

Nathan J Sanders

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Education

PhD, Stanford University (2000)
BA, University of Colorado (1995)

Appointments

Director of the Environmental Program, University of Vermont (2017 – present)
Professor, University of Vermont (2017 – present)
Head of Biodiversity Section, University of Copenhagen (2015 – 2016)
Professor, University of Copenhagen (2014 – 2017)
James R. Cox Professor, University of Tennessee (2012 – 2015)
Visiting Associate Professor, University of Copenhagen (December 2009 – July 2010)
Associate Professor, University of Tennessee (2008 – 2011)
Assistant Professor, University of Tennessee (2004 – 2008)
Assistant Professor, Humboldt State University (2001 – 2003)
Postdoctoral Fellow, University of Tennessee (2001)

Senior editorial positions

Senior Editor, Journal of Animal Ecology (2015 – present)
Deputy Editor-in-Chief, Ecography (2010 – 2015)

Recent awards

James R. Cox Professorship (2012 – 2015)
Omicron Delta Kappa Faculty Appreciation Award (2011)
College of Arts and Sciences Junior Faculty Teaching Award (2008 – 2009)
Chancellor's Award for Professional Promise in Research and Creative Achievement (2008)
Alistair McCrone Promising Faculty Scholars Award, Humboldt State University (2003)
Ronald J. Wessells Award for excellence in undergraduate education, Stanford University (1999)

Program building and administrative experience

Director of the Environmental Program, University of Vermont. The Environmental

Program is an interdisciplinary, cross-college program with >450 undergraduate majors, 15 core faculty, 16 affiliated faculty, and ~10 part-time faculty. The Environmental Program also oversees the University of Vermont Natural Areas which consists of 10 sites in Vermont and over >2,000 acres.

Head of Biodiversity Section, University of Copenhagen. The position entailed leading a group of ~80 faculty, postdocs, staff, and PhD and MSc students. (2015 – 2016)

Chair, Graduate Admissions Committee, Department of Ecology & Evolutionary Biology. Since 2004, I served on this committee (except 2011). Beginning in 2011, I served as chair of committee charged with admitting ~10 graduate students each year. (2011 – 2013)

Faculty Fellow for Research, University Honors Programs. I was in charge of developing resources and programming initiatives related to undergraduate research for ~1100 students in the Haslam and Chancellor's Honors Programs and more generally at the University of Tennessee. (2010 – 2012)

Graduate Program Director, Department of Ecology & Evolutionary Biology. I led the design and implementation of a new departmental graduate curriculum, steered the admissions committee toward admitting more PhD students, and helped grow the overall size of the program to ~50 students. Additionally, I was PI or co-PI on two (unsuccessful) NSF IGERT interdisciplinary proposals. (2008 – 2010)

Chair, National Ecological Observatory Network (NEON) Domain 7 Science and Education Coordination Committee. I chaired the committee for the Appalachians and Cumberland Plateau domain. This committee provides feedback to NEON and shares information with stakeholders at field stations, universities, colleges, national labs, and federal lands in the domain. (2009 – 2014)

Member of the Campus Committee on the Environment. This committee advised the Chancellor on institutional policies and behaviors that promote environmental stewardship at the University of Tennessee. (2009 – 2014)

Co-organizer of undergraduate Interdisciplinary Program in Sustainability. With two other colleagues, I helped design and implement an undergraduate interdisciplinary program in Sustainability. The curriculum includes courses from the Departments of Economics, Forestry, Geography, Sociology, Philosophy, Ecology & Evolutionary Biology, Anthropology, and Earth & Planetary Sciences. (2009 – 2014)

Increasing diversity in STEM fields. I participated in developing an NSF ADVANCE proposal to increase the number of women in Science, Technology, Engineering, and Mathematics at UTK, and I was a co-PI on a proposal to provide resources for female scientists at RMBL. Finally, I co-organized the Haines-Morris Lecture Series on Ecology, Evolution, and Work-Life balance. This seminar series and associated graduate discussions took place during spring 2011. The intent was to bring world-class scientists to UTK to discuss phylogenetics in ecology, gender issues, and work-life balance in academia. (2009 – 2014)

Admissions Committee, Chancellor's and Haslam Scholars Honors Programs. I served on the admissions committee for this prestigious honors program at the University of Tennessee. Each year, we assessed and interviewed students (many of whom were first generation students) and provided them with exceptional opportunities to thrive at the university. (2011 – 2014)

Member of the Core Biology Curriculum Task Force. This committee was charged with revamping the undergraduate curriculum in biology across three departments in the biological sciences. (2010 – 2012)

REU Program Coordinator, Rocky Mountain Biological Lab. As the REU Program Coordinator, I oversaw the research of 37 undergraduates and advised them on the design and implementation of their independent projects. (2009)

Research Committee, Rocky Mountain Biological Lab. As a member of the Research Committee, I am involved in approving research and developing the research mission of the Lab, which has nearly 200 scientists. (2010 – present)

Editorial boards

Insectes Sociaux, Editorial Board (2010 – present)

Ecology, Subject Editor (2009 – present)

PeerJ, Academic Editor (2012 – present)

Elementa, Academic Editor (2013 – present)

BioScience, Editorial Board (2015)

Biological Invasions, Associate Editor (2010 – 2013)

Ecography, Subject Editor (2007 – 2010)

Diversity and Distributions, Associate Editor (2007 – 2010)

Oecologia, Editorial Board Member (2006 – 2009)

Recent external funding (Total External Funding 2003 – 2016: \$9.8 million)

Current

WaRM: Warming and Removal in Mountains to predict the future of biodiversity and ecosystem responses. Carlsberg Fondet. \$822,366; PI (2016-2020)

Citizen Science for children and young people: The ant hunt. 15. Juni Fonden, Augustinus Fonden, Beckett-Fonden, Knud Højgaards Fond. \$350,098; Co-PI; (2016-2018)

Collaborative Research: Exploring the geography of Na as a catalyst in terrestrial communities and ecosystems. National Science Foundation. \$740,233; Co-PI; (2016-2019)

Future Keepers: impacts of climate change on ecosystem function providers. Australian Research Council. \$325,600; Co-PI; (2016-2019)

Concept, Competency, and Community-driven Curriculum Reform in Undergraduate Biology Education (C3UBE). National Science Foundation. \$200,000; Co-PI; (2013-2016)

DIMENSIONS: Collaborative Research: The climate cascade: functional and evolutionary consequences of climatic change on species, trait, and genetic diversity. National Science Foundation. \$1,997,317; Lead PI; (2012-2016)

Previous

A global scale analysis of functional traits in the face of global change. Australian Research Council. \$250,000 (Australian); Co-PI; (2012-2015)

Do projected temperature increases have the potential to exacerbate the impact of fire ants

and affect the abundance and/or geographic distribution of native ants? Department of Energy; \$3,029,934; Co-PI (2008-2013)

Dissertation Research: Climatic warming shapes the structure of function of natural communities: an experimental test with ants (For Katie Stuble) National Science Foundation; \$12,881; (2011-2013)

Dissertation Research: Direct and indirect effects of invasive species on plant-seed disperser mutualisms. (For Mariano Rodriguez-Cabal) National Science Foundation; \$12,850; (2011-2013)

Working Group – A synthesis of patterns, analyses, and mechanisms of β -diversity along ecological gradients. National Center for Ecological Analysis and Synthesis; \$90,000; Co-PI (2009-2012)

Predicting global patterns of ant (and insect) diversity and endemism using fine-grained remote sensing data. NASA; \$543,861; Co-PI (2009-2012)

