

Jessica Price

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Education

Doctorate of Philosophy in Environment and Resources Expected December 2016
University of Wisconsin, Madison, WI. Advisor: Janet Silbernagel PhD

Dissertation Title: Tools for Adaptive Co-management in Changing Forest Landscapes: Landscape Scenario Modeling and Working Forest Conservation Easements in Michigan's Two Hearted River Watershed

Masters of Science in Conservation Biology and Sustainable Development August 2008- May 2010
University of Wisconsin, Madison, WI. Advisor: Janet Silbernagel PhD

Certificate on Humans and the Global Environment (CHANGE)—NSF Integrative Graduate Education and Research Traineeship (IGERT) program

Bachelor of Arts in Biology and Art History August 2002-May 2006
Lake Forest College, Lake Forest, Illinois GPA 3.87/4.00

Professional and Research Experience

Graduate Research Assistant, Landscape Conservation Lab August 2010- Present
University of Wisconsin—Madison

- Developed and applied a collaborative landscape scenario modelling approach to compare the ability of alternative management scenarios to achieve landscape conservation goals in two study areas – the Two Hearted River watershed and the Wild Rivers Legacy Forest
- Established partnerships with local land management and conservation experts in the study areas to build capacity for cooperative scenario development, modeling, and decision-making
- Facilitated workshops with stakeholders to develop landscape scenarios tailored to local management concerns and ecological conditions
- Integrated primary research and expert knowledge to create and utilize a spatially explicit landscape model to simulate ecological dynamics and alternative management scenarios in the two study areas
- Analyzed modeling output based on landscape ecological principles to compare the ability of alternative scenarios to achieve watershed conservation goals
- Recommend natural resource management strategies to achieve watershed conservation goals and adapt to potential climate change impacts
- Mentored and trained two Master's students in analyzing, interpreting, and communicating landscape modeling results

Teaching and Course Development Assistant January-May 2014, 2015
Applications of GIS in Natural Resources

- Janet Silbernagel, Professor, Landscape Architecture & Environmental Studies, University of Wisconsin at Madison
- Worked closely with instructor to design an upper level 'blended' classroom and online course
 - Created interactive online lessons using Case Scenario Critical Reader

Editorial Assistant August 2014 – February 2015
Environmental Resources Center, University of Wisconsin-Extension

- Performed copy editing of materials from staff and clients for both print and online publication
- Provided content revision and copy editing of online soil health management course materials
- Co-authored a manuscript on sustainability values of campus dining customers for peer review publication

Teaching Assistant September–December 2012, 2013, 2014
Biocore 302 Ecology Evolution and Genetics Lab

Janet Batzli, Associate Director, Biocore Program, University of Wisconsin at Madison

- Led discussions focused on the design, execution, and reporting of independent research projects by 22 sophomore students in Biocore 302, an honors ecology, evolution, and genetics curriculum
- Supervised students conducting ecological experiments in several field and laboratory settings, including prairie and stream ecosystems
- Graded and provided feedback on student assignments focused on imparting mastery of course material as well as improving written and oral scientific communication skills as part of the UW Madison Comm B curriculum

Project Assistant January–May 2012
Judith Harackiewics, Professor, Department of Psychology, University of Wisconsin at Madison

- Graded student assignments for Biology 152 as a part of an ongoing psychology research study
- Processed student data and maintained confidentiality in accordance with double blind study design

Graduate Intern, Forest Scenarios Project May 2009–May 2010
Nicholas Miller, Director of Conservation Science, The Nature Conservancy, Wisconsin Field Office

- Performed an assessment of woody biomass availability and demand for two TNC-managed sites in the Great Lakes region.
- Organized and developed the content, printed material, visual presentations, literature reviews, and logistical coordination for two workshops with local experts and stakeholders at each site to develop landscape scenarios.

