters: 2004-2006
- Parent Group President, BHK Child Development Board, Portage Family Place: 2004
- Member, Math & Science Curriculum Committee, BHK Great Explorations Program: 2004

Teaching

FW3510 Outdoor Recreation and Tourism Systems	Spr 2020
FW4830 Integrated Resource Management II	Spr 2019, 2020
FW4811 Integrated Resource Management I	Fall 2018, 2019
FW5378 Field Methods	Fall 2019
FW4800 Communications in Natural Resources (1 module)	Fall 2016-2019
FW4810 Integrated Resource Assessment (Lab)	Fall 2011-2017
FW3150 Timber Harvesting	Fall 2001-2019, Sum 2016-2019
FW3190 Multiple Resource Assessment	Fall 2006-2008
FW3376, 3377, 5376, 5377 (FERM)	Fall 2002-Spr 2006, Fall 2014-Spr 2020
FW4140 Ecosystem Modeling	Spr 2000-2003
FW4140 Forest Modeling	Fall 1999-2000, Spr 2018
Tutoring for FW405 Forest Biometrics	Winters 1997-1999

Research and Teaching Interests

- Management and silviculture of northern hardwood and conifer forests
- Site preparation effects on forest regeneration of northern forest species
- Forest roads and recreational trails water quality best management practices
- Forest recreational development and infrastructure improvements
- Lake States timber harvesting systems and sustainable forest management

Grants

Validation and Demonstration of Forest Road Surfacing Methods to Protect Soil and Water Resources, 2017. NRCS Conservation Innovations Grant Program; Kelly, **Schmierer**, Wagenbrenner; Total Funding \$95,154. Installation and monitoring, including simulated rainfall trials, of three sites with four forest road surfacing methods in the Michigan Tech Research Forest.

Ford Center Forest Water Quality Management Demonstration Area, 2009. MI DEQ Non-point Source Pollution Program; **Schmierer**, Rivard, Pypker, Forsman, Erickson; Total Funding \$221,447. BMP installations and upgrades at 33 sites in the Michigan Tech Research Forest, including DEQ permits at 6 sites, 3 timber bridges, 1 portable bridge, 19 culverts, grading and ditching at 3 sites, rock lain channels and drainages, and water bars at 15 other sites and 14 interpretive signs. Reporting included site plans drawings, individual site costs (time and materials), soil mass loss remediation and reduction in sediment loads using standard MIDEQ methodologies.

Ford Center Water Quality Management Project, 2008. MI DNR FMFMD Forest Stewardship Program Outreach and Education Grant; **Schmierer**, Rivard, Forsman; Total Funding \$10,000. BMP installations on a forest road directly adjacent to the Sturgeon River and Canyon Falls Recreation Area including log and rock water bars, rock lain channel, and rock ford.

Demonstrate the Use of Red Pine and Eastern Hemlock in a Stress-Laminated Bridge, 2004-2006. USDA Forest Service, Northeastern Area State and Private Forestry--Wood in Transportation Program; Erickson, Forsman, **Schmierer**; Total Funding: \$59,635.

Design, testing, and installation of a red pine and hemlock bolt laminated bridge to replace an old ford crossing and inadequate foot bridge. Included DEQ permits, procurement, sawing, drying, testing, prepping, treating, and assembly, site work, and stabilization.

Geospatial Data Acquisition and Dissemination System (GDADS), 2003-2004. MTU Research Excellence Fund; Gale, Hyslop, Noble, **Schmierer**; Total Funding: \$21,800. Obtain and utilize advanced GPS/field computers to collect data on the Research Forest project

Tech Trails Interpretive Sign Project, 2003. MI DNR FMFMD Forest Stewardship Program Outreach and Education Grant; **Schmierer**; Total Funding: \$10,000. Design, construct, and install 15 interpretive signs in the MTU Recreational Forest/Nordic Ski Trails.

Construct and Evaluate the Performance of Six Timber Bridges Using Local Species in Northern Michigan, 2003-2005. USDA Forest Service, Northeastern Area State and Private Forestry—Wood In Transportation Program Grant; Erickson, Forsman, **Schmierer**; Total Funding: \$208,000. Procure logs and cut timbers, test, design, and build a truck bridge in Alberta village and 5 skidder/groomer bridges in the MTU Recreational Forest/Nordic Ski Trails.

