

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 – 2014)
Professor, University of Tennessee (2012 - 2014)
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

Fellow of the Ecological Society of America (2018 – present)
Gund Fellow, Gund Institute for Environment, University of Vermont (2018 – present)
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)

Elementa, Academic Editor (2013 – present)

PeerJ, Academic Editor (2012 – 2017)

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 – 2018: \$9.8 million)

Current

Catalyzing research, scholarship, and teaching in montane systems. Catalyst Grant, Gund Institute for Environment. \$46,538 (2017-2019)

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)

Previous

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)

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

Ecology, Ecosystems, and the Environment (BS course)

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 Sundebo, 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)
Chelsea Chisholm, PhD 2017 (Copenhagen)
Jeppe Berggreen, MSc 2017 (Copenhagen)

Current graduate students

Julie Koch Sheard, PhD exp 2019 (Copenhagen)
Kenna Rewcastle, PhD expected 2022 (Vermont, co-advised with Aimée Classen)

Current postdoctoral students

Case Prager

Xin Jing

Service on graduate student committees

Robert Semmler (Lancaster University, PhD expected 2022); Sean Moore (University of New England, Australia, PhD expected 2021); Xian Yang (Georgia Tech, PhD expected 2019); 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 Cafilisch (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

Cong Liu (Okinawa Institute of Technology PhD 2017); 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

2018

Concordia University, Middlebury College, Harvard Forest, University of Göttingen (Germany)

2017

Okinawa Institute of Technology (Japan), University of Vermont (Biology), University of Oklahoma, iDiv Center for Integrative Biodiversity Studies (Germany)

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, Fall 2017; 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

Faculty Standards Committee (2017 – Present)

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 = 51, i10-index = 113, total citations = 9423

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

In press

Keith SA, Baird AH, Hobbs JPA, Woolsey ES, Hoey AS, Fadli N, Sanders NJ (In review) Mass coral bleaching reduces butterflyfish aggression. *Nature Climate Change*

Shade A, Dunn RR, Blowes SA, Keil P, Bohannan BJM, Herrmann M, Küsel K, Lennon JT, Sanders NJ, Storch D, Chase J (In press) Macroecology to unite all life. *Trends in Ecology and Evolution*

Meineke E, Classen AT, Sanders NJ, Davies TJ (In press) Herbarium specimens reveal increasing herbivory over the past century. *Journal of Ecology*

Arnan X, Andersen AN, Parr CL, Sanders NJ, Dunn RR, Angulo E, Baccaro F, Bishop T, Castracani C, Cerda X, Del Toro I, Delsinne T, Donoso DA, Elten E, Fayle T, Fitzpatrick M, Gomez C, Grasso D, Grossman B, Guenard B, Gunawardene N, Heterick B, Hoffmann B, Janda M, Jenkins C, Klimes P, Lach L, Laeger T, Leponce M, Lucky A, Majer J, Menke SB, Mezger D, Mori A, Moses J, Munyai T, Paknia O, Pfeiffer M, Philpott S, Souza J, Tista M, Vasconcelos H, Retana J (In press) Dominance - diversity relationships in ant communities: a global analysis reveals dominance-impoverishment for invaded communities but dominance-diversification for native communities. *Global Change Biology*

2018

Prather R, Roeder K, Sanders NJ, Kaspari M (2018) Using metabolic logic to predict temperature dependent ecosystem activity: a test with prairie ants. *Ecology* 99: 2113-2121

Blume-Werry G, Lindén E, Andresen L, Classen AT, Sanders NJ, von Oppen J, Sundqvist MK (2018) Proportion of fine roots, but not plant biomass allocation belowground, increases with elevation in arctic tundra heath communities. *Journal of Vegetation Science* 29: 226-235

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 (2018) Habitat disturbance selects against both small and large species across varying climates. *Ecography* 41: 1184-1193

Sheldon KS, Huey RB, Kaspari M, Sanders NJ (2018) 50 years of mountain passes: a perspective on Dan Janzen's classic paper. *The American Naturalist* 191: 553-565

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 (2018) Shifting plant species composition in response to climate change stabilizes grassland primary production. *Proceedings of the National Academy of Sciences* 115: 4051-4056

Read QD*, Henning JA*, Classen AT, Sanders NJ (2018) Aboveground resilience to species loss but below ground resistance to nitrogen addition in montane plant communities. *Journal of Plant Ecology* 11:351-363

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 (2018) Lags in the response of mountain plant communities to climate change. *Global Change Biology* 24: 563-579

Wilson K, Sheldon BC, Galliard JM, Sanders NJ, Hoggart SPG, Newton E (2018) Transparency and

open processes in *Journal of Animal Ecology*. 87:1-3

2017

Del Toro I, Berberich GB, Ribbons RR*, Berberich MB, Sanders NJ, Ellison AM (2017) Nests of red wood ants (*Formica rufa*-group) are positively associated with tectonic faults: a double-blind test. *PeerJ* 5: e3903

Read QD*, Henning JA*, Sanders NJ (2017) Intraspecific variation in traits reduces ability of trait-based models to predict community structure. *Journal of Vegetation Science* 28: 1070-1081

Zhao K*, Jing X, Sanders NJ, Chen L Hi Y, Flynn DFB, Wang Y, Chu H, Liang W, He J-S (2017) On the controls of abundance for soil-dwelling organisms on the Tibetan Plateau. *Ecosphere* 8: e01901

Diamond SE, Chick LD, Penick CA, Nichols LM, Cahan SH, Dunn RR, Ellison AM, Sanders NJ, Gotelli NJ (2017) Heat tolerance predicts the importance of species interaction effects as the climate changes. *Integrative and Comparative Biology* 57:112-120

Boomsma JJ, Brady SG, Dunn RR, Gadau J, Heinze J, Keller L, Moreau CS, Sanders NJ, Schrader L, Schultz TR, Sundström L, Ward PS, Wcislo WT, Zhang G (2017) The Global Ant Genomics Alliance (GAGA). *Myrmecological News* 25: 61-66

Hendershot JN**, Read QR*, Henning JA*, Sanders NJ, Classen AT (2017) Consistently inconsistent drivers of microbial abundance and diversity at macroecological scales. *Ecology* 98: 1757-1763

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

Wilson K, Sheldon BC, Gaillard J-M, Sanders NJ, Hoggart SPG, Newton E (2017) Like a rolling stone: the dynamic world of animal ecology publishing. *Journal of Animal Ecology* 86:1-3

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, Grigulis 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 reactionomes 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
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2014

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Sanders NJ (2018) What would you do about those wasps? A review of Phil Lester: *The Vulgar Wasp: The Story of a Ruthless Invader and Ingenious Predator*. Victoria University Press, Wellington, New Zealand, 2018, x + 200 pp., \$30.00, (Paperback), ISBN 9781776561858. Biological Invasions 00:000-000

Abstracts and contributed papers

Ecological Society of America (46 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)