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 Studies, 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, and individual-based modeling
Shoemaker Lab: coexistence theory, metacommunity theory

Graduate Researcher August 2014 – May 2020
Indiana University *Bloomington, IN*
Lennon Lab: metacommunity ecology, aquatic microbial ecology, and synthesis research

Graduate Teaching Assistant August 2014 – May 2020
Lennon Lab, Indiana University *Bloomington, IN*
Courses Taught: Quantitative Biodiversity, Intro Biology, Biology Lab

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

PUBLICATIONS

In preparation (drafts available):

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.

In review, in revision, and/or preprints:

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

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. EcoEvoRxiv.

Peer-reviewed publications:

Wisnoski, N.I. and J.T. Lennon. Accepted. Microbial community assembly in a multi-layer dendritic metacommunity. Oecologia.

Mobilian, C., **N.I. Wisnoski**, J.T. Lennon, M. Alber, S. Widney, C.B. Craft. Accepted. Differential effects of press versus pulse seawater intrusion on microbial communities of a tidal freshwater marsh. Limnology and Oceanography Letters.

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.

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. $5,400. 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.

Sokol, E.R., **N.I. Wisnoski**, and C.M. Swan. 2019. *Insights from the synthesis of long-term biodiversity data: resources and tools available to community ecologists.* 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. Marti, 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.

MENTORSHIP AND SERVICE

Peer Reviewer:

- *Journals*: American Naturalist, Aquatic Ecology, BioScience, Ecology, Ecology Letters, Environmental Microbiology, Global Ecology and Biogeography, The ISME Journal, and Journal of Biogeography.
- *Books*: Kirchman (2018) Processes in Microbial Ecology (2nd Ed.)

STEM Mentorship:

- Undergraduate Mentees: Luke Pryke, Mollie Carrison
- Summer REU Mentees: Jaylen Beatty, Mary Wallace, SydneyEllen Gooding
- High School Mentees: Dakayla Calhoun, Samuel Iwu, Ian Schowe

Outreach:

- Coordinator, High School Riverwatch Sampling — Summer 2017 – 2019

Scientific Service:

- Moderator, Organized Oral Session: *Advancing Ecological Theory through Synthesis of Long-Term Ecological Research*, ESA, Portland, OR. — 2017
- EcoLunch Co-Organizer, Indiana University — August 2015 – May 2016
- Organizer, Metacommunity Reading Group, Indiana University — Summer 2015

Departmental Service:

- Prospective Student Host, Graduate Recruiting Weekend, Biology Dept. Indiana University — 2014 – 2020
- Food Committee, Graduate Recruiting Weekend, Biology Dept. Indiana University — 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