Combining molecular biology with ecology to determine the genetic and environmental constraints to primary productivity. Science Alliance, Joint Directed Research and Development; \$64,940; Co-PI (2010-2011)

Developing a systems biology approach for linking genetic and environmental constraints to primary productivity – can patterns scale to the field? Science Alliance, Joint Directed Research and Development; \$64,940; Co-PI (2009-2010)

Using experiments, equilibrium tests, and historical data to improve distribution models—a study with ants. Department of Energy; \$120,508; Co-PI (2007-2008)

Potential of 18 SER Parks as reserves for conservation of aquatic insect species. United States Geological Survey; \$243,974; Co-PI (2005-2008)

Mechanisms of community re-assembly after a catastrophic fire. National Science Foundation; \$73,139; Co-PI (2003-2005)

Ant diversity in Great Smoky Mountains National Park. Discover Life in America; \$26,116; PI (2004-2009)

Invasive fire ants, biodiversity, and cattle: an early warning system for northern California. Nielsen Foundation; \$6,986; PI (2002-2003)

Dissertation Research: Historical and ecological causes of ant diversity along environmental gradients. (For JP Lessard) National Science Foundation; \$8,180; 2009-2011

Dissertation Research: The Community and Ecosystem Consequences Of Plant Genotypic Diversity. (For GM Crutsinger). National Science Foundation; \$9,310; 2007-2009

Teaching

Frequently taught courses

Climate Change and Biodiversity (Interdisciplinary MSc course)

Invasion Biology (co-taught)

Macroecology & Community Ecology (co-taught)

Sustainability in a Changing World (Interdisciplinary BS course)

General Ecology

Community Ecology

Conservation Biology
Advanced Topics in Community Ecology
Graduate Core Course in Ecology

Additional courses

Tropical Ecology (Graduate Organization for Tropical Studies course)
Climate Change, Ecology, and Biogeography (Graduate course at Peking University, China)
Coupled Natural and Human Systems in a Changing World (Honors Field course in Costa Rica)
Field Ecology Ecology and Evolutionary Biology Graduate Student Seminar
FYS 129 First-year studies course (Bill Gates, the Beatles, and Michael Jordan)
Ecological Processes and Structure
Introduction to Faculty Research
Grant writing 101

Previous graduate students

Jaime Ratchford, MA 2005 (Humboldt State)
Kristin Lane, MA 2006 (Humboldt State)
Matthew Fitzpatrick, PhD 2008 (Tennessee)
Windy Bunn, MS 2008 (Tennessee)
Lara Souza, PhD 2008 (Tennessee) [co-advised with Dan Simberloff]
Margaret Patrick, MS 2008 (Tennessee)
Greg Crutsinger, PhD 2009 (Tennessee)
Jarrod Blue, MS 2010 (Tennessee)
Jean-Philippe Lessard, PhD 2010 (Tennessee)
Mariano Rodriguez Cabal, PhD 2012 (Tennessee)
Katie Stuble, PhD 2013 (Tennessee)
Melissa Burt, MS 2013 (Tennessee)
Patrick Philipsen, MSc 2015 (Copenhagen)
Lacy Chick, PhD 2015 (Tennessee)
Emilie Elten, MSc 2016 (Copenhagen)
Quentin Read, PhD 2016 (Tennessee)
Niklas Sundbo, MSc 2016 (Copenhagen)
Louise Kjær-Hansen, MSc 2016 (Copenhagen, co-advised with Neil Burgess)
Maria Olsen, MSc 2016 (Copenhagen, co-advised with Neil Burgess)
Josefine Møller, MSc 2017 (Copenhagen)

Current graduate students

Chelsea Chisholm, PhD exp 2016 (Copenhagen)
Julie Koch Sheard, PhD exp 2019 (Copenhagen)
Jeppe Berggreen, MSc (Copenhagen)

Current postdoctoral students

Case Prager

Service on graduate student committees

Jeremiah Henning (PhD 2017); Leigh Moorhead (PhD 2017); Christine Dumoulin (PhD 2016);
Zach Marion (PhD 2016); Jessica Moore (PhD 2016); Jon Kennedy (PhD 2015); Austin Milt

(PhD 2015); Sara Kuebbing (PhD 2013); Romina Dimarco (PhD 2013); Noelia Barrios (PhD 2012); Melissa Cregger (PhD 2012); Jason Robinson (PhD 2012); Mark Genung (PhD 2012); Arijana Barun (PhD 2011); John Sakulich (PhD 2011); Michael Lawton (PhD 2010); Sunshine Brosi (PhD 2010); Noa Davidai (MS 2009); Angeles Ana Paula Raymundo (MS 2009); Kerry Hansknecht (PhD 2009); Aurora Toennisson (MS 2009); Kim Kennard (MS 2008); Martin Nuñez (PhD 2008); Catherine Sheehy (MS 2008); Carla Dilling (MS 2007); Nick Reynolds (MS 2007); Marc Cadotte (PhD 2006); Mary Caflisch (MS 2006); Sean McMahon (PhD 2006); Michelle Smith (MS 2006); Jessica Blois (Humboldt State University MA 2004); Jennifer Millard (Humboldt State University MA 2004); Julie Nygard (San Francisco State University MA 2006); Karen Warburton (Humboldt State University MA 2005); Jane Zelikova (University of Colorado PhD 2008)

External examiner/opponent for international PhD students

Tom Bishop (University of Liverpool PhD 2016); Maria Hällfors (University of Helsinki PhD 2016); Stefan Ferger (University of Frankfurt PhD 2015); Aapo Kahilainen (University of Jyväskylä PhD 2015); André do Amaral Nogueira (Instituto Nacional de Pesquisas da Amazônia PhD 2011); Christian Hof (University of Copenhagen PhD 2010); Irina Levinsky (University of Copenhagen PhD 2010); Alisa Kerswell (James Cook University PhD 2007)

Undergraduate thesis research

Raina Fitzpatrick (REU student, Haverford College); Lukas Ringvad Friederich (University of Copenhagen); Alicia Smith (Departmental Honors 2013); Kamry Clark (College Honors 2013); Johannah Reed (College Honors 2012); Carissa Chambers (College Honors 2011); Jessica Welch (Departmental Honors 2010); Claire Brown (Departmental Honors 2009); Mark Genung (2007); Melissa Habenicht (Departmental Honors 2007); Ashley Vollmar (2006); Kerri Crawford (Departmental Honors 2006); Melissa Geraghty (2005); Cheran Cavanaugh (Humboldt State University); Greg Crutsinger (Humboldt State University); Matt Lau (Humboldt State University); Lori Miles (Humboldt State University); Kim McFarland (Humboldt State University); Raynelle Rino (Humboldt State University); Julie Nilsen (REU student, Carleton College)

Previous postdoctoral researchers

Robert R. Dunn, now a Professor at North Carolina State University
Tara E. Sackett, now a Postdoc at University of Toronto
Sharon Bewick, now a postdoc at the University of Maryland
Orou Gaoue (NIMBioS), now an Assistant Professor at the University of Tennessee
Keenan Mack (NIMBioS), now an Assistant Professor at Illinois College
Chris Remien (NIMBioS), now Assistant Professor at the University of Idaho
Israel del Toro (Copenhagen), now an Assistant Professor at Lawrence University

Select invited seminars and workshops

2017

University of Oklahoma

2016

University of Vermont; Danish Natural History Society; International Entomology Congress, Orlando, Florida; North American Section of the International Union for the Study of Social Insects

