

NATHAN I. WISNOSKI

University of Wyoming ◊ 1000 E. University Ave., Laramie, WY 82071

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EDUCATION

Indiana University, Bloomington 2014 – 2020
Ph.D in Biology – Evolution, Ecology, and Behavior
Minor in Environmental Sciences, O’Neill School of Public and Environmental Affairs

The University of Texas at Austin 2009 – 2013
B.S. in Biology – Ecology, Evolution, and Behavior
Minor in Business, McCombs School of Business

EXPERIENCE

Postdoctoral Researcher July 2020 – Present
University of Wyoming *Laramie, WY*
Albeke Lab: community assembly, biogeography, individual-based modeling, ecoinformatics
Shoemaker Lab: coexistence theory, metacommunity ecology, dispersal, and dormancy

Graduate Researcher August 2014 – May 2020
Indiana University *Bloomington, IN*
Lennon Lab: metacommunity ecology, freshwater microbial ecology, multivariate statistics, and simulation modeling

Graduate Teaching Assistant August 2014 – May 2020
Lennon Lab, Indiana University *Bloomington, IN*
Courses: Quantitative Biodiversity, Intro Biology (Biodiversity, Evolution, and Ecology), Biology Lab

Lab & Field Technician Spring 2014
University of Texas *Austin, TX*
Hawkes Lab: soil microbial ecology and biogeochemistry

Undergraduate Researcher Summer 2012 – Spring 2014
University of Texas *Austin, TX*
Leibold Lab: algal metacommunity ecology

PUBLICATIONS

Wisnoski, N.I., M.E. Muscarella, M.L. Larsen, A.L. Peralta, and J.T. Lennon. 2020. Metabolic insight into bacterial community assembly across ecosystem boundaries. *Ecology* 101(4):e02968.

Mueller, E.A., **N.I. Wisnoski**, A.L. Peralta, and J.T. Lennon. 2020. Microbial rescue effects: how microbiomes can save hosts from extinction. *Functional Ecology*.

Ward, A.S., S.M. Wondzell, N.M. Schmadel, S. Herzog, J.P. Zarnetske, V. Baranov, P.J. Blaen, N. Brekenfeld, R. Chu, R. Derelle, J. Drummond, J.H. Fleckenstein, V. Garayburu-Caruso, E. Graham, D. Hannah, C.J. Harman, J. Hixson, J.L.A. Knapp, S. Krause, M.J. Kurz, J. Lewandowski, A. Li, E. Marti, M. Miller, A.M. Milner, K. Neil, L. Orsini, A.I. Packman, S. Plont, L. Renteria, K. Roche, T. Royer, C. Segura, J. Stegen, J. Toyoda, J. Wells, and **N.I. Wisnoski**. 2019. Spatial and temporal variation in river corridor exchange across a 5th-order mountain stream network. *Hydrology and Earth System Sciences* 23:5199-5225.

Ward, A.S., M.J. Kurz, N.M. Schmadel, J.L.A. Knapp, P.J. Blaen, C.J. Harman, J.D. Drummond, D.M. Hannah, S. Krause, A. Li, E. Marti, A. Milner, M. Miller, K. Neil, S. Plont, A.I. Packman, **N.I. Wisnoski**, S.M. Wondzell, and J.P. Zarnetske. 2019. Solute transport and transformation in an intermittent, headwater mountain stream with diurnal discharge fluctuations. *Water* 11(11):2208.

Ward, A.S., J.P. Zarnetske, V. Baranov, P.J. Blaen, N. Brekenfeld, R. Chu, R. Derelle, J. Drummond, J.H. Fleckenstein, V. Garayburu-Caruso, E. Graham, D. Hannah, C.J. Harman, S. Herzog, J. Hixson, J.L.A. Knapp, S. Krause, M.J. Kurz, J. Lewandowski, A. Li, E. Marti, M. Miller, A.M. Milner, K. Neil, L. Orsini, A.I. Packman, S. Plont, L. Renteria, K. Roche, T. Royer, N.M. Schmadel, C. Segura, J. Stegen, J. Toyoda, J. Wells, **N.I. Wisnoski**, and S.M. Wondzell. 2019. Co-located contemporaneous mapping of morphological, hydrological, chemical, and biological conditions in a 5th-order mountain stream network, Oregon, USA. *Earth System Science Data* 11:1567-1581.

Wisnoski, N.I., M.A. Leibold, and J.T. Lennon. 2019. Dormancy in metacommunities. *The American Naturalist* 194(2):135-151.

In review/revision:

Wisnoski, N.I. and J.T. Lennon. In revision. Microbial community assembly in a multi-layer dendritic meta-community. bioRxiv: <https://doi.org/10.1101/2020.01.31.929562>.

Mobilian, C., **N.I. Wisnoski**, J.T. Lennon, M. Alber, S. Widney, C.B. Craft. In revision. Differential effects of press versus pulse seawater intrusion on microbial communities of a tiday freshwater marsh..