Wisconsin Ecology Project Assistant August 2008–May 2009
Phil Townsend, Chair, Wisconsin Ecology, University of Wisconsin at Madison

- Worked with both the Wisconsin Ecology faculty Executive Committee and the Graduate Committee to plan events and execute events that engage members of the campus ecology community, including the bi-annual Ecology Symposia
- Provided staff support to the Wisconsin Ecology Executive Committee, including scheduling meetings, planning agenda, and providing meeting minutes for committee meetings.
- Maintained the Wisconsin Ecology website, blog, and list-serve to publicize ecology events and issues of interest

Science Writer and Administrative Coordinator August 2006–August 2008
Rustem F. Ismagilov PhD, Department of Chemistry, The University of Chicago

- Worked with authors from inception to publication to write and edit *13* manuscripts published in peer reviewed journals, including *PNAS* and *Science*
- Managed publications process to ensure timely and accurate manuscript submission, proofing, and publication
- Worked with Principle Investigator and other lab members to research, write, and edit applications for *two* successfully funded federal grants
- Managed, wrote, and edited progress reporting for *twelve* federally and privately funded grants

Assistant to the Director, Internship May–August 2006
Gregory Vickrey, Director, The Tongass Conservation Society (TCS), Ketchikan, Alaska

- Researched and wrote briefs on the conservation implications of current National Forest Service Environmental Impact Statements for planned logging in the Tongass National Forest
- Created and implemented an innovative PR campaign to publicize the purpose, actions and achievements of TCS, including researching, writing, editing, and publishing a biannual newsletter, informational brochures, and visual media for the organization
- Research and advised the director on conservation issues for upcoming meetings, presentations, and communications with other NGO's as well as the Forest Service and the Ketchikan City Government

Summer Undergraduate Research Internship in Plant Biology and Conservation June–August 2005
James Steffen MA, Natural Habitats Division, Chicago Botanic Garden and Northwestern University

- Conducted original research monitoring the restoration success of an oak woodland
- Inventoried spider species through pit trapping to characterize ecosystem health and function
- Monitored native plant species for ongoing restoration
- Presented experimental results in several formal presentations (see Presentations list below).

Summer Research Training Program in the Division of Biological Sciences June–August 2004
Joy Bergelson PhD, Ecology and Evolution Department, University of Chicago

- Performed experiments to test for competition between two pathogenic bacterial species in *Arabidopsis thaliana*
- Investigated the influence of the JA and SA plant defense pathways on bacterial pathogen competition
- Presented experimental results in a formal presentation and journal article

Publications (Abstracts available upon request)

Authored

Price, J., Swaty, R., Silbernagel, J. **In preparation.** “Scenario modeling as a tool for adaptive co-management in complex forested landscapes: An example from the Two Hearted River Watershed, Michigan USA,” to be submitted to *Environmental Management*.

Price, J., Silbernagel, J., Miller, N., Swaty, R. **Submitted.** “Collaborative landscape modeling reveals potential landscape change under alternative management strategies and natural disturbance regimes in the Two Hearted River watershed, Michigan USA,” *Landscape Ecology*.

Nixon, K., Silbernagel, J., Price, J., Miller, N., Swaty, R. **2014**. "Habitat Availability for Multiple Avian Species Under Modeled Alternative Conservation Scenarios in the Two-Hearted River Watershed in Michigan, USA," *Journal for Nature Conservation* 22(4): 302-317.

Schelly, C., Price, J. **2014**. "Utilizing GIS to Examine the Relationship Between State Renewable Portfolio Standards and the Adoption of Renewable Energy Technologies," *ISPRS International Journal of Geo-Information* 3(1): 1-17.

Rissman, A., Bihari, M., Hamilton, C., Locke, C., Lowenstein, D., Motew, M., Price, J.M., Smail, R. **2013**. "Land Management Restrictions and Options for Change in Perpetual Conservation Easements," *Environmental Management* 52:277-288.