2015

University of Notre Dame; Dartmouth College; Lund University; Rocky Mountain Biological Lab; University of Freiburg; University of Girona (University lectures); Biodiversity and Climate Research Centre (BiK-F), University of Frankfurt; Synthesis Workshop on Biosecurity in Mountains; EUMacro 2015 (Keynote speaker)

2014

University of Würzburg; University of Tours; Organization for Tropical Studies, Costa Rica; Peking University; University of Oslo (Darwin Day); Danish Oikos Society (Keynote speaker)

2013

Yale University; Chinese Academy of Sciences, Institute for Geographical and Ecosystem Research; Chinese Academy of Sciences, Institute of Zoology; Universität of Leipzig

2012

University of Houston; Peking University; University of New Mexico; University of Tennessee-Chattanooga; University of British Columbia

2011

University of North Carolina, Wilmington; Georgia Institute of Technology; Humboldt State University; University of North Carolina, Chapel Hill; Emory University (Graduate Students' Invitee); University of Kentucky (Keynote speaker at Annual Symposium); University College London

2010

Section of Population Biology, University of Copenhagen; Center for Macroecology, Evolution, and Climate, University of Copenhagen; Imperial College, Silwood Park, England; Estación Biológica de Doñana, CSIC, Spain; University of Girona, Spain; Centre Tecnològic Forestal de Catalunya, Spain; International Union for the Study of Social Insects, International Meeting, Copenhagen

2009

Peking University, China; National Center for Ecological Analysis and Synthesis; Centre College; Duke University (Graduate Students' Invitee); Louisiana State University; Middle Tennessee State University; University of California, San Diego; Center of Macroecology and Evolution, University of Copenhagen; Montane Biodiversity Working Group, NESCent

2008

Natural Areas National Meeting [Invited speaker]; Entomological Collections Network Annual Meeting [Invited speaker]; Washington University; International Entomology Congress, Durban, South Africa; Montane Biodiversity Working Group, NESCent; Argentine Ant Workshop, Stellenbosch, South Africa

2007

Global Mountain Biodiversity Assessment Workshop; Appalachian State University; University of Oklahoma; University of Copenhagen; Virginia Tech; University of Illinois

2006

International Union for the Study of Social Insects, International Meeting

2005

University of Notre Dame; National Institute for Global Environmental Change [Invited Plenary Speaker]; North Carolina State University

2004

University of Kansas; Rice University; Northern Arizona University; Ecological Society of America meeting in Savannah, GA [Invited]

2001

Oberlin College; Mountain Lake Biological Station, University of Virginia; The College of Wooster; Appalachian State University; University of Tennessee; University of Central Arkansas; Western Carolina University

1999

University of Arkansas

Symposia and workshops organized

2011

Symposium co-organizer, "Synthesizing community ecology, phylogenetics and macroecology", European Ecological Federation Congress, Avila, Spain

2010

Symposium co-organizer, "Linking colonies to communities", International Union for the Study of Social Insects International Meeting, Copenhagen, Denmark

2009-2012

Working Group co-leader, "A synthesis of patterns, analyses, and mechanisms of β -diversity along ecological gradients." National Center for Ecological Analysis and Synthesis

2006

Symposium co-organizer, "Niche vs. neutral and the middle ground: what have we learned about community assembly" Ecological Society of America Annual Meeting, Memphis, TN

2002

Symposium co-organizer, "World-wide odyssey: the ecology of invasive social insects" Entomological Society of America National Meeting, San Diego, CA

Professional service

National Agency Review Panels

NSF Panel, Spring 2012; NSF Panel, Spring 2011; NSF Panel Spring 2010; NSF Panel, Spring 2009; USDA Panel, Spring 2007; NSF Panel, Fall 2006

Service to professional societies

Student Poster Judge, International Union for the Study of Social Insects, Copenhagen, Denmark (2010)

Student Poster Judge, International Biogeography Society, Merida, Mexico (2009)

Student Travel Awards Panel, International Biogeography Society (2008)

Departmental service (University of Tennessee)

Macroecologist Search Committee, University of Copenhagen (2016)
Chair, Graduate Admissions Committee (2011 – 2013)
Undergraduate Curriculum Committee (2010 – 2011)
Community Ecologist Search Committee (2010)
Core Biology Curriculum Task Force (2010 – 2013)
Strategic Planning Committee (2010 – 2013)
Departmental Awards Committee (2010 – 2013)
Graduate Program Director (2008 – 2010)
Department Head Search Committee (2008)
Departmental Planning Subcommittee (2006)
Executive Committee (2005 – 2010; 2011 – 2013)
Field Ecologist Search Committee (2005)
Graduate Admissions Committee (2005 – 2010)
Graduate Affairs Committee (2005 – 2010)
Departmental Seminar Series organizer (2004 – 2005)
Landscape Ecologist Search Committee (2004 – 2005)

College service

Ad hoc committee on retention of probationary faculty (2010 – 2011)
Participant in The College of Arts and Sciences's Math and Science Partnership program to engage middle and high school teachers in science (2005 – 2006)

University service

Leader and evening presenter, 63rd Spring Wildflower Pilgrimage (2013)
Life of the Mind, Book selection committee (2012)
External evaluator, Entomology and Plant Pathology Departmental Review (2011)
Undergraduate Research Faculty Advisory Committee (2011 – 2012)
Faculty Fellow for Research, Chancellor's Honors and Haslam Scholars Programs (2010 – 2012)
Faculty sponsor, Undergraduate Researchers Student Association (2011 – 2014)
Centripetals speaker (2011)
Committee on the Campus Environment (2009 – 2014)
NSF-ADVANCE proposal preparation team (2009)
Inaugural Invited Speaker, Haslam Scholars Dinner (2009)
Outreach: Speaker at West Knoxville Library and Burlington Branch Library (2008)

Campus Committee for Udall Scholarships (2008 – 2014)

Invited speaker, University Science Forum (2006)

Interviewee, School of Journalism course in Writing about Science and Medicine (2006)

Regional representative to COREO (Consortium on Regional Ecological Observatories)
(2005)

Life of the Mind Program, University of Tennessee (2006 – 2008)

Nathan J Sanders - publications

h-index = 46, i10-index = 103, total citations = 7648

* = graduate student; ** = undergraduate student (22 publications with undergrads as co-authors)

In press

Zhao K, Jing X, Sanders NJ, Chen L, Hi Y, Flynn DFB, Wang Y, Chu H, Liang W, He J-S (In review) On the controls of abundance for soil-dwelling organisms on the Tibetan Plateau. *Ecosphere*

Read QD, Henning JA, Sanders NJ (In press) Intraspecific variation in traits reduces ability of trait-based models to predict community structure. *Journal of Vegetation Science*.