Voelker, N.M., S. Record, P.L. Zarnetske, **N.I. Wisnoski**, J.D. Tonkin, C.M. Swan, L. Marazzi, N. Lany, T. Lamy, A. Compagnoni, M.C.N. Castorani, R. Andrade, and E.R. Sokol. In revision. Novel insights to be gained from applying metacommunity theory to long-term, spatially replicated biodiversity data..

Graham, E.B., C. Averill, B. Bond-Lamberty, J.E. Knelman, S. Krause, A.L. Peralta, A. Shade, A.P. Smith, S. Cheng, N. Fanin, C. Freund, P.E. Garcia, S.M. Gibbons, M.W. Van Goethem, M.B. Guebila, J. Kemppinen, R. Nowicki, J.G. Pausas, S. Reed, J. Rocca, A. Sengupta, D. Sihi, M. Simonin, M. Słowiński, S. Spawn, I. Sutherland, J. Tonkin, **N. Wisnoski**, S.C. Zipper, and Contributor Consortium. In revision. Towards a unifying framework of disturbance ecology through crowdsourced science..

In preparation (drafts available):

Wisnoski N.I. and J.T. Lennon. Stabilizing role of seed banks and the maintenance of bacterial diversity..

Wisnoski N.I., R. Andrade, M.C.N. Castorani, C.P. Catano, A. Compagnoni, T. Lamy, N.K. Lany, L. Marazzi, S. Record, A.C. Smith, C.M. Swan, J.D. Tonkin, N.M. Voelker, P.L. Zarnetske, and E.R. Sokol. Diversity-stability relationships in metacommunities..

Lamy, T., **N.I. Wisnoski**, R. Andrade, M.C.N. Castorani, A. Compagnoni, N. Lany, L. Marazzi, S. Record, C.M. Swan, J.D. Tonkin, N. Voelker, S. Wang, P.L. Zarnetske, and E.R. Sokol. The dual dimensions of metacommunity variability..

BOOK REVIEWS

Wisnoski, N.I. and J.T. Lennon. 2016. "Principles of Microbial Diversity" by James W. Brown. *The Quarterly Review of Biology* 91(1): 98-99.

GRANTS

NSF LTER Network Communications Office (NCEAS). *A synthesis to identify how metacommunity dynamics mediate community responses to disturbance across the ecosystems represented in the LTER network*. PI: E.R. Sokol, co-PIs: C.M. Swan, **N.I. Wisnoski**. \$76,000. 2016–2018.

IU Sustainability Research Development Grant. \$5400. 2015.

FELLOWSHIPS AND AWARDS

Louise Constable Hoover Fellowship, IU Biology. \$2000	2019
Travel Award, Association for the Sciences of Limnology and Oceanography. \$606	2018
Travel Award, ESA Microbial Ecology Section. \$600	2017
George W. Brackenridge Fellowship, IU Biology. \$2000	2016
Travel Award, International Society for Microbial Ecology. €300	2016
Travel Award, Honorable Mention, ESA Microbial Ecology Section. \$150	2016
Departmental Research Recruitment Fellowship, IU Biology.	2014

TALKS AND POSTERS

Wisnoski, N.I., E.R. Sokol, R. Andrade, M.C.N. Castorani, C.P. Catano, A. Compagnoni, T. Lamy, N.K. Lany, L. Marazzi, S. Record, A.C. Smith, C.M. Swan, J.D. Tonkin, N.M. Voelker, P.L. Zarnetske. 2019. *Patterns and drivers of stability in long-term metacommunity data*. Ecological Society of America Annual Meeting. Louisville, KY.

Wisnoski, N.I., M.A. Leibold, J.T. Lennon. 2019. *Dormancy in metacommunities: when can temporal dispersal maintain diversity in variable landscapes?* Society for Freshwater Science Annual Meeting. Salt Lake City, UT.

Ward, A. S., C.J. Harman, N.M. Schmadel, M.J. Kurz, P. Blaen, S.M. Wondzell, J.D. Drummond, D.M. Hannah, J.L. Knapp, S. Krause, A. Li, E.R. Martí, M. Miller, A. Milner, K. Neil, S. Plont, K.R. Roche, A.I. Packman, **N. Wisnoski**, J.P. Zarnetske. 2018. *How do evapotranspiration-driven discharge fluctuations alter reach-scale ecosystem function?* American Geophysical Union, Fall Meeting. Washington, D.C..

Ward, A. S., S. Herzog, S.M. Wondzell, N.M. Schmadel, P. Blaen, J.D. Drummond, D.M. Hannah, C.J. Harman, J.L. Knapp, S. Krause, M.J. Kurz, A. Li, E. Martí, M. Miller, A. Milner, K. Neil, S. Plont, K.R. Roche, A.I. Packman, **N. Wisnoski**, and J.P. Zarnetske. 2018. *Spatial and temporal relationships between hydrologic forcing, geologic setting, and river corridor exchange in a mountain stream network*. American Geophysical Union, Fall Meeting. Washington, D.C..