Michigan Tech Institutional Team with MSU FIRST II (Faculty Institutes for Reforming Science Teaching), 2002-2005. National Science Foundation; Kellogg Biological Station. Bagley, Baltensperger, Huckins, Nagel, **Schmierer**. Attended intensive training on student engagement and assessment, active learning methods and other pedagogical theory with a multi-disciplinary team from Michigan Tech.

University Training and Certifications

- Diversity Literacy Training through 2018
- Legal Aspects of Faculty Hiring through 2018
- Registered Student Organization Advisor Training 2012-2019
- Title IX Non-Discrimination Training 2014-2019
- Campus Security Authority Training 2016-2019
- Cybersecurity Training 2019

Professional Affiliations

- Society of American Foresters (SAF): 1995-present
- International Society of Arboriculture Certified Arborist (ISA): 1998-2008
- Forest Stewards Guild: 2005-present
- MI Board of Foresters—University Representative and Registered Forester: 2018-present
- MI Registered Forester/Forester Licensing working group member: 2014-2018
- Michigan Master Logger Certification Board member: 2012-present
- Sustainable Forestry Initiative State Implementation Committee: affiliate member 2013-2019
- Michigan DNR Western U.P. Citizen's Advisory Council: 2008-2014
- Biomass Utilization and Restoration Network in the U.P. Steering Committee: 2008-2010
- Midwest Jack Pine Symposium Consortium: 2008-2009

Public Outreach

- Instructor, Natural Resources & Engineering Exploration: Center for Science & Environmental Outreach, July 23, 2019.
- Field Tour Leader, Forest Stewards Guild Walk in the Woods, Michigan Tech Recreational Forest: 2016
- Field Trip Leader, USFS National Advanced Silviculture Program (NASP): July 2012, May 2009-2012, July 2007
- Presenter, Michigan Tech Sugarbush K-12 and public outreach: 2006-2012
- Presenter, Youth in Science & Engineering Expo, Detroit, MI: Nov. 2007 and Nov. 2008
- Instructor, USFS Program in Advanced Silviculture Studies (PASS): July 2003, May 2006
- Instructor, Detroit Applied Environmental Science Program (DAES): Aug. 2005
- Instructor, Forestry Teacher Institute: July 2004, 2005, 2007
- Coordinator, Detroit Area Pre-College Engineering Program (DAPCEP): July-Aug. 2001
- Field Trip Leader, Lake Superior Youth Symposium: May 17-20, 2001
- Co-Instructor, USFS Program for Advanced Silviculture Studies: Sept. 2000

Professional Development and Education

Allies and Advocates Training: National Science Foundation ADVANCE, Michigan Technological University, Houghton, MI, 10/18/2019.

Upper Peninsula Teaching and Learning Conference, Michigan Technological University, and Northern Michigan University, Houghton, MI 5/10/2019.

SAF National Convention—Forest Policy and Science-Management Interactions, Portland, OR, 10/3-7, 2018.

US State Department Open World Program site visit and field tour with Russian scientists and foresters, Ford Center and Forest, L'Anse, MI, 5/23/17 (**Field Tour Leader**).

Upper Peninsula Teaching and Learning Conference, Michigan Technological University and Northern Michigan University, Houghton, MI, 5/4-5/2017

Fourth National Climate Assessment (NCA4) Regional Engagement Workshop, Houghton, MI, 3/1/2017.

SAF National Convention—Our Transcontinental Land Ethic: Exploring the Differences that Unite Us, Madison, WI, 11/2-6, 2016.

Forest Stewards Guild Walk in the Woods—MI Tech Trails, Houghton, MI, 10/1/2016 (**Field Tour Leader**).

Sustainable Forestry Initiative Annual Conference, Clearwater Beach, FL, 9/27-29, 2016.

Forest Stewards Guild National Meeting: Restoration—Conservation—Collaboration, Duluth, MN, 7/13-15, 2016 (**Poster**).

International Symposium for Society and Resource Management, International Association for Society and Natural Resources (IASNR), Houghton, MI, 6/22-26, 2016 (**Poster**).