Diamond SE, Chick LD, Penick CA, Nichols LM, Cahan SH, Dunn RR, Ellison AM, Sanders NJ, Gotelli NJ (In press) Heat tolerance predicts the importance of species interaction effects as the climate changes. *Integrative and Comparative Biology*

Hendershot JN**, Read QR, Henning JA, Sanders NJ, Classen AT (In press) Consistently inconsistent drivers of microbial abundance and diversity at macroecological scales. *Ecology*

Read QD*, Henning JA*, Classen AT, Sanders NJ (In press) Aboveground resilience to species loss but below ground resistance to nitrogen addition in montane plant communities. *Journal of Plant Ecology*

2017

Penick CA, Diamond SE, Sanders NJ, Dunn RR (2017) Beyond thermal limits: Comprehensive metrics of performance identify key axes of thermal adaptation in ants. *Functional Ecology* 31: 1091-1100

Gibb, H, Dunn RR, Sanders NJ... Many others...Parr CL (2017) A global database of ant species abundances. *Ecology* 98: 883-884

Stuble KL, Juric I, Cerda X, Sanders NJ (2017) Dominance hierarchies are a dominant paradigm in ant ecology, but should they be? And what is a dominance hierarchy anyways? *Myrmecological News* 24: 71-81

Parr CL, Dunn RR, Sanders NJ, Weiser MD, Photakis M, Bishop TR, Fitzpatrick MC, Arnan X, Baccaro F, Brandão CRF, Chick L, Donoso, DA, Fayle TM, Gómez C, Grossman B, Munyai TC, Pacheco R, Retana J, Robinson A, Sagata K, Silva RR, Tista M, Vasconcelos H, Yates M, Gibb H (2017) GlobalAnts: a new database on the geography of ant traits (Hymenoptera: Formicidae). *Insect Diversity and Conservation* 10: 5-20

CaraDonna PJ*, Petry WK*, Brennan RM*, Cunningham JL, Bronstein JL, Waser NM, Sanders NJ (2017) Interaction rewiring and the rapid turnover of plant- pollinator networks. *Ecology Letters* 20: 385-394

Kaspari M, Roeder K*, Benson B, Weiser M, Sanders NJ (2017) Sodium co-limits and catalyzes macronutrients in a prairie food web. *Ecology* 98: 315-320

Mayor JR, Sanders NJ, Classen AT, Bardgett, RD, Clement J-C., Fajardo, A. Lavorel, S. Sundqvist, MK, Bahn M, Chisholm C, Cieraad E, Gedelof Z, Grigullis K, Kudo G, Oberski, D, Wardle DA (2017) Elevation alters ecosystem properties across temperate treelines

globally. *Nature* 542: 91-95

2016

Berberich GM, Dormann C, Klimetzek D, Berberich MB, Sanders NJ, Ellison AM (2016) Detection probabilities for sessile organisms. *Ecosphere* 7(11): e01546

Diamond SE, Nichols, LM, Pelini SL, Penick CA, Barber GW, Cahan SH, Dunn RR, Ellison AM, Sanders NJ, Gotelli NJ (2016) Climate warming destabilizes forest ant communities. *Science Advances* 2: e1600842

Roura-Pascual N, Sanders NJ, Hui C (2016) The distribution and diversity of insular ants: do exotic species play by different rules? *Global Ecology and Biogeography* 25: 642-654

Souza L, Zelikova TJ, Sanders NJ (2016) Bottom-up and top-down effects on plant communities: nutrients limit productivity, but insects determine diversity and composition. *Oikos* 125: 566-575

Xu X, Wang Z, Rahbek C, Sanders NJ, Fang JY (2016) Geographical variation in the importance of water and energy for oak diversity. *Journal of Biogeography* 43: 279-288

Pauchard A, Albiñá A, Alexander J, Burgess T, Daehler C, Essl F, Evengard B, Greenwood G, Haider S, Lenoir J, McDougall K, Milbau A, Muths E, Nunez M, Oofsson J, Pellissier L, Rabitsch W, Rew L, Robertson M, Sanders NJ, Kueffer C (2016) Non-native and native organisms moving into high elevation and high latitude ecosystems in an era of climate change: new challenges for ecology and conservation. *Biological Invasions* 18:345-353

Stanton-Geddes J, Nguyen A*, Chick L*, Vincent J, Vangala M, Dunn RR, Ellison AM, Sanders NJ, Gotelli NJ, Helms-Cahan S (2016) Thermal reaction norms reveal divergent responses to thermal extremes in warm and cool-climate ant species. *BMC Genomics* 17:171

Nogues-Bravo D, Simberloff D, Rahbek C, Sanders NJ (2016) Rewilding is the new Pandora's box in conservation. *Current Biology* 26: 87-91

2015

Kuebbing SE*, Classen AT, Sanders NJ, Simberloff D (2015) Above and belowground effects of plant diversity depend on species origin: an experimental test with multiple invaders. *New Phytologist* 208: 727-735

Sanders NJ (2015) Island biology and the consequences of interspecific interactions. *Journal of Biogeography* 42: 2255-2256

Jing X*, Sanders NJ, Shi Y, Chu H, Classen AT, Zhao K, Chen L, Shi Y, Jiang Y, He J-S (2015) The links between ecosystem multifunctionality and above- and belowground biodiversity are mediated by climate. *Nature Communications* 6:8159

Gibb H, Sanders NJ, Dunn RR, ...39 others...Parr CL (2015) Climate mediates the effects of disturbance on ant assemblage structure. *Proceedings of the Royal Society* 282: 20150418 <http://dx.doi.org/10.1098/rspb.2015.0418>

2014

Peters MK, Mayr A, Röder J, Sanders NJ, Steffan-Dewenter I (2014) Variation in nutrient use by ant assemblages along an extensive environmental gradient on Mt Kilimanjaro. *Journal of Biogeography* 41: 2245-2255

Pelini SL, Diamond SE, Nichols LM, Stuble KL, Ellison AM, Sanders NJ, Dunn RR, Gotelli NJ (2014) Geographic differences in effects of experimental warming on ant species diversity and community composition. *Ecosphere* 5:125

Graham CH, Carnaval AC, Roberts TE, Cadena CD, McCain CM, Bowie RCK, Moritz C, Parra JL, Schneider CJ, VanDerWal J, Zamudio KR, Rahbek C, Kozak KH, Sanders NJ (2014) The origin and maintenance of montane biodiversity: integrating evolutionary and ecological processes. *Ecography* 37: 711-71

Kuebbing SE*, Souza L, Sanders NJ (2014) Effects of co-occurring non-native invasive plant species on old-field succession. *Forest Ecology and Management* 324: 196-204

Fowler D**, Lessard JP, Sanders NJ (2014) Niche filtering rather than partitioning shapes the structure of forest ant communities. *Journal of Animal Ecology* 83: 943-952

Bewick B, Stuble KL*, Lessard JP, Dunn RR, Adler FR, Sanders NJ (2014) Predicting future coexistence in a North American ant community. *Ecology & Evolution* 4: 1804-1819

Resasco J*, Porter SD, Sanders NJ, Levey DJ (2014) Testing sodium limitation of fire ants in the field and laboratory. *Ecological Entomology* 39: 267-271

Cregger MA*, Sanders NJ, Dunn RR, Classen AT (2014) Microbial communities respond to experimental warming, but site matters. *PeerJ* 2:e358

Wright P**, Cregger MA, Souza L, Sanders NJ, Classen AT (2014) The effects of herbivory, nutrient availability, and plant invasion on community structure and function above- and below-ground. *Ecology & Evolution* 4: 732-742

Stuble KL*, Patterson CM**, Rodriguez-Cabal MA, Ribbons RR*, Dunn RR, Sanders NJ (2014) Ant-mediated seed dispersal in a warmed world. *PeerJ* 2:e286

Resasco J*, Pelini SL, Stuble KL*, Sanders NJ, Dunn RR, Ellison AM, Gotelli NJ, Levey DJ (2014) Using historical and experimental data to reveal warming effects on ant assemblages. *PLoS One* 9:e88029

Burt MA*, Nichols LM, Dunn RR, Sanders NJ (2014) Interactions in a warmer world: The relative effects of experimental warming, intraspecific density, and insect herbivory on seedling dynamics. *Ecosphere* 5:9

Read QD*, Moorhead LC*, Swenson NJ, Bailey JK, Sanders NJ (2014) Convergent effects of elevation on functional leaf traits within and among species. *Functional Ecology* 28: 37-45

