

Phoebe Lehmann Zarnetske

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Academic Appointments

- 2013- **Assistant Professor, Michigan State University** – East Lansing, MI
Department of Forestry, Department of Fisheries and Wildlife; Adjunct: Plant Biology
- 2011-2013 **Postdoctoral Fellow, Yale Climate and Energy Institute**
Yale University School of Forestry & Environmental Studies – New Haven, CT
Gratis Researcher, Ecology and Evolutionary Biology, University of Connecticut – Storrs, CT
Research: The community ecology of climate change: understanding and predicting changes in the composition and distribution of ecological communities during climate change.
Advisors: D.K. Skelly (Yale), M.C. Urban (UConn)

Education

- 2011 **Ph.D. in Zoology, minors in Ecosystem Informatics, Statistics**
Dissertation: The influence of biophysical feedbacks and species interactions on grass invasions and coastal dune morphology in the Pacific Northwest, USA.
Oregon State University – Corvallis, OR (Advisors: S.D. Hacker, E.W. Seabloom)
- 2006 **M.S. in Ecology**
Thesis: Landscape scale habitat classification modeling with incomplete data: the generation of ecologically-based pseudo-absence points.
Utah State University – Logan, UT (Advisor: T.C. Edwards, Jr.)
- 2001 **B.A. in Biology, Environmental Science concentration**
Colby College – Waterville, ME
School for Field Studies, Center for Sustainable Development – Atenas, Costa Rica

Research & Work Experience

- 2011-2012 **Research Scientist, Aquatic & Reporting Unit, Science & Technical Group** Department of Conservation (DOC) – Christchurch, New Zealand
Research: Predicting current and future distributions of *Didymosphenia geminata* invasive diatom in New Zealand; modeling natural and human dispersal along stream networks
Principal Collaborators: P. Gerbeaux (DOC), C. Kilroy (National Institute of Water and Atmospheric Research, NIWA), J. Leathwick (DOC), M. Bothwell (Environment Canada).
- 2010 **Visiting Scientist, Ecological Modeling and Aquatic Biodiversity and Biosecurity Units**
National Institute of Water and Atmospheric Research (NIWA) – Christchurch, New Zealand.
Research: Developed models of *D. geminata* distributions in New Zealand rivers and streams; species distribution modeling with boosted regression trees.
Principal Collaborators: J. Leathwick (DOC), C. Kilroy (NIWA), P. Gerbeaux (DOC).

- 2010 **Visiting Scientist, Coastal Dune Research Group**
University of Otago – Dunedin, New Zealand.
Research: The influence of different vegetation species on dune geomorphology: integrating ecology and computational fluid dynamics modeling.
Principal Collaborators: W. Pattanapol, S. Wakes, M. Hilton, K. Dickinson.
- 2006-2011 **Graduate Fellow, NSF IGERT Ecosystem Informatics**
Oregon State University – Corvallis, OR
Research: Performed interdisciplinary and collaborative research across ecology, geosciences, mathematics, and engineering. Co-developed and completed innovative experimental and modeling research investigating the impact of invasive beach grasses on coastal dune ecology, geomorphology, and ecosystem services.
Principal Collaborators/Supervisors: S.D. Hacker (OSU), E.W. Seabloom (U. Minnesota), P. Ruggiero (OSU), J. Mull (OSU), V. Bokil (OSU), O.H. Hinsdale Wave Research Laboratory: J. Killian, T. B. Maddux, D. Cox
- 2006-2008 **Graduate Research Assistant, Department of Zoology**
Oregon State University – Corvallis, OR
Research: Performed field, experimental, and modeling research to assess the mechanisms and implications of beach grass invasions on coastal dune native and threatened species in the U.S. Pacific Northwest.
Principal Supervisors: S.D. Hacker (OSU), E.W. Seabloom (U. Minnesota), P. Ruggiero (OSU)
- 2003-2006 **Graduate Research Assistant, Department of Wildland Resources**
Utah State University – Logan, UT
Research: Developed new techniques for landscape scale species distribution modeling with presence-only data, tested FIA and Landfire map products for species distribution modeling.
Principal Collaborators/Supervisors: T.C. Edwards, Jr. (USGS Coop Unit), G.G. Moisen (USFS).
- 2001-2003 **Department and Faculty Assistant, Herpetology Department**
Harvard University Museum of Comparative Zoology – Cambridge, MA
Supervisor: J. Hanken
- 1999-2001 **Research Assistant, University of Connecticut-Patagonia Research Team**
Torres del Paine National Park – Patagonia, Chile
Research: Habitat and population studies of Patagonian wildlife and wetlands.
Principal Collaborators: I.M. Ortega (UConn), Univ. Magallanes.
- 2000-2001 **Research Assistant, Department of Biology**
Colby College – Waterville, ME
Research: Sumatran tiger GIS conservation research. Designed GIS component for senior-level watershed course (BI493, Problems in Environmental Science). Performed landuse change analysis for Lake Wesserunsett watershed and GIS analysis for Sumatran tiger conservation research. Compiled life history and habitat data for the IUCN Red List mammal database.
Supervisors: P. Nyhus, F.R. Cole, D. Firmage
- 2000 **Student Researcher, Center for Sustainable Development**
School for Field Studies – Atenas, Costa Rica.
Research: Political, economic, ecological, and social issues associated with organic coffee production and certification in Costa Rica.
Supervisors: School for Field Studies Costa Rica, lead: H. Saez