MI SAF Spring Conference: People in the Forest, Houghton, MI, 3/17-18, 2016.

MI SAF Spring Conference: Forestry's Future—People, Products, Technology, Marquette, MI, 4/9-10/2015.

Hardwood Genomics Field Trip to the Keweenaw, Michigan Tech, 8/15/2014. (**Field Tour Leader**).

MI SAF Fall Conference: Challenges in Forest Regeneration Part II, Petsokay, MI, 10/16-17/2014.

Forest Guild National Meeting: Adapting Forests to a Changing Climate, Burlington, VT, 6/19-21, 2014.

National Council for Air and Stream Improvement (NCASI), SAF, and Virginia Tech: Symposium on Forestry BMP Effectiveness in the E. US, Blacksburg, VA, 5/12-15/2014 (**Poster**).

MI DNR and NRCS Forest Stewardship Plan Writer Training, MTU, ATDC, Houghton, MI, 4/24/2014.

MI SAF Spring Conference: Challenges in Forest Regeneration, Escanaba, MI, 3/20-21, 2014.

MI Biomaterials Initiative Conference, SAF, MTU, MIDNR, MIDEQ, MDARD, Traverse City, MI, 10/3-4/2013.

MI SAF Summer Field Tour: Fire in the Baraga Plains, Ford Center and Forest, L'Anse, MI, 7/11/2013 (**Field Tour Leader**).

MI SAF/CIF Spring Meeting: Changing Forests in a New Climate, LSSU, Sault Ste. Marie, MI, 4/30-5/1/2013.

MI SAF Spring Meeting: Water Quality and BMPs, MTU, Houghton, MI, 5/16-17/2012 (**Field Tour Leader**).

MI and WI SAF Spring Meeting: Forest Management and Recreation (**Invited Speaker**), Marinette, WI, 3/10-11/2010.

Biomass Utilization and Restoration Network in the U.P. Workshop (**Invited Speaker, Field Tour Leader**), Alberta, MI, 9/16/2009.

Midwest Jack Pine Symposium, Odanah, WI, 8/25-26/2009 (**Poster**).

SAF National Convention: Opportunities in a Forested World, Orlando, FL, 9/30-10/4/2009. (**Poster**).

Biomass Utilization and Restoration Network in the U.P. Workshops (**Invited Speaker**): Forest Restoration through Biomass Harvesting—Trenary and Shingleton, MI, 9/17-18, 2008.

Hardwood Value Improvement Program (HVIP) Certified Trainer course, Ford Center and Forest, Alberta, MI, 2/7-2/8/2008.

MI SAF Spring Meeting: The Northern Hardwood Resource—Where We've Come From and Where We're Heading, Marquette, MI, 4/23-24/2008.

SAF National Convention: Sustaining America's Forests, Portland, OR, 10/23-27/2007. (**Poster**).

Swamp Conifers—Ecology and Silviculture of Tamarack and Black Spruce (**Invited Speaker**): WI DNR Forestry Training, Minoqua, WI, 9/18/2007.

Forest Guild Annual Meeting (**Invited Speaker**): Forestry in the Headwaters—Protecting Water Through Excellent Forestry, Boulder Junction, WI, 9/28-30/2006.

American Tree Farm System Qualified Inspector Training, Ford Center and Forest, Alberta, MI, 8/25/2006.

MI SAF Spring Meeting: Feathers in the Forest—Interactions Between Forest Management and Bird Habitats, Sault Ste. Marie, MI, 5/10-11/2006.

MI SAF Fall Meeting: The Future of Michigan's Forests—Proactive Management in a Changing Forest Environment, Lewiston, MI, 11/3-4/2005.

MI SAF Spring Meeting: Forests and Whitetails—Striving for Balance, St. Ignace, MI, 6/9-10/2005.

NCASI N. Regional Meeting, Forest Environmental Research in the Lake States, Green Bay, WI, 5/25/2005.

Forest Health Workshop, MSUE, MI DNR, MTU, Bay de Noc Community College, Escanaba, MI, 3/15/2005.

Sustainable Futures Workshop, MTU, Houghton, MI, April 21, 2004. (**Presenter**).