Ward, A.S., S. Herzog, S.M. Wondzell, N. Schmadel, P. Blaen, J. Drummond, D.M. Hannah, C.J. Harman, J. Knapp, S. Krause, M.J. Kurz, A. Li, E. Martí, M. Miller, A. Milner, K. Neil, S. Plont, K. Roche, A.I. Packman, **N. Wisnoski**, and J. Zarnetske. 2018. *How do hydrologic forcing and geologic setting control river corridor exchange in a 5th order mountain stream network?* Geological Society of America Annual Meeting. Indianapolis, IN.

Wisnoski, N.I. and J.T. Lennon. 2018. *Contribution of “seed banks” to bacterioplankton community dynamics*. Society for Freshwater Science Annual Meeting. Detroit, MI.

- Sokol, E.R., **N.I. Wisnoski**, and C.M. Swan. 2018. *Using long-term data to understand when metacommunities respond to disturbance*. Ecological Society of America Annual Meeting. New Orleans, LA.
- Wisnoski, N.I.**, M.E. Muscarella, and J.T. Lennon. 2018. *Dispersal and dormancy across ecosystem boundaries*. Association for the Sciences of Limnology and Oceanography. Victoria, BC, Canada.
- Wisnoski, N.I.** and J.T. Lennon. 2017. *Microbial community assembly in dendritic metacommunities*. Ecological Society of America Annual Meeting. Portland, OR.
- Sokol, E.R., **N.I. Wisnoski**, C.M. Swan, R. Andrade, H.L. Bateman, A.G. Hope, J. Kominoski, N.K. Lany, L. Marazzi, S.J. Presley, A. Rassweiler, S. Record, M.R. Willig, and P.L. Zarnetske. 2017. *The role of long-term ecological research programs for testing metacommunity theory and understanding biodiversity patterns*. Ecological Society of America Annual Meeting. Portland, OR.
- Voelker, N.M., E.R. Sokol, **N.I. Wisnoski**, C.M. Swan, T. Lamy, M.C.N. Castorani, L. Marazzi, A. Compagnoni, J.R. Blanchard, R. Andrade, and N.K. Lany. 2017. *Evaluating the link between metacommunity stability and environmental variability across trophic groups represented at LTER sites*. Ecological Society of America Annual Meeting. Portland, OR.
- Wisnoski, N.I.** and J.T. Lennon. 2016. *Community assembly processes differ between surface water and sediment-associated communities in stream networks*. Ecological Society of America Annual Meeting. Fort Lauderdale, FL.
- Wisnoski, N.I.** and J.T. Lennon. 2016. *Local and regional processes in stream microbial community assembly (poster)*. International Symposium on Microbial Ecology (ISME 16). Montreal, QC.
- Wisnoski, N.I.**, A.S. Ward, and J.T. Lennon. 2015. *Bacterial metacommunity structure across a stream network (poster)*. LTER All Scientists Meeting. Estes Park, CO.

TEACHING

- Co-Instructor.** BIOL-Z 620: Quantitative Biodiversity. *Indiana University*. Spring 2017.
- Associate Instructor.** BIOL-L 111: Foundations of Biology: Diversity, Evolution, and Ecology. *Indiana University*. Spring 2016, Fall 2016, Spring 2018, Spring 2019, Spring 2020.
- Associate Instructor.** BIOL-L 113: Biology Laboratory. *Indiana University*. Fall 2014, Fall 2017, Fall 2018, Fall 2019.
- Grader.** BIO 364: Microbial Ecology. *University of Texas*. Spring 2014.
- Teaching Assistant.** SSC 328M: Biostatistics. *University of Texas*. Spring 2013, Fall 2013.

WORKSHOPS

- Lead Organizer. 2018. Synthesizing long-term community data: questions, challenges, and advances. LTER All Scientists Meeting. Pacific Grove, CA.

PEER REVIEWER

- Peer reviewer for the following journals: The American Naturalist, Aquatic Ecology, BioScience, Ecology, Ecology Letters, Environmental Microbiology, the ISME Journal, and Journal of Biogeography.

MENTORSHIP AND SERVICE

Undergraduate and Summer REU STEM Mentor	Jan 2015 – 2020
High School STEM Mentor	Summer 2015 – 2020
<i>Jim Holland Summer Scholars Program</i>	
Coordinator, High School Riverwatch Sampling	Summer 2017 – 2019
<i>Jim Holland Summer Enrichment Program</i>	
EcoLunch Co-Organizer	August 2015 – May 2016
Metacommunity Reading Group Organizer	Summer 2015

COMPUTATIONAL SKILLS

R, python, bash, Mathematica, \LaTeX , markdown, git/GitHub

PROFESSIONAL SOCIETY MEMBERSHIP

Ecological Society of America
Society for Freshwater Sciences
American Society of Naturalists