Price, J.M., Silbernagel, J.M., Miller, N., Swaty, R., White, M., Nixon, K. **2012**. "Eliciting Expert Knowledge to Inform Landscape Modeling of Conservation Scenarios," *Ecological Modelling* 229: 76-87.

Silbernagel, J.M., Price, J.M., Swaty, R., and Miller, N. **2011**. "The Next Frontier: Projecting the Effectiveness of Broad-Scale Forest Conservation Strategies," in *Landscape Ecology in Forest Management and Conservation: Challenges and Solutions for Global Change*, eds. Li, C., Laforteza, R., and Chen, J. HEP-Springer, Beijing-NewYork.

Schelly, C., Price, J.M. **2011**. "Environmental Stewardship," in *Green Energy: An A-to-Z Guide*. Ed. Dustin Mulvaney. Sage Publications, Inc, Thousand Oaks, CA.

Kastrup, C.J., Runyon, M., Lucchetta, E., Price, J., and Ismagilov, R.F. **2008**. "Using Chemistry and Microfluidics to Understand the Spatial Dynamics of Complex Reaction Networks," *Accounts of Chemical Research* 41:449-558.

Price, J. **2006**. "Gauging the Ecological Health of a Costa Rican Cloud Forest: Birds as Bio-Indicators," *Eukaryon* **2006** 2:104-109.

Price, J. and Shrestha, R. **2005**. "Vps28 implicated in a-Synuclein Pathobiology: Building Support for Lysosome-mediated Degradation," *Eukaryon* **2005** 1:88-94.

Contributed to writing and editing

Chen, D., Du, W., Liu, Y., Liu, W., Kuznetsov, A., Mendez, F.E., Philipson, L.H., and Ismagilov, R.F. **2008**. "The chemistode: A droplet-based microfluidic device for stimulation and recording with high temporal, spatial, and chemical resolution," *Proceedings of the National Academy of Sciences* 105: 16843-16848.

Shen, F., Kastrup, C.K., Liu, Y., and Ismagilov, R.F. **2008**. "Threshold Response of Initiation of Blood Coagulation by Tissue Factor in Patterned Microfluidic Capillaries Is Controlled by Shear Rate," *Arteriosclerosis, Thrombosis, and Vascular Biology* 28: 2035-2041.

Kline, T.R., Runyon, M.K., Pothiwala, M., and Ismagilov, R.F. **2008**. "ABO, D Blood Typing and Subtyping Using Plug-Based Microfluidics," *Analytical Chemistry* 80: 6190-6197.

Boedicker, J.Q., Li, L., Kline, T.R., and Ismagilov, R.F. **2008**. "Detecting bacteria and determining their susceptibility to antibiotics by stochastic confinement in nanoliter droplets using plug-based microfluidics," *Lab on a Chip* 8: 1265-1272.

Pompano, R.R., Li, H-W., and Ismagilov, R.F. **2008**. "Rate of mixing controls rate and outcome of autocatalytic processes—theory and microfluidic experiments with chemical reactions and blood coagulation," *Biophysical Journal* 95: 1531-1543.

Runyon, M.K., Kastrup, C.J., Johnson-Kerner, B., Van Ha, T.G., and Ismagilov, R.F. **2007**. "The Effects of Shear Rate on Propagation of Blood Clotting Determined Using Microfluidics and Numerical Simulations," *Journal of the American Chemical Society* 130: 3458-3464.

Ismagilov, R.F., and Maharbiz, M. **2007**. "Can we build synthetic multicellular systems by controlling developmental signaling in space and time?" *Current Opinion in Chemical Biology* 11:604-611.

Kastrup, C.J., and Ismagilov, R.F. **2007**. "A physical organic mechanistic approach to understanding the complex reaction network of hemostasis (blood clotting)," *Journal of Physical Organic Chemistry* 20:711-715.

Kastrup, C.J., Shen, F., Runyon, M., and Ismagilov, R.F. **2007**. "Characterization of the Threshold Response of Initiation of Blood Clotting to Stimulus Patch Size," *Biophysical Journal* 93:2969-2977.