Refereed Publications

[†]joint lead author ^{**} graduate co-author ^{*}undergraduate co-author

19. **Zarnetske, P.L.**, Strecker, A., Record, S., Baiser, B., Belmaker, J., and M. Tuanmu. 2017. (invited). The interplay between landscape structure and biotic interactions. *Current Landscape Ecology Reports*. 2(1), 12-29. doi:10.1007/s40823-017-0021-5
18. Ruggiero, P., S.D. Hacker, E.W. Seabloom, and **P.L. Zarnetske**. (invited; *accepted*). The role of vegetation in determining dune morphology, exposure to sea level rise, and storm-induced coastal hazards: A U.S. Pacific Northwest perspective. Chapter in: *Barrier Dynamics and the Impacts of Climate Change on Barrier Evolution*, L. Moore, B. Murray, eds. Springer.
17. **Zarnetske, P.L.**, P. Ruggiero, E.W. Seabloom, and S.D. Hacker. 2015. Coastal foredune evolution: the relative influence of vegetation and sand supply in the U.S. Pacific Northwest. *Journal of the Royal Society Interface*. DOI: 10.1098/rsif.2015.0017
16. [†]Belmaker, J., [†]**P.L. Zarnetske**, Tuanmu, M., ^{**}Zonneveld, S., Record, S., Strecker, A., and L. Beaudrot. 2015. Empirical evidence for the scale-dependence of biotic interactions. *Global Ecology and Biogeography*. DOI:10.1111/geb.12311
Recommended to [Faculty of 1000](#)
15. Zarnetske, J.P., and **P.L. Zarnetske**. 2015. Strategies for creating a conspicuous, effective, and memorable poster presentation. *GSA Today*. 25:66-68.
14. ^{**}David, A.S., **P.L. Zarnetske**, S.D. Hacker, P. Ruggiero, R. Biel, E.W. Seabloom. 2015. Invasive congeners differ in successional impacts across space and time. *PLoS ONE*. 10, e0117283. doi: 10.1371/journal.pone.0117283.
13. Blois, J.L., **P.L. Zarnetske**, M. C. Fitzpatrick, and S. Finnegan. 2013. Climate Change and the Past, Present, and Future of Biotic Interactions. *Science* 341:499–504. doi: 10.1126/science.1237184 (*invited for special issue: "Natural Systems in Changing Climates"*)
Media Coverage: [Science Podcast](#), [Eurekalert](#), [ScienceDaily](#), [NSF](#), [Yale University](#), [UC Merced](#), [UMD Center for Environmental Science](#)
12. Urban, M.C., **P.L. Zarnetske**, and D. K. Skelly. 2013. Moving forward: dispersal and species interactions determine biotic responses to climate change. *Annals of the New York Academy of Sciences*: 1297:440-60. DOI: 10.1111/nyas.12184.
11. **Zarnetske, P.L.**, T. C. Gouhier, S. D. Hacker, E. W. Seabloom, and V. A. Bokil. 2013. Indirect effects and facilitation among native and non-native species promote invasion success along an environmental stress gradient. *Journal of Ecology*: 101:905-915 DOI: 10.1111/1365-2745.12093.
Highly Commended for Harper Prize Young Investigator Award:
Featured in [Virtual Issue](#) & [Journal of Ecology](#) blog
10. Seabloom, E.W., P. Ruggiero, S.D. Hacker, J. Mull, and **P.L. Zarnetske**. 2013. Invasive grasses, climate change, and exposure to storm-wave overtopping in coastal dune ecosystems. *Global Change Biology* 19: 824–832.
9. **Zarnetske, P.L.**, D.K. Skelly, and M.C. Urban. 2012b. Biotic multipliers of climate change. *Science* 336:1516-1518.
Media Coverage: [Yale Scientific](#), [ClimateWire](#), [ClimateNeeds](#), [YaleNews](#), [EurekAlert](#), [ScienceNewsline](#), [ScienceDaily](#), [NSF](#), [redOrbit](#)
8. **Zarnetske, P.L.**, S.D. Hacker, E.W. Seabloom, P. Ruggiero, J.R. Killian, T.B. Maddux, and D. Cox. 2012a. Biophysical feedback mediates effects of invasive grasses on coastal dune shape. *Ecology* 93:1439-1450.
7. Hacker, S.D., **P.L. Zarnetske**, E.W. Seabloom, P. Ruggiero, J. Mull, S. Gerrity, and ^{*} C. Jones. 2012. Subtle differences in two non-native congeneric beach grasses significantly affect their colonization, spread, and impact. *Oikos* 121:138-148.
6. **Zarnetske, P.L.**, E.W. Seabloom, and S.D. Hacker. 2010. Non-target effects of invasive species management: beachgrass, birds, and bulldozers in coastal dunes. *Ecosphere* 1(5):art13.