2013

Diamond SE, Penick C, Pelini SL, Ellison AM, Gotelli NJ, Sanders NJ, Dunn RR (2013) Using physiology to predict the responses of ants to climatic warming. *Integrative and Comparative Biology* 53: 965-974

Sundqvist MK, Sanders NJ, Wardle DA (2013) Community and ecosystem responses to elevational gradients: processes, mechanisms, and insights for global change. *Annual Reviews of Ecology, Evolution, and Systematics* 44: 261-280

Stuble KL*, Chick LD,* Rodriguez-Cabal MA*, Lessard J-P, Sanders NJ (2013) Fire ants are drivers of biodiversity loss: a reply to King and Tschinkel (2013). *Ecological Entomology* 38: 540-542

Rodriguez-Cabal MA*, Barrios-Garcia MN*, Amico GC, Aizen MA, Sanders NJ (2013) Node-

by-node disassembly of a mutualistic network driven by species introductions. *Proceedings of the National Academy of Sciences* 110: 16503–16507

Fitzpatrick MC, Sanders NJ, Normand S, Svenning J-C, Ferrier S, Gove AD, Dunn RR (2013) Environmental and historical imprints on beta diversity: insights from variation in rates of species turnover along gradients. *Proceedings of the Royal Society, London (B)* 280: 20131201 <http://dx.doi.org/10.1098/rspb.2013.1201>

Crutsinger GM, Gonzalez AL, Crawford KM**, Sanders NJ (2013) Local and latitudinal variation in abundance: the mechanisms shaping the distribution of an ecosystem engineer. *PeerJ* 1: e100

Stuble KL*, Rodriguez-Cabal MA*, McCormick GL**, Juric I*, Dunn RR, Sanders NJ (2013) Tradeoffs, competition, and coexistence in eastern deciduous forest ant communities. *Oecologia* 171: 981-992

Stuble KL*, Pelini SL, Diamond SE, Fowler DA**, Dunn RR, Sanders NJ (2013) Foraging by forest ants under experimental climatic warming: a test at two sites. *Ecology and Evolution* 3: 482-491

Stegen JC, Freestone AL, Crist TO, Anderson MJ, Chase JM, Comita LS, Cornell HV, Davies KF, Harrison SP, Hurlbert AH, Inouye BD, Kraft NJB, Myers JA, Sanders NJ, Swenson NG, Vellend M (2013) Stochastic and deterministic drivers of spatial and temporal turnover in breeding bird communities. *Global Ecology and Biogeography* 22: 202-212

2012

Fang JY, Wang X, Liu Y, Tang Z, White PS, Sanders NJ (2012) Multi-scale patterns of forest structure and species composition in relation to climate in Northeast China. *Ecography* 35: 1072-1082

Sanders NJ (2012) Editorial - Biodiversity in China. *Ecography* 35: 1057-1058

Pelini SL, Diamond SE, MacLean H, Ellison AM, Gotelli NJ, Sanders NJ, Dunn RR (2012) Common garden experiments reveal uncommon responses across temperatures, geographic origins, and species of ants. *Ecology and Evolution* 2: 3009-3015

Diamond SE, Nichols LM, McCoy N, Hirsch C, Pelini S, Sanders NJ, Ellison AM, Gotelli NJ, Dunn RR (2012) Physiological thermal tolerance outperforms environmental niche models in predicting the responses of ants to climate warming. *Ecology* 93: 2313-2320

Patrick MA*, Fowler DA**, Dunn RR, Sanders NJ (2012) The effects of treefall gap disturbances on litter ant assemblages in a tropical montane cloud forest. *Biotropica* 44: 472-478

Breza LC**, Souza L, Sanders NJ, Classen AT (2012) Within and between population variation in traits predicts ecosystem functions in a dominant plant species. *Ecology & Evolution* 2: 1151-1161

Kraft NJB, Sanders NJ, Stegen JC, Anderson MJ, Crist TO, Cornell HV, Vellend M, Chase JM, Comita LS, Davies KF, Freestone AL, Harrison SP, Inouye BD, Myers JA, Swenson NG (2012) Response to Comments on “Disentangling the Drivers of β Diversity Along Latitudinal and Elevational Gradients” *Science* 335: 1573

Rodriguez-Cabal MA*, Stuble KL*, Guenard B*, Dunn RR, Sanders NJ (2012) Disruption of ant-seed dispersal mutualisms by the invasive Asian needle ant (*Pachycondyla chinensis*).

Biological Invasions 14: 557-565

Genung MA*, Crutsinger GM, Bailey JK, Schweitzer JA, Sanders NJ (2012) Goldenrod genotypic diversity alters patch-level associational susceptibility to aphids. *Oecologia* 168: 167-174

Sanders NJ, Rahbek C (2012) The patterns and causes of elevational diversity gradients. *Ecography* 35: 1-3

Lessard JP, Borregaard MK, Fordyce JA, Rahbek C, Weiser MD, Dunn RR, Sanders NJ (2012) Strong influence of regional species pools on continent-wide structuring of local communities. *Proceedings of the Royal Society, London* 279: 266-274

Cadena CD, Kozak KH, Gómez JP, Parra JL, McCain C, Bowie RCK, Carnaval AC, Moritz C, Rahbek C, Roberts T, Sanders NJ, Schneider C, VanDerWal J, Zamudio K, Graham CH (2012) Latitude, elevational climatic zonation, and speciation in New World vertebrates. *Proceedings of the Royal Society, London* 279: 194-201

2011

Toennison TA*, Sanders NJ, Klingeman WE, Vail KM (2011) Influences on the structure of suburban ant (Hymenoptera: Formicidae) communities and the abundance of *Tapinoma sessile*. *Environmental Entomology* 40: 1397-1404

Souza L, Weston DJ, Sanders NJ, Karve A, Crutsinger GM, Classen AT (2011) Intraspecific variation in response to warming across levels of organization: a test with *Solidago altissima*. *Ecosphere* 2:132

Acharya BK*, Sanders NJ, Vijayan L, Chettri B (2011) Elevational gradients in bird diversity in the Eastern Himalaya: an evaluation of distribution patterns and the underlying mechanisms. *PLoS ONE* 6(12): e29097

Fitzpatrick MC, Sanders NJ, Weiser MD, Longino JT, Ferrier S, Dunn RR (2011) Modeling compositional change in ant communities across space and time. *Ecography* 34: 836-847

Blue JD*, Souza L, Classen AT, Schweitzer JA, Sanders NJ (2011) Soil nitrogen amendments and insect herbivory alter above- and belowground plant biomass in an old-field ecosystem. *Oecologia* 167: 771-180

Pelini SP, Bowles FW, Ellison AM, Gotelli NJ, Sanders NJ, Dunn RR (2011) Heating up the woods: Open-top chamber warming manipulation of arthropod communities at Harvard and Duke forests. *Methods in Ecology and Evolution* 2: 534-540

Kraft NJB, Comita LS, Chase JM, Sanders NJ, Swenson NG, Crist TO, Stegen JC, Vellend M, Anderson MJ, Cornell HV, Davies KF, Freestone AL, Inouye BD, Harrison SP, Myers JA (2011) Disentangling the drivers of β -diversity along latitudinal and elevational gradients. *Science* 333: 1755-1758

Souza L*, Bunn WA*, Simberloff D, Lawton M*, Sanders NJ (2011) Biotic and abiotic influences on the native and exotic richness relationship across spatial scales: favorable environments for native species are highly invasible. *Functional Ecology* 25: 1106-1112

Souza L*, Weltzin JF, Sanders NJ (2011) Differential effects of two dominant plant species on community structure and invasibility in an old field ecosystem. *Journal of Plant Ecology* 4: 123-131