Runyon, M., Johnson-Kerner, B.L., Kastrup, C.J., Van Ha, T.G., and Ismagilov, R.F. **2007**. "Propagation of Blood Clotting in the Complex Biochemical Network of Hemostasis Is Described by a Simple Mechanism," *Journal of the American Chemical Society* 129: 7014-7015

Kastrup, C.J., Shen, F., and Ismagilov, R.F. **2007**. "Response to Shape Emerges in a Complex Biochemical Network and Its Simple Chemical Analogue," *Angewandte Chemie, International Edition* 46: 3660-3662

Li, L., Boedicker, J.Q., and Ismagilov, R.F. **2007**. "Using a Multijunction Microfluidic Device To Inject Substrate into an Array of Preformed Plugs without Cross-Contamination: Comparing Theory and Experiments," *Analytical Chemistry* 79: 2756-2761.

Li, L., Mustafi, D., Fu, Q., Tereshko, V., Chen, D.L., Tice, J.D., and Ismagilov, R.F. **2006**. "Nanoliter microfluidic hybrid method for simultaneous screening and optimization validated with crystallization of membrane proteins," *Proceedings of the National Academy of Sciences* 103: 19243-19248.

Presentations (Abstracts available upon request)

"So what does it mean? Using story maps to communicate landscape modeling results with stakeholders in the Two Hearted River watershed," Wisconsin Wetlands Association's 20th Anniversary Wetland Science Conference, Madison, WI. February 25, 2015. *Presentation*.

"Science Meets Science Fiction: Tools for Integrating Ecology and Design" as part of the Ecology Panel, 2014 LABash. Madison, WI. March 29. *Presentation*.

"Spatial Narratives from Michigan's Upper Peninsula: Map Based Storytelling to Inform Forest Management in a Changing Climate," 2013 University of Wisconsin Geospatial Summit, Madison, WI. April 25, 2013. *Presentation*.

"Integrated Scenario Building and Landscape Modeling Inform Forest Management in a Changing Climate: A Case Study from Michigan's Upper Peninsula," United States Regional Association of the International Association for Landscape Ecology (US-IALE) Symposium. Newport, RI. April 8-12, 2012. *Presentation*.

"Forest Scenarios Project: Projecting future landscape change and habitat availability using expert knowledge and spatial modeling," Climate Change Adaptation in the Northwoods: Information, Tools, and Collaboration, Otsego, MN. March 13-15, 2012. *Presentation*.

"Social and legal dimensions of conservation in a changing climate: results from a six-university distributed graduate seminar," International Symposium on Society and Resource Management, Madison, WI. June 4-8, 2011. *Panel Presentation*.

"Integrating Expert Knowledge into a Model of Land Cover Change: A Case Study from Michigan's Upper Peninsula," United States Regional Association of the International Association for Landscape Ecology (US-IALE) Symposium. Portland, OR. April 2-7, 2011. *Poster*.

"Science Meets Science Fiction: Seeing into the Future of Ecosystem Conservation," βββ National Biological Honors Society Lecture Series, Lake Forest College, October 20, 2010. *Presentation*.

"Evaluating the Effectiveness of Conservation Strategies through Collaborative Scenario Building and Landscape Modeling," Society for Conservation Biology's 24th International Conference for Conservation Biology, July 3-7, 2010. *Poster*.

"Developing landscape scenarios: Obtaining and integrating expert opinion," United States Regional Association of the International Association for Landscape Ecology (US-IALE) Symposium. April 8, 2010. *Presentation*.

"Rapid Assessment of Woody Biomass Supply and Demand from Wisconsin's Wild River's Legacy Forest," 8th Annual Western Great Lakes Research Conference, March 6-7, 2010. *Poster*.

"Interdisciplinarity from the Frontlines: Reflections on Pedagogy and Practice in an NSF-IGERT Program," Association for Environmental Studies and Sciences. October 9, 2009. *Presentation*.