Media Coverage: [The Seattle Times](#), [Breaking Waves](#), [Oregon Sea Grant](#)

5. Menge, B.A., F. Chan, S. Dudas, D. Eerkes-Medrano, K. Grorud-Colvert, K. Heiman, M. HESSING-Lewis, A. Iles, R. Milston-Clements, M. Noble, K. Page-Albins, E. Richmond, G. Rilov, J. Rose, J. Tyburczy, L. Vinueza, **P.L. Zarnetske**. 2009. Terrestrial ecologists ignore aquatic literature: Asymmetry in citation breadth in ecological publications and implications for generality and progress in ecology. *Journal of Experimental Marine Biology and Ecology* 377:93-100.
4. Menge, B.A., F. Chan, S. Dudas, D. Eerkes-Medrano, K. Grorud-Colvert, K. Heiman, M. HESSING-Lewis, A. Iles, R. Milston-Clements, M. Noble, K. Page-Albins, E. Richmond, G. Rilov, J. Rose, J. Tyburczy, L. Vinueza, **P.L. Zarnetske**. 2009. Do terrestrial ecologists ignore aquatic literature? *Frontiers in Ecology and the Environment* 7:182-183.
3. **Zarnetske, P.L.**, T.C. Edwards, Jr., and G.G. Moisen. 2007. Habitat classification modeling with incomplete data: pushing the habitat envelope. *Ecological Applications* 17:1714–1726.
2. **Zarnetske, P.L.**, T.C. Edwards, Jr., and G.G. Moisen. 2006. Modeling forest bird species likelihood of occurrence in Utah with FIA and Landfire map products. Proceedings of the 7th Annual Forest Inventory and Analysis Symposium. October 3-6, 2005, Portland, ME. USDA GTR WO-77.
1. Nyhus, P.J., F.R. Cole, D.H. Firmage, and **P.S. Lehmann**. 2002. Enhancing education through research in the Environmental Science Laboratory: Integrating GIS and project-based learning at Colby College. *Council on Undergraduate Research Quarterly*. September: 34-40.

Manuscripts in Review or Revision

6. Lany, N., **Zarnetske, P. L.**, Gouhier, T., & Menge, B.A. (invited, in review). Incorporating the context dependency of species interactions into species distribution models. *Integrative and Comparative Biology*
5. Urban, M. C., **Zarnetske, P. L.**, & Skelly, D. K. (invited, in review). Searching for biotic multipliers of climate change. *Integrative and Comparative Biology*.
4. Welshofer, K., **Zarnetske, P. L.**, Lany, N. K., & Thompson, L. (in review) Open-top chambers for temperature manipulation in taller-stature plant communities. *Methods in Ecology and Evolution*.
3. Schliep, E., N. K. Lany, **P.L. Zarnetske**, R. Schaeffer, C. Orians, D. Orwig, E. Pressier. *In revision*. Joint species abundance modeling using latent processes for spatio-temporal ordinal data. *Global Ecology and Biogeography*.
2. Record, S., A. Strecker, M. Tuanmu, L. Beaudrot, **P.L. Zarnetske**, J. Belmaker. Does scale matter? Incorporating biological realism when predicting changes in species distributions.
1. Read, Q., Grady, J., **Zarnetske, P. L.**, Record, S., Baiser, B., Strecker, A, Beaudrot, L, Belmaker, J., & Tuanmu, M-N. Niche overlap and trait partitioning in North American rodents.

Manuscripts in Preparation

1. Lany, N. K., **Zarnetske, P. L.**, Schliep, E. M., Schaeffer, R., Orians, C. M., Orwig, D. A., & Priesser, E. L. (in preparation). Asymmetric biotic interactions and abiotic niche differences revealed by a joint species distribution model.

Theses & Non-Refereed Publications

7. **Zarnetske, P. L.** 2017. (Invited) Supertramps and checkerboards revisited: updating analyses of species co-occurrences and community assembly [Review of the Book *Patterns in nature: analysis of species co-occurrences*, by James Sanderson, Stuart Pimm]. In *Ecology*, 2169–2170.
6. **Zarnetske, P.L.** and A. Wilson. 2013. Sustaining ecological communities and their ecosystem services in an era of rapid global change. Yale Climate & Energy Institute. <http://climate.yale.edu/perspectives>

5. Wilson, A. and **P.L. Zarnetske**. 2013. Forecasting biodiversity: how confident should we be? Yale Climate & Energy Institute. <http://climate.yale.edu/perspectives>
4. **Zarnetske, P.L.** 2011. The influence of biophysical feedbacks and species interactions on grass invasions and coastal dune morphology in the Pacific Northwest, USA. Dissertation. Oregon State University, Corvallis, OR, USA. 178 pp.
3. Ruggiero, P., J. Mull, **P.L. Zarnetske**, S. Hacker, and E. Seabloom. 2011. Interannual to decadal foredune evolution, Proceedings Coastal Sediments 2011, ASCE, Miami, FL.
2. **Zarnetske, P.L.** 2006. Landscape-scale habitat classification modeling with incomplete data: the generation of ecologically-based pseudo-absence points. Thesis. Utah State University, Logan, UT, USA. 168 pp.
1. **Zarnetske, P.L.** 2006. Predicting habitat suitability with extant presence points and ecologically-based pseudo-absence points for a lesser-known species: the American Three-Toed Woodpecker (*Picoides dorsalis*). USFS unpublished report to accompany Zarnetske (2006). 94 pp.