Managing Mature, Early Successional Forests, MI SAF and Ottawa NF, Kenton, MI, 7/30/2004.

North American Forest Biology Workshop, Michigan Tech, USDA Forest Service, Houghton, MI, 7/12-15/2004.

Fifth Biennial Conference on University Education in Natural Resources, NAU, Flagstaff, AZ, 3/13-17/2004.

Society of American Foresters National Convention (**Presenter**), Buffalo, NY, 10/25-29/2003.

Lake States Silviculture Summit, SFRES Michigan Technological University, Houghton, MI, 4/22-23/2003.

Invasive Species: Past, Present, Future of Lake States Ecosystems, MI SAF/MTU, Houghton, MI, 4/3-4/2003.

Sustainable Forestry Education Training, MSUE, Ford Center and Forest, Alberta, MI, 10/23-25/2002.

Forest Certification Auditing Workshop, SAF National Meeting, Winston-Salem, NC, 10/5/2002.

Faculty Institutes for Reforming Science Teaching (FIRST II) Workshop, Kellogg Biological Station, Augusta, MI, 5/15-19, 2002.

Emulating Natural Forest Landscape Disturbances Symposium, S. Ste. Marie, Canada, 5/7-9/2002.

Wilderness First Aid/CPR Training, MTU, NPS, U. Minn. Duluth, Houghton, MI, 5/3-5/2002.

Gentle Logging Demo Satellite Conference, MTU, USDA, MIDNR, Houghton, MI, 3/20/2002.

FVS Conference, Forest Management Service Center, USDA, Fort Collins, CO, 2/12-14/2002.

Log Scaling and Grading Workshop, Ford Forestry Center, Alberta, MI, 7/10-11/2001.

Wildfire Training Program, MTU, MIDNR, USFS, NPS, Houghton, MI, 3/21-24/2001.

Outcomes-based Learning & Assessment Workshop, SAF National Meeting, Washington, D.C., 11/16/2000.

Tools and Techniques for Foresters in the 21st Century, MI SAF Meeting, Traverse City, MI, 2/29-3/2/2000.

Second North American Forest Ecology Workshop (**Presenter**), Orono, ME, 6/27-28/1999.

Michigan State University Master Gardener Program 1990.

Tree Care Industry Exposition, Richmond, VA, 10/29-31/1990.
National Arborist Association Home Study Program 1989.

Achievements

- Outstanding Faculty Award (student vote), SFRES, 2015 and 2016
- Officer of the Year, Sigma Rho Fraternity, 1999
- Upper Midwest Capstone Report Competition Winner, 1998
- Outstanding Senior Award, School of Forestry and Wood Products, 1998
- Michigan Technological University Dean's List, academic years 1994-1998
- Regional Finalist & National Competitor, Collegiate Game of Logging, 1995
- National Honor Society, Manistee High School, 1984
- VP of Production of the Year, Manistee Area Junior Achievement, 1982

Teaching Philosophy

I have adopted a teaching philosophy, which stresses the development of a necessary set of forest resources knowledge and skills. This philosophy incorporates traditional lectures with classroom and field-based activities designed to engage students on several levels and to solidify important concepts. Realistic field exercises require students to synthesize information from a variety of sources, and to utilize critical thinking and problem solving skills to produce timely, appropriate, and technically sound solutions. Necessary background knowledge and field techniques are the emphasis, but must students also be able to share ideas and solutions and communicate effectively to a variety of audiences.

Incorporating an interactive teaching style can increase the level of student participation, give additional opportunities for assessing student performance, and allow students to improve their verbal communication skills. I feel that inquiry-based exercises provide a basis for learning how to learn not only from the instructor, but also from each other. The foundation that students build in college must also include cultivating their natural curiosity and developing an inquisitive approach to problems and new situations. These are the keys to life-long learning and continuing career development.

Presentations and Publications

Dickinson, Y.L., C.B. Edson, R.E. Froese, M.C. Kelly, **J.M. Schmierer**, C.R. Webster, and J.D. Wolfe. 2019. Introducing the NH-SEED: A holistic experiment to revisit classic and novel silvicultural systems in a changing world. Poster presentation. Society of American Foresters National Convention, Oct. 30- Nov. 3, Louisville, KY.