Sackett TE, Record S, Bewick S, Baiser B, Sanders NJ, Ellison AM (2011) Response of

macroarthropod assemblages to the loss of hemlock (*Tsuga canadensis*), a foundational species. *Ecosphere* 2: 74

Jenkins CN, Sanders NJ, Andersen AN, Arnan X, Brühl CA, Cerda X, Ellison AE, Fisher BL, Fitzpatrick MC, Gotelli NJ, Gove ad, Guénard B, Lattke JE, Lessard JP, McGlynn TP, Menke SB, Parr CL, Philpott SM, Vasconcelos HL, Weiser ML and Dunn RR (2011) Global diversity in light of climate change: the case of ants. *Diversity and Distributions* 17: 652-662

Gotelli NJ, Ellison AM, Dunn RR, Sanders NJ (2011) Biodiversity sampling and statistical analysis for myrmecologists. *Myrmecological News* 15: 13-19

Machac A*, Janda M, Dunn RR, Sanders NJ (2011) Elevational gradients in phylogenetic structure of ant communities reveal the interplay of biotic and abiotic constraints on species density. *Ecography* 34: 364-371

Pelini SL, Boudreau M, McCoy N, Ellison AM, Gotelli NJ, Sanders NJ, Dunn RR (2011) Effects of short-term warming on forest ant communities at high and low latitudes. *Ecosphere* 2(5): 62

Zelikova TJ*, Sanders NJ, Dunn RR (2011) The mixed effects of ants on above and belowground processes in a temperate forest. *Ecosphere* 2(5): 63

Stuble KL*, Kirkman LK, Carroll CR, Sanders NJ (2011) Relative effects of disturbance on Red Imported Fire Ants and native ant species in a longleaf pine ecosystem. *Conservation Biology* 25: 618-622

Jules ES, Ellison AM, Gotelli NJ, Lillie S*, Meindl G*, Sanders NJ, Young AN* (2011) Influence of fire on a rare serpentine plant assemblage: a 5-year study of *Darlingtonia fens*. *American Journal of Botany* 98: 801-811

Lessard JP*, Sackett TE, Reynolds WR*, Fowler DA**, Sanders NJ (2011) Determinants of the detrital arthropod community structure: the effects of temperature, resources, and environmental gradients. *Oikos* 320: 333-343

Souza L*, Bunn WA*, Weltzin JF, Sanders NJ (2011) Similar biotic factors affect early establishment and abundance of an invasive plant species across spatial scales. *Biological Invasions* 13: 255-267

Roura-Pascual NR, Hui C, Ikeda T, Leday G, Richardson DM, Carpintero S, Espadaler X, Gómez C, Guénard B, Hartley S, Krushelnycky P, Lester P, McGeoch MA, Menke SB, Pedersen JS, Pitt J, Reyes J, Sanders NJ, Suarez AV, Touyama Y, Ward D, Ward PS, Worner SP (2011) Global invaders: the role of human and environmental mediators. *Proceedings of the National Academy of Sciences* 108: 220-225

Anderson MJ, Crist TO, Chase JM, Vellend M, Inouye BD, Freestone AL, Sanders NJ, Cornell HV, Comita LS, Davies KF, Harrison SP, Kraft NJB, Stegen JC, Swenson NG (2011) Navigating the multiple meanings of β diversity: a roadmap for the practicing ecologist. *Ecology Letters* 14: 19-28

Sanders NJ (2011) Ants. In: *Encyclopedia of Invasive Introduced Species*. Edited by Simberloff D, Rejmanek M University of California Press, Berkeley (Invited)

2010

Sackett TE, Classen AT, Sanders NJ (2010) Linking soil food web structure to above- and belowground ecosystem processes: a meta-analysis. *Oikos* 119: 1984-1992

Weiser MD, Sanders NJ, Agosti D, Andersen AN, Cerdá X, Ellison AM, Fisher BL, Gibb H, Gotelli NJ, Gove AD, Guenard B*, Janda M, Kaspari M, Lessard JP*, Longino JT, Majer JD, Menke SB, McGlynn TP, Parr CL, Philpott SM, Retana J, Suarez AV, Vasconcelos HL, Yanoviak SP, Dunn RR (2010) Canopy and litter ant assemblages share similar climate-species density relationships. *Biology Letters* 6: 769-772

Favret C, Duggan JJ, Sanders NJ, Phillippe LR (2010) Actual and inferred checklist of the aphids (Hemiptera: Aphididae) of the Great Smoky Mountains National Park, with attendant ant and host plant associations. *Proceedings of the Entomological Society of Washington* 112: 381-403

Sanders NJ and Suarez AV (2010) Elton's insights into the ecology of ant invasions: lessons learned and lessons still to be learned. Pages 239-25 In *Fifty Years of Invasion Ecology: The Legacy of Charles Elton* Edited by Richardson DM (Invited)

Sanders NJ (2010) Population-level traits that affect, and do not affect, invasion success. *Molecular Ecology* 19: 1079-1081

Forister ML, McCall AC, Sanders NJ, Fordyce JA, Thorne JH, O'Brien JO, Waetjen DP, Shapiro AM (2010) Climate change and habitat alteration shift patterns of butterfly diversity. *Proceedings of the National Academy of Sciences* 107: 2088-2092

Hortal J, Roura-Pascual N, Sanders NJ, Rahbek C (2010) Editorial: Understanding (insect) species distributions across spatial scales. *Ecography* 33: 51-53

Wittman SE*, Sanders NJ, Ellison AM, Jules, ES, Ratchford JS, Gotelli NJ (2010) Effects of species interactions and thermal constraints on ant community structure. *Oikos* 119: 551-559

McCain CE, Sanders NJ (2010) Metabolic theory and elevational diversity of vertebrate ectotherms. *Ecology* 91: 601-609

Bunn WA*, Jenkins MA, Brown CB**, Sanders NJ (2010) Temporal change within and among forest communities: the influence of historic disturbance and environmental gradients. *Ecography* 33: 425-434

2009

Sanders NJ (2009) Global databases and global ant diversity: it's about time and space. In *Ant Ecology* Edited by Lach L, Parr C, and Abbott K (Invited)

Dunn RR, Sanders NJ, Guénard B, Weiser MD (2009) Climatic gradients drive patterns of ant diversity and composition at local, regional and global scales. In: *Ant Ecology* Edited by Lach L, Parr C, and Abbott K (Invited)

Sanders NJ, Dunn RR, Fitzpatrick MC, Carlton CE, Pogue MR, Parker CR, Simons TR (2009) A diversity of elevational diversity gradients. In: *Data mining for global trends in mountain biodiversity*. Edited by Körner C and Spehn E (Invited)

Lessard JP*, Fordyce JA, Gotelli NJ, Sanders NJ (2009) Invasive species disassemble the phylogenetic structure of ant communities. *Ecology* 90: 2664-2669

Belote RT*, Sanders NJ, Jones RH (2009) Disturbance alters local-regional richness relationships in Appalachian forests. *Ecology* 90: 2940-2947

Crutsinger GM*, Sanders NJ, Classen AT (2009) Contrasting the effects of intra- and inter-specific variation on litter dynamics. *Basic and Applied Ecology* 10: 535-543

Rodriguez-Cabal M*, Stuble KL*, Nuñez MA, Sanders NJ (2009) Quantitative analysis of the effects of the exotic Argentine ant on seed dispersal mutualisms. *Biology Letters* 5: 499-502

Lessard J-P*, Dunn RR, Sanders NJ (2009) Temperature-mediated coexistence in temperate forest ant communities. *Insectes Sociaux* 52: 149-156