Research Grants

Pending	National Aeronautics and Space Administration NESSF (PI) <i>Graduate Fellowship (L. Twardochleb): Predicting freshwater biodiversity across scales using measures of land use, climate, and primary productivity</i>	\$89,107
Pending	National Aeronautics and Space Administration AIST (Co-PI) <i>Advancing spatio-temporal models and tools to support Earth science research: application to essential biodiversity variables (EBVs)</i>	\$641,223
2017-2019	Michigan Invasive Species Grant Program (Co-PI) <i>Projecting Hemlock Woolly Adelgid Distribution and Risk in Michigan</i>	\$498,468
2016-2017	Environmental Science and Policy Program VISTAS (PI) <i>Linking Intraspecific Trait Variation with Ecosystem Function at a Continental Scale</i>	\$2,324
2016-2018	National Aeronautics and Space Administration, Biodiversity (PI) <i>Connecting biodiversity, geodiversity, and remote sensing across scales</i>	\$150,441
2016-2017	Environmental Science and Policy Program, Watercube (Co-PI) <i>Cross-scale interactions in freshwater ecosystems</i>	\$80,000
2016-2017	National Science Foundation, Emerging Frontiers (PI); \$134,550 to MSU <i>Collaborative Research: EAGER-NEON: Using intraspecific trait variation to understand processes structuring continental-scale biodiversity patterns, Award# 1550765</i>	\$300,000
2015-2017	Arnold and Mabel Beckman Foundation, Postdoctoral Fellowship (PI) <i>Postdoc: Nina Lany, Improving predictions of climate change effects on ecological communities with ecological complexity.</i>	\$121,137
2011	Yale Climate and Energy Institute, YCEI Research Grant <i>The community ecology of climate change</i>	\$10,000
	New Zealand Department of Conservation, Science and Research Grant <i>Predicting invasion hotspots of Didymosphenia geminata in New Zealand</i>	\$14,500
2010	NSF IGERT Ecosystem Informatics, in cooperation with New Zealand Institute for Water and Atmospheric Research, and the University of Otago 1. <i>Invasive species distribution modeling with boosted regression trees</i> 2. <i>Modeling bio-physical mechanisms and implications of beachgrass invasions on coastal dunes</i>	\$13,000
2007-2009	Hatfield Marine Science Center, Mamie Markham Award <i>What is the relative role of invasive vs. native sand binding species in building coastal dunes?</i>	\$10,000
2009	Oregon State University Zoology Department, Research Fund <i>Bio-physical mechanisms and implications of beachgrass (Ammophila spp.) invasions on</i>	

coastal dunes

2006-2011 **NSF IGERT Ecosystem Informatics**, Fellowship Research Grant \$10,000

Competitive Fellowships & Awards

2014 **Highly Commended for Harper Prize** (Journal of Ecology Young Investigator Award)
2013 **ESA's Scaling Up: Population and Community Ecology Workshop**, travel & registration
2012 **NSF RCN Forecast Conference**, travel & registration
2011-2013 **Yale University**, Yale Climate and Energy Institute Postdoctoral Fellowship
2011 **Yale Institute for Biospheric Studies**, funding for 2012 AAAS Symposium
2006-2011 **NSF IGERT Ecosystem Informatics**, Graduate Fellowship
2011 **Oregon State University**, College of Science Travel Award
2010 **Strategic Environmental Research and Development Program**, ESA 2010 travel award
2007 **Hatfield Marine Science Center**, Best Poster at Markham Research Symposium
2006 **The Wildlife Society**, Utah Chapter Best Poster Award
2005 **Ecological Society of America (ESA)**, E. Lucy Braun Award, for the Joint 90th ESA and IX International Congress of Ecology (INTECOL) meeting, Montreal, Canada
2001 **Maine Water Conference**, Best Student Research Poster

Teaching Experience

2015-2016 **Professor**, Spatial Ecology (FOR870/FW870), Michigan State University
Professor, Introduction to Forestry (FOR202), Michigan State University
2013 **Guest Lecturer**, Forestry (FOR110), Michigan State University
2012 **Guest Lecturer**, Plant Form and Diversity (BIOL290), Wesleyan University
2011 **Mentor**, Environmental Analysis (ENSC520), Oregon State University
Guest Lecturer, Coastal Geomorphology (GEO433/533), Oregon State University
2008 **Guest Lecturer**, Principles of Fluid Mechanics (CE547), Oregon State University
2008-2010 **Guest Lecturer**, Ecosystem Informatics Colloquium (GEO507), Oregon State University
2008-2009 **Graduate Teaching Instructor**, Human Anatomy and Physiology Lab and Recitation (Z343, Z443), Oregon State University
2007 **Graduate Teaching Instructor** and **Guest Lecturer**, Marine Biology (BI450), Oregon State University Hatfield Marine Science Center
2000 **GIS Course Lead**; designed & taught GIS curriculum and lab for undergraduate senior-level watershed course, Problems in Environmental Science (BI493), Colby College.