"Gauging the Ecological Health of a Costa Rican Cloud Forest: Birds as Bio-Indicators," 9th Annual Lake Forest College Student Symposium. April 11, 2006. *Presentation*.

"World Wildlife Fund: Fighting for the Polar Bear," 9th Annual Lake Forest College Student Symposium. April 11, 2006. *Poster*.

"Response of Ground Dwelling Spider Populations to Oak Woodland Restoration" Janet Meakin Poor Research Symposium: Plant Conservation in an Era of Global Climate Change, Chicago Botanic Garden, October 21, 2005 and 2005 National Science Foundation REU Symposium. August 19, 2005. *Poster*. Available online at <http://www.chicagobotanic.org/reu/pdf05/JPrice.pdf>

"Evaluation of Two Plant Defense Pathways on Interspecific Competition of Pathogenic Bacteria in *Arabidopsis thaliana*" 8th Annual Lake Forest College Student Symposium. April 5, 2005. *Presentation*.

Honors and Awards

Communication-B Teaching Assistant Fellow, Spring 2015

NASA-MSU Professional Development Award, 2012

CHANGE-IGERT Fellowship sponsored by the National Science Foundation (NSF), 2010-2011

Nelson Institute Graduate Student Travel Grant, 2010

Doris Duke Conservation Fellowship, 2009-2010
 Full member of the Phi Beta Kappa National Honors Society, 2006-Present
 Full member of Lambda Phi chapter of Beta Beta Beta, National Biological Honors Society, 2005-Present
 Associate member of the Sigma Xi Scientific Research Society, 2005-Present
 The Fredericka L. Stahl Memorial Award for Excellence in Science, 2006
 Senior recipient of the Foster G. McGaw \$10,000 Scholarship for Community Leadership and Involvement, 2005-2006
 Junior recipient of the Foster G. McGaw \$10,000 Scholarship for Community Leadership and Involvement, 2004-2005
 Student Laureate Award from the Lincoln Academy of Illinois, 2005-2006
 2005 Associated Colleges of Illinois Humanities Fellowship Award, 2005-2006
 Member of the Senior 25 for the Class of 2006, 2005-2006
 Member of the Lake Forest College Dean's List, 2002-2006
 Lake Forest College Trustee Scholarship, 2002-2006
 Lake Forest College Deerpath Writing Scholarship, 2002-2006
 Campus Community Builder Award, 2004-2005
 Resident Assistance of the Year, 2004-2005
 Elizabeth Elmore '69 Annual Scholarship, 2004-2005
 Esther DeMerritt Annual Scholarship at Lake Forest College, 2003-2004; 2005-2006

Leadership Experience

<i>Nelson Institute, Environment & Resources PhD Program</i> Graduate Student Representative to the Program Steering Committee	September 2012-May-2013
<i>US Regional Association of the International Association for Landscape Ecology</i> Student Representative to the Executive Committee	April 2010-April 2012
<i>Eukaryon Editorial Board</i> Copy Editing Chair	January 2005-May 2006
<i>The Stentor—Lake Forest College's Campus Newspaper</i> Environmental Opinions Columnist	January 2005-May 2006
<i>Environmental Issues and Concerns Advisory Committee of Lake Forest College</i> Senior Student Representative	August 2004-May 2006
<i>League for Environmental Awareness and Protection</i> President 2004-2005, Secretary 2003-2004	August 2002-May 2005
<i>Tusitala—Lake Forest College's annual literary and visual arts magazine</i> General Editor 2004-2005, Managing Editor 2003-2004	August 2002-May 2005
<i>Resident Assistant</i> Residence Life, Lake Forest College, Illinois	August 2003-May 2005
<i>Peer Teacher</i> Women, Power, and Representation in the Renaissance course, Lake Forest College, Illinois	August 2004-December 2004
<i>Teaching Assistant</i> Chemistry Department, Lake Forest College, Illinois	August 2003-December 2003