

Malcolm S. Itter

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EDUCATION

Michigan State University, East Lansing, MI
PhD, Forestry | Ecology, Evolutionary Biology, and Behavior, March 2018

Oregon State University, Corvallis, OR
Master of Science, Statistics, June 2013

Colby College, Waterville, ME
Bachelor of Arts, Major: Biology, Minor: Mathematics, December 2006

ACADEMIC EXPERIENCE

Postdoctoral researcher March 2018–present
Research Centre for Ecological Change, University of Helsinki Helsinki, Finland

AWARDS/DISTINCTIONS

National Science Foundation post-doctoral research fellowship in biology (*declined*)
Michigan State University Distinguished Fellow
Phi Beta Kappa National Honor Society
Mu Sigma Rho National Statistics Honor Society
Best Research Talk - 2014 & 2015 MSU Forestry Graduate Student Research Symposium
Outstanding Student Paper Award - AGU Fall Meeting 2016

PUBLICATIONS

Itter, M.S., D'Orangeville, L., Dawson, A., Kneeshaw, D., Duchesne, L., Finley, A.O. (*In press*)
Boreal tree growth exhibits decadal-scale ecological memory to drought and insect defoliation, but no negative response to their interaction. *Journal of Ecology*, <https://doi.org/10.1111/1365-2745.13087>

Rastogi, B., Berkelhammer, M., Wharton, S., Whelan, M., Itter, M.S., Leen, J.B., Gupta, M.X., Noone, D., Still, C.J. (*In Press*) Large uptake of atmospheric OCS observed at a moist old growth forest: Controls and implications for carbon cycle applications. *JGR Biogeosciences*, <https://doi.org/10.1029/2018JG004430>

Itter, M.S. (2018) The development and application of spatio-temporal methods to understand and predict broad-scale patterns of forest change. *Doctoral dissertation*. Department of Forestry, Michigan State University.

Itter, M.S., Finley, A.O., D'Amato, A.W., Foster, J.R., Bradford, J.B. (2017) Variable effects of climate on forest growth in relation to climate extremes, disturbance, and forest stand dynamics. *Ecological Applications*, **27**, 1082-1095.

Itter, M.S., Finley, A.O., Hooten, M.B., Higuera, P.E., Marlon, J.R., Kelly, R., McLachlan, J.S. (2017) A model-based approach to wildland fire reconstruction using sediment charcoal records. *Environmetrics*, **28**, e2450

Electric Power Research Institute (2009) Potential Impact of Climate Change on Natural Resources in the Tennessee Valley Authority Region. Chapter 5. Potential Effects of Climate Change on Forest Resources. Final Report, November 2009. Palo Alto, California.

Itter, M.S. (2006) Altering finite Markov chains to more accurately model forest succession. *Honors Thesis*. Department of Biology, Colby College.

PRESENTATIONS

Itter, M.S., Vanhatalo, J., Finley, A.O. Methods to filter weather data using ecological memory functions. Climate Informatics Workshop, National Center for Atmospheric Research. September 2018. (Invited)

Itter, M.S. Methods to model individual variability in forest demographic processes. International Biometric Conference. July 2018. (Invited)

Itter, M.S., Vanhatalo, J., Finley, A.O. Methods to estimate ecological memory. International Statistical Ecology Conference. July 2018.

Itter, M.S., D'Orangeville, L., Dawson, A., Kneeshaw, D., Finley, A.O. Decadal-scale ecosystem memory reveals interactive effects of drought and insect defoliation on boreal forest productivity. American Geophysical Union Annual Meeting. December 2017.

Itter, M.S., Finley, A.O., Dawson, A. Estimation and application of ecological memory functions in time and space. American Geophysical Union Annual Meeting. December 2017 (Invited).

Itter, M.S., Finley, A.O., D'Amato, A.W., Foster, J.R., Bradford, J.B., Evans, M.E.K., Palik, B.J. Assimilation of tree-ring and repeat census data to model interactions between climate and past forest dynamics. Society of American Foresters Annual Meeting. November 18, 2017.

Itter, M.S., Finley, A.O., D'Amato, A.W., Foster, J.R., Bradford, J.B., Evans, M.E.K., Palik, B.J. Assimilation of tree-ring and repeat census data to model interactions between climate and past forest dynamics. Ecological Society of America Annual Meeting. June 11, 2017 (Invited).

Itter, M.S., Finley, A.O., Hooten, M.B., Higuera, P., Marlon, J., Kelly, R., McLachlan, J. A model-based approach to wildland fire reconstruction using sediment charcoal records. Session on Alteration of disturbance-driven forest dynamics under a changing climate. American Geophysical Union Annual Meeting. December 16, 2016.