Postdoctoral advising

2016- Quentin Read (Michigan State University)
John Grady (Bryn Mawr College)
2015- Nina Lany (Michigan State University)

Student research and training supervision

2015- 9 undergraduates including REU, URA, PA students
2015- Laura Twardochleb: PhD student (MSU Fisheries & Wildlife, EEBB)
2014-2015 Danielle Miles: MS student (MSU Forestry)
2013- Kileigh Welshofer: MS student (MSU Forestry, EEBB)
2011-2013 Yale University, University of Connecticut: training and mentoring 10 graduate students, an undergraduate, an advanced math high school student (Intel prize honorable mention), a European Union Erasmus Mundus Masters Fellow in Evolutionary Biology

2006-2011 Oregon State University, training and mentoring of 18 undergraduate students

PhD Graduate Committees

2014- Anna Groves (MSU Plant Biology), Malcolm Itter (MSU Forestry), Niel VerPlanck (MSU Forestry), Matthew Reid (Univ Louisville), Andrew Dennhardt (MSU Fisheries & Wildlife), Meredith Zettlemoyer (MSU Plant Biology), Sean Sultaire (MSU Fisheries & Wildlife)

Teaching and mentoring training

2013 Desire 2 Learn: Tips for Getting the Most out of the LMS, Michigan State University
2013 Teaching Quantitative Reasoning. Yale Teaching Center Workshop, Yale University.
2012 Preparing future science faculty: teaching your own course. Yale Teaching Center Workshop.
2011 Success in the college classroom. (MB699) Oregon State University
2009 Discover your teaching philosophy. Center for Teaching and Learning, Oregon State University
2008 The future professoriate. (FE607) Oregon State University

Invited Seminar Presentations

2017 MSU FW Grad Seminar: Principles and Perspectives in Fisheries and Wildlife
EEB, University of Michigan, Ann Arbor, MI
2014 Kellogg Biological Station Seminar Series, Hickory Corners, MI
2013 Hanover Seminar Series, Michigan State University, East Lansing, MI
Greeley EcoLunch Seminar Series, Yale University, New Haven, CT
2012 Women in Science at Yale, “Getting connected: forming successful networks and
collaborations”, Yale University, New Haven, CT
Greeley EcoLunch Seminar Series, Yale University, New Haven, CT
2010 Ecosystem Informatics IGERT, OSU, Corvallis, OR
2009 Chinese Delegation, Oregon Sea Grant, OSU, Corvallis, OR
New River Area of Critical Environmental Concern, BLM Coos Bay District, OR
Honeyman State Park Evening Program, Honeyman State Park, Florence, OR
O.H. Hinsdale Wave Research Laboratory, OSU, Corvallis, OR
Ecosystem Informatics IGERT Retreat, OSU, Corvallis, OR
Oregon Native Plant Society, Corvallis, OR
2008 O.H. Hinsdale Wave Research Laboratory, OSU, Corvallis, OR
Honeyman State Park Evening Program, Honeyman State Park, Florence, OR
Ecosystem Informatics IGERT Retreat, OSU, Corvallis, OR
Invasive Species Seminar, Department of Fisheries and Wildlife, OSU, Corvallis, OR
2007 Annual Snowy Plover Working Team Meeting, Eugene, OR
2005 Reaching the World: A Campaign for Colby. Colby College, Waterville, ME

Presentations at Scientific Conferences **student co-author *award **invited* (selected presentations listed after 2013)

Lany, N., **P.L. Zarnetske, T. Gouhier, and B. A. Menge. (January 2017). Incorporating the effects of climate change on species interactions into species distribution models. Presented paper at Society of Integrative Biology, New Orleans, LA.

Zarnetske, P. L., Read, Q. D., Grady, J., Record, S., Baiser, B., Strecker, A., Belmaker, J., Beaudrot, L., Tuanmu, M.-N. (December 12, 2016) *Climate and Biological Drivers of Biodiversity Across the National*