Schmierer, James M. 2016. Overview of Diversity Treatments in Jack Pine Forests. Poster presentation. Forest Stewards Guild National Meeting. July 13-15, Duluth, MN.

Schmierer, James M. 2016. Tech Trails: A Model Forest. Poster presentation and published abstract. International Symposium for Society and Resource Management. International Association of Society and Natural Resources, Michigan Tech, June 22-26, Houghton, MI.

Schmierer, James M., J.W. Forsman and J.C. Rivard. 2014. Improving outreach and education of forest water quality BMPs in Michigan's Upper Peninsula. Poster presentation and published abstract, Symposium on Forestry Best Management Practice Effectiveness in the Eastern US. NCASI, SAF, Virginia Tech. May 12-15, Blacksburg, VA.

Schmierer, James M. 2010. Silvicultural modifications for forest recreation. Invited presentation and panel speaker for joint meeting of Upper MI and WI Society of American Foresters. Mar. 10-11, Marinette, WI

Webster, Charles E., D.D. Reed, B.D. Orr, **J.M. Schmierer**, and J.B. Pickens. 2009. Expected rates of value growth for individual sugar maple crop trees in the Great Lakes Region. Northern Journal of Applied Forestry, 26(4):133-140.

Gailing, O., J. Lind, **J.M. Schmierer**, and E. Lilleskov. 2009. Climate change and interspecific hybridization in oak trees. Poster presentation, MI Society of American Foresters Fall Meeting: Managing Oak in the Northern Forest, Grayling, MI, October 20-21.

- Schmierer, J.M.**, J.C. Rivard, and A.L. Gahagan. 2007. Biomass potential in Lake States jack pine managed for multiple objectives. Poster presentation and published abstract, In: Proceedings of Society of American Foresters National Convention, Portland, OR, Oct. 22-28.
- Schmierer, James M. 2007.** Lowland conifers: ecology, silviculture and management. Invited presentation for WI DNR Forestry Training, Sept. 18-19, Minoqua, WI.
- Schmierer, James M. 2006.** Ford Forestry Center: 50 years of sustainable management. Invited presentation for Forest Guild Lake States meeting, Sept. 27-30, Boulder Junction, WI.
- Nagel, L.M., and **J.M. Schmierer**. 2005. An integrated field practicum for forest and applied ecology majors: lessons learned. Poster presentation and published abstract, FIRST II National Meeting, May 13-15, Kellogg Biological Station, MI.
- Schmierer, J.M.**, G.D. Mroz, and S.D. Noble. 2004. The FERM: Forestry and Environmental Resource Management, pgs. 151-155 in Thomas E. Kolb, compiler. Proceedings of the Fifth Biennial Conference on University Education in Natural Resources, Northern Arizona University, Flagstaff, AZ, March 13-17. Natural Resources and Environmental Issues, Vol. XII, Quinney Library, College of Natural Resources, Utah State University, Logan, UT.
- Schmierer, J.M.**, and D.D. Reed. 2003. Mounding site preparation and artificial regeneration with tamarack in Upper Michigan. In: Proceedings of Society of American Foresters National Convention, October 25-29, Buffalo, NY.
- Schmierer, J.M.**, D.D. Reed, A.J. Londo, G.D. Mroz, M.F. Jurgensen, and M.R. Gale. 1999. Bucket mounding site preparation: sustainable management for northern forested wetlands. In: Proceedings of the North American Forest Ecology Workshop, June 27-29, Orono, ME.
- Londo, A.J., **J.M. Schmierer**, G.D. Mroz, D.D. Reed, and M.R. Gale. 1999. Bucket mounding site preparation for sustainable management of Lake States forested wetlands. In: Proceedings of the Wildland Hydrology Specialty Conference, American Water Resources Association. Bozeman, MT.
- Londo, A.J., **J.M. Schmierer**, G.D. Mroz, D.D. Reed, and M.F. Jurgensen. 1998. Bucket mounding site preparation for sustainable management of Lake States forested wetlands. In: Proceedings of the 1998 Annual Meeting of the Society of American Foresters, Traverse City, MI.