Itter, M.S., Finley, A.O., D'Amato, A.W., Foster, J.R., Bradford, J.B. Variable effects of climate on forest growth in relation to climate extremes, disturbance, and forest stand dynamics. Ecology, Evolutionary Biology, and Behavior Colloquium Series, Michigan State University. November 16, 2016.

Itter, M.S., Finley, A.O., D'Amato, A.W., Foster, J.R., Bradford, J.B. Assessing the dynamic effects of climate on individual tree growth across time and space. American Geophysical Union Annual Meeting. December 18, 2015.

Itter, M.S., Finley, A.O., D'Amato, A.W., Foster, J.R., Bradford, J.B. Assessing the dynamic effects of climate on individual tree growth throughout the development of naturally regenerated secondary forests. Ecological Society of America Annual Meeting. August 10, 2015. (Poster)

TEACHING

Forestry 406, Applied Forest Ecology: Silviculture, Lecture & Lab, Michigan State University, Instructor, Fall Semester 2016

Forestry 420, Field Studies, Michigan State University, Teaching Assistant, Summer Semester 2017

Statistics 511/512, Methods of Data Analysis (graduate level), Oregon State University, Teaching Assistant, Fall Quarter 2012 through Spring Quarter 2013

Statistics 351/352, Introduction to Statistical Methods, Oregon State University, Teaching Assistant, Fall Quarter 2011 through Spring Quarter 2012

PROFESSIONAL EXPERIENCE

Research Analyst May 2007–June 2011
Industrial Economics, Incorporated Cambridge, Massachusetts

Consultant Winter 2013
Statistical Consulting Practicum, Department of Statistics Oregon State University

Field Technician May 2006–September 2006
Maine Natural Areas Program Augusta, Maine

SHORT COURSES/WORKSHOPS

Instructor: Parallel Computing in R, Research Centre for Ecological Change, Annual Meeting, Lammi Biological Station, October 2018

Co-Instructor: Fourth Annual Graduate Workshop on Environmental Data Analytics, National Center for Atmospheric Research, June 2017 (cisl.ucar.edu/events/workshops/4th-annual-graduate-workshop-environmental-data-analytics-2017)

Organizer: Climate Ecology and Tree Growth Workshop, Harvard Forest, September 2016 (blue.for.msu.edu/CETG-workshop)

Participant: Paleofire: Data-Model Comparisons for the Past Millennium, Harvard Forest, September 2015

Participant: Flux Course, University of Colorado Mountain Research Station, July 2015

Participant: PalEON Summer Course: Assimilating Long Term Data into Ecosystem Models, University of Notre Dame Environmental Research Center, August 2014

Participant: NCAR/IMAGE Next Generation Climate Data Products Workshop, National Center for Atmospheric Research, July 2013

Participant: Macrosystems Workshop: Integrating Evidence on Forest Response to Climate Change: Physiology to Regional Abundance, Duke University, May 2013

OUTREACH/SERVICE

Presenter: Forest Forensics, Michigan State University SciFest, April 17, 2015

Presenter: The Living Breathing Forest, Michigan State University Middle School Girls Math and Science Day, March 4, 2017 (blue.for.msu.edu/sci-day)

Presenter: Knock on Wood: The Magical Mystery of Tree Growth, Michigan State University SciFest, April 8, 2017

Assistant: Greening of Detroit Day, Michigan State University, College of Agriculture and Natural Resources, June 29, 2017

Presenter: Detroit Green Corps Field Demo, MacCready Forest Preserve, July 27, 2017

Hanover Seminar Committee, Department of Forestry, Michigan State University, Fall Semester 2013 through Spring Semester 2015

President of Forestry Graduate Student Organization, Michigan State University, Fall Semester 2013 through Spring Semester 2015

Math & Science Tutor, Sudanese Education Fund, Cambridge, Massachusetts, 2007-2008

PEER REVIEW

Ecology · Dendrochronologia · Ecography · Forests · Journal of Agricultural, Biological, and Environmental Statistics · Journal of Ecology · Methods in Ecology and Evolution

PROGRAMMING EXPERIENCE

Languages: C/C++, FORTRAN, R, Matlab

Statistical & Scientific: R, SAS, Forest Vegetation Simulator, STAN, WinBugs, JAGs

GIS: QGIS, ESRI products

Scientific Typesetting: L^AT_EX

Operating Systems: Unix/Linux