- Ecological Observatory Network (NEON)*. Presented paper at American Geophysical Union, San Francisco, CA.
- *Niewohner, V., *Welshofer, K., **Zarnetske, P. L.** (August 2016) *Effects of warming and herbivory on maximum relative flower abundance*. Presented poster at Undergraduate Research Summer Symposium, Kellogg Biological Station, Hickory Corners, MI.
- Zarnetske, P.L.**, S. Record, Q. Read, B. Baiser, A. Strecker, J. Belmaker, J., M.-N. Tuanmu, and L. Beaudrot. August 2016. Intraspecific trait variation at a continental scale. 101st ESA, Fort Lauderdale, FL.
- Zarnetske, P.L.**, Belmaker, J., Tuanmu, M., Zonneveld, S.*, Record, S., Strecker, A., and L. Beaudrot. August 2015. Empirical evidence for the scale-dependence of biotic interactions. 100th ESA, Baltimore, MD.
- Zarnetske, P.L.**, Belmaker, J., Tuanmu, M., Zonneveld, S.*, Record, S., Strecker, A., and L. Beaudrot. July 2015. Scale-dependence of biotic interactions: implications during climate change. International Association of Landscape Ecology 9th World Congress. Portland, OR.
- Record, S., Belmaker, J., **Zarnetske, P.L.**, J., Tuanmu, M.-N., Zonneveld, S., Strecker, A., Beaudrot, L. 2014. *Empirical evidence for the scale-dependence of biotic interactions*. Ecological Society of America Meeting, Sacramento, CA.
- Belmaker, J., **Zarnetske, P.L.**, J., Tuanmu, M.-N., Zonneveld, S., Record, S., Strecker, A., Beaudrot, L. 2014. *Empirical evidence for the scale-dependence of biotic interactions*. Gordon Research Conference: Unifying Ecology Across Scales, University of New England, Biddeford, ME.
- Zarnetske, P.L.**, C. Kilroy, P. Gerbeaux, and J. Leathwick. March 2013. Integrating invasion history with environment to model *Didymosphenia geminata* hotspots across New Zealand. Providence, RI.
- Jetz, W., P. Keil, M. Barbet-Massin, **P.L. Zarnetske**. October 2012. Integrating climate and land cover for cross-scale predictions of species distributions. Synergistic Effects of Climate and Land-Use Change Symposium, The Wildlife Society Conference. Portland, OR.
- Zarnetske, P.L.**, M.C. Urban, D.K. Skelly. October 2012. Predicting the effects of climate change on communities of species. RCN Conference: New perspectives on data assimilation in global change science. Woods Hole, MA.
- Zarnetske, P.L.**, M.C. Urban, D.K. Skelly. August 2012. Climate change effects on community composition and species distributions: the relative influence of species interactions. 97th Annual Ecological Society of America Meeting (ESA), Portland, OR.
- Hacker, S.D., E.W. Seabloom, P. Ruggiero, **P.L. Zarnetske**, J. Mull. November 2011. Invasive grasses, climate change, and effects on coastal dune ecosystem functions and services. 2nd World Conference of Biological Invasions and Ecosystem Functioning, Mar de Plata, Argentina.
- Zarnetske, P.L.**, S.D. Hacker, E.W. Seabloom, P. Ruggiero, J. Mull. August 2011. Connecting process with pattern: towards a mechanistic understanding of invasions' impacts on coastal dune ecology and geomorphology. 96th ESA, Austin, TX.
- David A.S., **Zarnetske P.L.**, Seabloom E.W., Hacker S.D. August 2011. Invasive congeners uniquely alter community succession of dunes. 96th ESA, Austin, TX.
- Ruggiero, P., J. Mull, E. Seabloom, S. Hacker and **P.L. Zarnetske**. May 2011. Interannual to decadal foredune evolution. Coastal Sediments Meeting, Miami, FL.
- Zarnetske, P.L.**, P. Ruggiero, J. Mull, S.D. Hacker, E.W. Seabloom. December 2010. Coastal foredune evolution: evidence for ecological control. American Geophysical Union Meeting, San Francisco, CA.
- Ruggiero, P., **P.L. Zarnetske**, J. Mull, S.D. Hacker, E.W. Seabloom. December 2010. Coastal foredune evolution: evidence for physical control. American Geophysical Union (AGU) Mtg., San Francisco, CA.
- Zarnetske, P.L.**, S.D. Hacker, E.W. Seabloom, P. Ruggiero. August 2010. Biotic or abiotic control? Assessing the mechanisms behind coastal dune-building plant distributions. 95th ESA, Pittsburgh, PA.
- Hacker, S.D., **P.L. Zarnetske**, E.W. Seabloom, and P. Ruggiero. November 2009. Importance of species