Bini LM, Diniz-Filho JA, Rangel TFLVB, Akre SB, Albaladejo RG, Albuquerque FS, Aparicio A, Araújo MB, Baselga A, Beck J, Bellocq MI, Böhning-Gaese K, Borges PAV, Castro-Parga I, Chey VK, Chown SB, De Marco P, Dobkin DS, Ferrer-Castán D, Field R, Filloy J, Fleishman E, Gómez JF, Hortal J, Iverson JB, Kerr JT, Kissling WD, Kitching IJ, León-Cortés JL, Lobo JM, Montoya D, Morales-Castillo I, Moreno JC, Oberdorff T, Olalla-Tárraga MÁ, Pausas JG, Qian H, Rahbek C, Rodríguez MÁ, Rueda M, Ruggiero A, Sackmann P, Sanders NJ, Terrible LC, Vetaas OR, Hawkins BA (2009) Parameter estimation in geographical ecology: an empirical evaluation of spatial and non-spatial regression. *Ecography* 32: 193-204

Wang X, Fang J, Sanders NJ, White PS, Tang Z (2009) Regional diversity patterns in relation to climate in forests of Northeast China. *Ecography* 32: 133-142

Crutsinger GM*, Cadotte MW, Sanders NJ (2009) Plant genetics shapes inquiline community structure across spatial scales. *Ecology Letters* 12: 285-292

Dunn RR, Agosti D, Andersen AN, Bruhl CA, Cerdá X, Ellison AM, Fisher BL, Fitzpatrick MC, Gibb H, Gotelli NJ, Gove AD, Guenard B, Janda M, Kaspari M, Laurent EJ, Lessard JP, Longino JT, Majer JD, Menke SB, McGlynn TP, Parr CL, Philpott SM, Pfeiffer M, Retana J, Suarez AV, Vasconcelos HL, Weiser MD, Sanders NJ (2009) Climatic drivers of hemispheric asymmetry in global patterns of ant species richness. *Ecology Letters* 12: 324-333

2008

Crutsinger GM*, Reynolds WN*, Classen AT, Sanders NJ (2008) Disparate effects of plant genotypic diversity on above- and below-ground communities. *Oecologia* 158: 65-75

Crutsinger GM*, Sanders NJ, Albrect BR, Abreu IN, Wardle DA (2008) Ecosystem retrogression leads to increased insect abundance and herbivory across an island chronosequence. *Functional Ecology* 22: 816-823

Zelikova TJ*, Dunn RR, Sanders NJ (2008) Variation in seed dispersal by ants along an elevational gradient in the Great Smoky Mountains National Park. *Acta Oecologica* 34: 155-162

Nygaard JP*, Sanders NJ, Connor EF (2008) The impacts of the invasive Argentine ant and native ant species on the insect community on willow (*Salix lasiolepis*). *Ecological Entomology* 33: 789-795

Simberloff D, Sanders NJ (2008) Response to Nuñez and Crutsinger: A walk in which woods? *Frontiers in Ecology and the Environment* 6:161 (Invited)

Fitzpatrick MC*, Dunn RR, Sanders NJ (2008) Datasets matter, but so do evolution and ecology: A response to Peterson and Nakazawa. *Global Ecology and Biogeography* 17: 562-565

Shryock KA, Brown SL, Sanders NJ, Burroughs E (2008) A reaction-diffusion equation modeling the invasion of the argentine ant population, *Linepithema humile*, at Jasper Ridge

Biological Preserve. *Natural Resource Modeling* 21: 330-342

Crutsinger GM*, Habenicht MN**, Classen AT, Schweitzer JA, Sanders NJ (2008) Galling by *Rhopalomyia solidaginis* alters architecture of *Solidago altissima* and affects nutrient dynamics in an old-field ecosystem. *Plant and Soil* 303: 95-103

Fitzpatrick MC*, Gove AD, Sanders NJ, Dunn RR (2008) Climate change, plant migration, and range collapse in a global biodiversity hotspot: The *Banksia* of Western Australia. *Global Change Biology* 14: 1337-1352

Heller NE*, Sanders NJ, Shors JW*, Gordon DM (2008) Rainfall facilitates spread and time diminishes impact of the invasive Argentine ant. *Oecologia* 155: 385-395

Crutsinger GM*, Collins MD, Fordyce JA, Sanders NJ (2008) Temporal dynamics in non-additive responses of arthropods to host-plant genotypic diversity. *Oikos* 117: 255-264

Crutsinger GM*, Souza L*, Sanders NJ (2008) Intraspecific diversity as a barrier to plant invasions. *Ecology Letters* 11: 16-23

2007

Lessard J-P**, Dunn RR, Sanders NJ (2007) Rarity and diversity in ant assemblages in Great Smoky Mountains National Park. *The Southeastern Naturalist Special Issue 1*: 215-228 [Invited]

Dunn RR, Sanders NJ, Fitzpatrick MF*, Laurent E, Lessard J-P* and 22 co-authors. (2007) Global ant biodiversity and biogeography – a new database and its possibilities. *Myrmecological News* 10: 77-83

Geraghty MJ**, Dunn RR, Sanders NJ (2007) Bergmann's rule in ants: are patterns along latitudinal and elevational gradients congruent? *Myrmecological News* 10: 51-58

Crawford KM**, Crutsinger GM*, Sanders NJ (2007) Genotypic diversity mediates the distribution of an ecosystem engineer. *Ecology* 88: 2114-2120

Hawkins BA, Araújo, MB, Cabrero-Sañudo FJ, Diniz-Filho JAF, Ferrer-Castán D, Field R, Gómez JF, Hortal J, Kerr JT, Lobo JM, Montoya D, Olalla-Tárraga MÁ, Pausas JG, Rahbek C, Rodríguez MÁ, Sanders NJ, Suzart de Albuquerque F, Williams P (2007) A global evaluation of Metabolic Theory as an explanation of diversity gradients. *Ecology* 88: 1877-1888

Hawkins BA, Diniz-Filho JAF, Bini LM, Araújo MB, Field R, Hortal J, Kerr JT, Rahbek C, Rodriguez MA, Sanders NJ (2007) Metabolic theory and diversity gradients: where do we go from here? *Ecology* 88: 1898-1902

Sanders NJ, Gotelli NJ, Wittman SE*, Ratchford JS*, Ellison AM, Jules ES (2007) Assembly rules for ant communities across spatial scales and habitats. *Journal of Biogeography* 34: 1632-1641

Sanders NJ, Lessard J-P**, Dunn RR, Fitzpatrick MC* (2007) Temperature, but not productivity or geometry, predicts elevational diversity gradients in ants across spatial grains. *Global Ecology and Biogeography* 16: 640-649

Palladini JD*, Sanders NJ, Jones MG*, Jules ES (2007) The recovery of ant communities in regenerating temperate coniferous forests. *Forest Ecology and Management* 242: 619-624

Sanders NJ, Crutsinger GM*, Dunn RR, Majer JD, Delabie JHC (2007) An ant mosaic revisited: dominant ant species disassemble arboreal ant communities but co-occur

randomly. *Biotropica* 39: 422-427

Dunn RR, Parker C, Sanders NJ (2007) Null models and temporal patterns of diversity: assessing the biotic and abiotic controls on ant community structure. *Biological Journal of the Linnean Society* 91: 191-201

Dunn RR, McCain CE, Sanders NJ (2007) When does a null model explain diversity?: Scale and range size mediate the mid-domain effect. *Global Ecology and Biogeography* 16: 305-312

Dunn RR, Parker C, Geraghty M**, Sanders NJ (2007) Reproductive phenologies in a diverse temperature ant fauna. *Ecological Entomology* 32: 135-142

Fitzpatrick MC*, Weltzin JF, Sanders NJ, Dunn RR (2007) The biogeography of prediction error: Why doesn't the introduced range of the fire ant predict its native range or vice versa? *Global Ecology and Biogeography* 15: 24-33

Sanders NJ, Weltzin JF, Crutsinger GM*, Fitzpatrick MC*, Nuñez MA*, Oswalt CM**, Lane KE* (2007) Multiple controls on a plant invasion: Insects mediate the interactive effects of propagule supply and resource availability. *Ecology* 88: 2383-2391

Hellmann JJ, Sanders NJ (2007) The patterns of and threats against global insect diversity. *Issues in Environmental Science and Technology* Pages 32-54.