- identity: implications of two non-native congeneric beach grasses (*Ammophila arenaria* and *A. breviligulata*) on dune structure and coastal protection. Coastal and Estuarine Research Federation, Portland, OR.
- Zarnetske, P.L.**, E.W. Seabloom, S.D. Hacker, P. Ruggiero, J. Killian, T. Maddox. August 2009. Native and invasive species' influence on coastal dune geomorphology: results from a moveable bed wind tunnel experiment. 94th ESA, Albuquerque, NM.
- Zarnetske, P.L.**, S.D. Hacker, E.W. Seabloom, P. Ruggiero, D. Cox, J. Killian, T. Maddox, V. Bokil, W. Pattanapol. December 2008. Coastal dune building capabilities of native and exotic beach grasses: results from a moveable bed wind tunnel experiment. AGU Meeting, San Francisco, CA.
- Zarnetske, P.L.**, S.D. Hacker, and E.W. Seabloom. August 2008. Does removal of an invasive species restore the disturbance regime and native community on coastal dunes? 93rd ESA, Milwaukee, WI.
- *Gladics, A., **P.L. Zarnetske**, S.D. Hacker, E.W. Seabloom. February 2008. Habitat characteristics related to snowy plover reproductive success in coastal dune restoration areas in Oregon and Washington. The Wildlife Society Meeting, Lincoln City, OR.
- Zarnetske, P.L.**, E.W. Seabloom, and S.D. Hacker. August 2007. Effects of invasive beach grasses on the shape and composition of coastal dunes. 92nd ESA. San Jose, CA.
- [†]**Zarnetske, P.L.** 2007. Assessing beach grass invasions on the Pacific Northwest Coast: implications for dune morphology and coastal protection. Markham Research Symposium, HMSC, Newport, OR.
- Zarnetske, P.L.**, T.C. Edwards, Jr. and G.G. Moisen. August 2006. Pushing the envelope: habitat classification modeling with incomplete data. 91st ESA. Memphis, TN.
- Zarnetske, P.L.**, T.C. Edwards, Jr. and G.G. Moisen. March 2006. Bioregional species distribution modeling with pseudo-absence points. 21st Annual Symposium of the U.S. Regional Chapter of the International Association for Landscape Ecology. San Diego, CA.
- [†]**Zarnetske, P.L.**, T.C. Edwards, Jr. and G.G. Moisen. March 2006. Wildlife habitat suitability modeling with incomplete data: Incorporating ecological pseudo-absence points. Wildlife Society Meeting, Moab, UT.
- Zarnetske, P.L.**, T.C. Edwards, Jr. and G.G. Moisen. October 2005. Modeling forest bird species likelihood of occurrence in Utah with FIA and Landfire vegetation models and generated pseudo-absence points. 7th Annual Forest Inventory and Analysis (FIA) Meeting, Portland, ME.
- [†]**Zarnetske, P.L.**, T.C. Edwards, Jr. and G.G. Moisen. August 2005. Modeling forest bird species' habitat with known presence points and generated pseudo-absence points in Utah. Joint 90th ESA and INTECOL Meeting, Montreal, Canada.
- Lehmann, P.S.**, A.M. Megquier, D.G. Thornton, D.H. Firmage, F.R. Cole, P.J. Nyhus. March 2001. Geographic Information Systems and integrated watershed research at Lake Wesserunsett, ME. National Conference on Undergraduate Research, University of Kentucky, Lexington, KY.
- [†]**Lehmann, P.S.** and A.M. Megquier. 2001. The use of geographic information systems to assess watershed qualities. Maine Water Conference, Augusta, ME, Colby College Research Symposium, Waterville, ME.

Other Conference Presentations

- Zarnetske, P.L.** 2009. Dune grasses: species interactions and dune building capabilities. Markham Research Symposium, Hatfield Marine Science Center (HMSC), Newport, OR.
- Zarnetske, P.L.** 2009. WindOverDunes. 22nd Annual Oregon State University Biology Graduate Student Symposium (BGSS), Newport, OR.
- Zarnetske, P.L.**, S.D. Hacker, E.W. Seabloom. 2008. Characteristics of coastal dunes with and without invasive beachgrass. Pacific Northwest Coastal Dunes Ecosystem Workshop 2008.
- Zarnetske, P.L.** 2007. Integrating invasion ecology and dune geomorphology to project coastal vulnerability in Oregon and Washington. 20th BGSS, Newport, OR.

Zarnetske, P.L. 2006. Modeling forest bird occurrence with FIA and Landfire vegetation models. 2006. FIA User Group Meeting, Ogden, UT.

Lehmann, P.S. 2002. Amphibian Declines: The importance of geographic information systems as a resource for conservation. Harvard GIS Day, Harvard University, Cambridge, MA.

Research Workshops & Symposia ¹participant ²organizer ³presenter

- 2017 - *Connecting Geodiversity and Biodiversity Across Scales*, NCEAS, Santa Barbara, CA ^{1,2,3}
- 2016 - [*Fate of the Earth: Climate-Food-Energy-Water Nexus*](#). East Lansing, MI ^{1,2}
- 2015 - [*Fate of the Earth: Tipping Points, Crises, and Solutions*](#). East Lansing, MI ^{1,2}
 - ESA Session: [*The role of biotic interactions structuring species distributions*](#). Baltimore, MD ³
- 2014 - [*Climate Change in the Great Lakes Region and Beyond*](#). East Lansing, MI ^{1,2}
- 2013 - *ESA's Scaling Up: Population and Community Ecology Workshop*. Baltimore, MD ¹
- 2012 - *Climate Change & Species Interactions: Ways Forward*. Cary Institute of Ecosystem Studies, Millbrook, NY ¹
 - *New perspectives on data assimilation in global change science*. RCN Forecast. Woods Hole, MA ^{1,3}
 - *The future of ecological communities under climate change: no analog?* [Organized Symposium](#), AAAS 2012 Meeting, Vancouver, BC ¹⁻³
- 2011 - *NSF Workshop*. National Science Foundation Day. Oregon State University, Corvallis, OR ¹
- 2010 - *Modeling species responses to climate change and land use change: collaborations among ecologists and computer scientists*. H.J. Andrews Forest LTER, Blue River, OR ^{1,3}
- 2008 - *Riederalp 2008: The utility of species distribution models as tools for assessing impacts of global change*. Riederalp, Switzerland ¹⁻³
 - *NSF IGERT Research Symposium*. Oregon State University, Corvallis, OR ¹⁻³
 - *Pacific Northwest coastal dunes ecosystem workshop*. Hatfield Marine Science Center, Newport, OR ¹⁻³
- 2004 - *Mark-recapture workshop*. Utah State University, Logan, UT ¹
- 2002 - *Harvard GIS Day*. Harvard University, Cambridge, MA ¹⁻³

Service

Professional Service:

- 2016- **Member**, Ecosystem Functioning Working Group, international Group on Earth Observations Biodiversity Observation Network (GEO-BON)
- 2016- **Editorial Board**, *Axios*
- 2008- **Journal Referee**, *Proceedings of the Royal Society B*, *Ecology*, *Ecology Letters*, *Ecography*, *Frontiers in Ecology and the Environment*, *Ecology and Evolution*, *Journal of Biogeography*, *Oecologia*, *Oikos*, *Plos ONE*, *Journal of Applied Ecology*, *Journal of Experimental Marine Biology and Ecology*, *American Journal of Botany*, *Journal of Experimental Marine Biology and Ecology*, *Environmental Management*, *Journal of Wildlife Biology*, *International Journal of Geographic Information Science*, *Solutions Journal*
- 2011-2016 **NSF (EAR, OPUS) Proposal ad hoc Reviewer**
- 2006-2011 **Award Judge**, Buell/Braun Award, Ecological Society of America annual meetings

University Service & Leadership:

- Michigan State University**
- 2016- Forestry committee on Committee on Enhancing Diversity of our Graduate Student Body
- 2015-2016 Forest Biomaterials Search Committee
- 2015 Forestry committee on by-laws on tenure and promotion expectations
- 2014-2017 Ecology, Evolutionary Biology, and Behavior (EEBB) Seminar Series Committee Member
Fate of the Earth Symposium Committee Member
- 2013-2017 Chair, Hanover Forest Science Seminar Committee
Chair, Spatial Ecology Graduate Certificate Curriculum Committee
- 2013 Chief Organizer, Climate Change in the Great Lakes Region and Beyond: A Symposium
- 2011-2013 **Yale University**
Women in Science at Yale (WISAY): graduate student mentor, seminar organizer
- 2006-2011 **Oregon State University**
OSU Women in Science (WIS)
Co-President, Zoology department graduate students
Bargaining Team, Coalition of Graduate Employees, OSU
Brown Bag Co-Organizer, invited speaker committee, Zoology department
Student representative, NSF IGERT Ecosystem Informatics
- 2004-2006 **Utah State University**
Co-Chair, Ecology Center Seminar Invited Speakers Committee
- 2001-2003 **Harvard University**: Co-organizer and committee member, Harvard University GIS Group

Media Coverage

- 2013 Scientists look into Earth's 'deep time' to predict future effects of climate change, [Eurekalert](#) 12 August 2013
[Science Podcast](#), 2 August 2013
Looking to the Past to Predict the Future of Climate Change, [ScienceDaily](#) 5 August 2013
Back to the future: scientists look into earth's "deep time" to predict future effects of climate change, [NSF](#) press release 1 August 2013
Deep past offers clues into climate-driven biotic shifts, [Yale University](#) 2 August 2013.
Additional press: [UC Merced](#), [UMD Center for Environmental Science](#)

- [Journal of Ecology blog](#), 14 June 2013
Multiplying toward extinction: the effects of climate change on species. [Yale Scientific](#),
19 February 2013
- 2012 Climate models need to account for species interactions, researchers say. [ClimateWire](#),
[ClimateNeeds](#) 25 June 2012.
Top predators key to extinctions as planet warms. [YaleNews](#), [EurekAlert](#), [ScienceNewsline](#),
[ScienceDaily](#), [NSF](#) 21 June 2012.
Species interactions could be affected by global warming. [redOrbit](#), 23 June 2012.
- 2011 Invasive species: Are scientists fighting a losing battle? [The Seattle Times](#), 24 April 2011
Removing invading plants can harm native ecology. [Breaking Waves](#), [Oregon Sea Grant: Coastal
Science Serving Oregon](#) 15 April 2011
Exploring the Oregon Dunes, [Oregon Field Guide](#) television feature, March 2011
- 2010 Incorporating computational modeling into interdisciplinary research, 2009 [OSU College of
Engineering Annual Report](#)
- 2009 Line in the sand. [Colby](#) magazine, Spring 2009
- 2008 Invaders in the dunes. [Terra](#) magazine (OSU Research magazine) Winter 2008
- 2007 Invasion of beach grass could weaken shoreline protection. [ScienceDaily](#) Sep. 26, 2007

Organizations and Affiliations

- | | |
|---|---|
| Ecological Society of America (ESA) | OSU Women in Science (WIS) |
| American Association for the Advancement of
Science (AAAS) | LTER Network (LTER)
H.J. Andrews Experimental Forest (HJA) |
| American Geophysical Union (AGU) | Toolik Lake LTER (ARC) |
| Yale Climate and Energy Institute (YCEI) | Kellogg Biological Station (KBS) |
| Yale Institute for Biospheric Studies (YIBS) | O.H. Hinsdale Wave Research Laboratory (HWRL) |
| Yale Program in Spatial Biodiversity Science &
Conservation (SBSC) | Hatfield Marine Science Center (HMSC) |
| Women in Science at Yale (WISAY) | MSU Ecology, Evolutionary Biology, and Behavior
Program (EEBB) |