2006

Crutsinger GM*, Collins MD*, Fordyce JA, Gompert Z*, Nice CC, Sanders NJ (2006) Genotypic diversity predicts community structure and governs an ecosystem process. *Science* 313: 966-968

Heller NE*, Sanders NJ, Gordon DM (2006) Linking temporal and spatial scales in the study of an Argentine ant invasion. *Biological Invasions* 8: 501-507

2005

Ratchford JS*, Wittman SE*, Jules ES, Ellison AM, Gotelli NJ, Sanders NJ (2005) The effects of fire, local environment, and time on ant assemblages in fens and forests. *Diversity and Distributions* 11: 487-497

Crutsinger GM**, Sanders NJ (2005) Aphid-tending ants affect secondary users in leaf shelters and rates of herbivory on *Salix hookeriana* in a coastal dune habitat. *American Midland Naturalist* 152: 296-304

2004

Sanders NJ, Gordon DM (2004) The interactive effects of climate, life history, and interspecific neighbors on mortality in a population of seed harvester ants. *Ecological Entomology* 29: 632-637

Sanders NJ, Belote RT*, Weltzin JF (2004) Multi-trophic effects of elevated CO₂ on understory plant and arthropod communities. *Environmental Entomology* 33: 1609-1616

Sanders NJ (2004) Immediate effects of fire on the invasive Argentine ant, *Linepithema humile*. *The Southwestern Naturalist* 49: 246-250

2003

Sanders NJ, Gotelli NJ, Heller NE*, Gordon DM (2003) Community disassembly by an invasive ant species. *Proceedings of the National Academy of Sciences* 100: 2474-2477

Sanders NJ, Gordon DM (2003) Resource-dependent interactions and the organization of desert ant communities. *Ecology* 84: 1024-1031

Sanders NJ, Moss J**, Wagner D (2003) Patterns of ant species richness along elevational gradients in an arid ecosystem. *Global Ecology and Biogeography* 12: 93-102

Weltzin JF, Belote RT*, Sanders NJ (2003) Biological invaders in a greenhouse world: will elevated CO₂ fuel plant invasions? *Frontiers in Ecology the Environment* 1:146:153

2002

Barton KE**, Sanders NJ, Gordon DM (2002) The effects of proximity and colony age on interspecific interference competition between the desert ants *Pogonomyrmex barbatus* and *Aphaenogaster cockerelli*. *American Midland Naturalist* 148: 176-182

Sanders NJ (2002) Elevational gradients in ant distributions: area, species richness, and Rapoport's rule. *Ecography* 25: 25-32

Collins MD*, Vasquez DP*, Sanders NJ (2002) Species-area curves, homogenization, and the loss of diversity. *Evolutionary Ecology Research* 4: 457-464

Sanders NJ, Gordon DM (2002) Resources and the flexible allocation of work in the desert ant, *Aphaenogaster cockerelli*. *Insectes Sociaux* 49: 371-379

2001

Sanders NJ, Barton KE**, Gordon DM (2001) Long-term dynamics of the distribution of the invasive Argentine ant, *Linepithema humile*, and native ant taxa in Northern California. *Oecologia* 127: 123-130

2000

Sanders NJ, Gordon DM (2000) The effects of interspecific interactions on resource use and behavior in a desert ant. *Oecologia* 125: 436-443

In review

Henning J, Read QR, Sanders NJ, Classen AT (In review) Nitrogen, neighbors, and the ghosts of neighbors past shape the colonization patterns and plant-soil feedbacks of co-occurring root-colonizing fungal symbionts.

Alexander J, Chalmandrier L, Lenoir J, Burgess T, Essl F, Halder S, Kueffer C, McDougall K, Milbau A, Nunez MA, Pauchard A, Rabitsch W, Rew L, Sanders NJ, Pellisier L (In review) The pace of alpine plant community change in a warming climate.

Del Toro I, Berberich GB, Ribbons RR*, Berberich MB, Sanders NJ, Ellison AM (In review) Nests of red wood ants (*Formica rufa*-group) are positively associated with tectonic faults: a double-blind test.

Chick LD, Nguyen AD, Penick CA, Nichols LM, DeMarco BB, Diamond SE, Dunn RR, Ellison AM, Gotelli NJ, Cahan SH, Sanders NJ (In review) Ecology and evolutionary history shape the thermal niche of woodland ant species.

Covey KR, Bettigole C, Warren RJ, Williams CA, Gu, H, Aubrey DP, Asbjorsen H, Bohn KK, Classen AT, Crowther TW, Farrell M, Frey BR, Holzmueller EJ, Keaton WS, Knapp, BO, King JR, Kuers K, Lhokta JM, Love JM, Maynard D, Megonigal JP, Pitz S, Ruttenbeck NE, Sanders NJ, Saunders MR, Stovall JP, Szlavecz K, Wright JP, Wurzburger N, Oliver CD, Lee X, & Bradford MA (In review) Living trees are a major source of methane in temperate

forests. *Nature*

Liu H, Mi Z, Lin L, Wang Y, Zhang Z, Zhang F, Wang H, Liu L, Zhu B, Cao G, Zhao X, Sanders NJ, Classen AT, Reich PB, He J-S (In review) Shifting plant species composition in response to climate change stabilizes grassland primary production.

Moorhead LC, Sanders NJ, Classen AT (In review) The presence of rodents decreases the extent of burning; or, only rodents can prevent old-field fires.

Rew LJ, McDougall K, Milbau A, Albiñá A, Alexander J, Daehler C, Englund G, Essl F, Evengård B, Greenwood GB, Haider S, Kueffer C, Muths E, Nuñez MA, Olofsson J, Pauchard A, Rabitsch W, Robertson M, Sanders NJ (In review) The future for cold places: mobile species, novel climates, and novel challenges.

Gibb H, Sanders NJ, Dunn RR, Arnan X, Vasconcelos HL, Donoso DA, Andersen AN, Silva RR, Bishop TR, Gomez C, Grossman BF, Yusah KM, Luke SH, Pacheco R, Pearce-Duvel J, Retana J, Tista M, Parr CL (In review) Disturbance homogenizes body size across climates.

Chick L, Lessard JP, Dunn RR, Sanders NJ (In review) The geography of ecology: the interplay between biotic and abiotic factors on species distributions and diversity.

Paknia O, Pfeiffer M, Sanders NJ (In review) The geographical ecology of coexistence in ants: temporal and spatial partitioning along environmental gradients.

Abstracts and contributed papers

Ecological Society of America (43 papers); Association of Southeastern Biologists (2 papers); International Biogeography Society (5 papers); International Congress of Entomology (5 papers); Society for Conservation Biology (1 paper); International Union for the Study of Social Insects (8 papers); Society for Integrative and Comparative Biology (2 papers)