

Curriculum Vitae
Brody Sandel

Santa Clara University • Department of Biology
500 El Camino Real • Santa Clara CA • 95053
Tel: 510-295-7077 • Email: brodysandel@gmail.com
Website: <http://brodysandel.wordpress.com>

EDUCATION

- 2010 **Ph.D.** University of California, Berkeley, Integrative Biology.
Dissertation: *Empirical and theoretical approaches to understanding variation in diversity across multiple spatial scales*
Thesis committee: Wayne Sousa (advisor), David Ackerly, John Harte
- 2004 **B.A.** Carleton College, Biology. *Summa cum laude*, with distinction

RESEARCH APPOINTMENTS

- 2016- Assistant Professor, Santa Clara University, Department of Biology.
- 2015-2016 **Associate Professor**, Aarhus University. Ecoinformatics and Biodiversity Group, Department of Biological Sciences and Center for Massive Data Algorithmics (MADALGO), Department of Computer Science.
- 2012 - **Assistant Professor**, Aarhus University. Ecoinformatics and Biodiversity Group, Department of Biological Sciences and Center for Massive Data Algorithmics (MADALGO), Department of Computer Science.
- 2010–2012 **Postdoctoral Researcher**, Aarhus University. Ecoinformatics and Biodiversity Group, Department of Biological Sciences and Center for Massive Data Algorithmics (MADALGO), Department of Computer Science.
Topographic controls on global patterns of species richness, distributions, vegetation and hydrology
Advisors: Jens-Christian Svenning, Lars Arge

TEACHING EXPERIENCE

- Fall 2015 **Instructor**, Statistics Refresher, Aarhus University
Introductory statistics for Ph.D. students, focusing on practical analysis in R
- Fall 2012-15 **Instructor**, Multivariate Analysis of Biological Data, Aarhus University
Upper-level survey of multivariate techniques using R
- Summer 2014, 15 **Instructor**, R for Macroecology and Global Change Studies, Sandbjerg Estate, Aarhus University.
An intense one-week summer school on statistical programming. Funded by the International Research School in Applied Ecology
- Summer 2014 **Instructor**, workshop on scaling from community to macroecological scales, Institute of Botany, Chinese Academy of Science, Beijing.

A one-week workshop addressing theoretical and practical topics in linking large-and local-scale studies.

- Fall 2013-15 **Instructor**, Biology Research in Theory and Practice. Aarhus University
Introduction to biology research for first-year students, focused on a practical project.
- Summer 2013 **Instructor**, R for Macroecology and Global Change Studies. Sandbjerg Estate, Aarhus University.
An intensive summer school course funded by the Stay or Go network focusing on statistical programming
- Spring 2011, 12 **Instructor**, R for Macroecology, Aarhus University
Statistical programming course for Ph.D. students
- Fall 2009 **Instructor**, Ecology, San Francisco State University
Upper-level introduction to ecology, including lecture and laboratory
- Fall 2006 **Teaching Assistant**, Tropical Rainforest Ecology, Carleton College
Field research course at La Selva Biological Research Station, Costa Rica
- Fall 2004-09 **Graduate Student Instructor**, University of California, Berkeley
Introductory Biology (x2), Evolution, Introduction to the Methods of Environmental Science, Integrative Biology Teaching Colloquium (x2).

Received the UC Berkeley Outstanding Graduate Student Instructor Award in 2008

ADVISING

- Anne-Christine Monnet Postdoc, "*Macroecology of the grasses*" (at Aarhus University)
- Anne Mimet Postdoc, "*Remote sensing and bird diversity*" (at AU)
- Robert Buitenwerf Postdoc, "*Remote sensing and plant diversity*" (at AU)
- Blas Benito Postdoc, "*The geographic ecology of Neanderthals*" (completed)
- Pil Pedersen PhD, "*Ecological opportunities and consequences of a new approach towards nature management based on reestablishment of diverse wild megafauna*" (at AU)
- Ditte Arp PhD, "*Ecology of Chinese gymnosperms*" (at AU)
- Kristine Jensen PhD, "*A macroscale analysis on the effect of climate on the assembly and function of plant communities*" (completed)
- Ziyu Ma PhD, "*Paleoclimate effects on temperate tree community structure*" (completed)
- Jorne Bicler Masters, "*Comparing methods for integrating remote sensing data in species distribution models*" (completed)

Rasmus Lakmann Masters, “*Herbaceous plant community responses to forest restoration treatments*”

Rehné Vokstrup Masters, “*Diet of the Pleistocene mammoth steppe megafauna*” (Completed)

EDITORIAL BOARDS

2015- *Global Ecology and Biogeography* Associate Editor

2014- *Ecography* Subject Editor (for Software Notes submissions)

2014-2016 *Scientific Reports* Subject Editor

PEER-REVIEWED PUBLICATIONS

63. Engemann, K., **B. Sandel**, B.L. Boyle, B.J. Enquist, P.M. Jørgensen, J. Kattge, B.J. McGill, N. Morueta-Holme, R.K. Peet, N.J. Spencer, C. Violle, S.K. Wisser, J.-C. Svenning. Accepted. A plant growth form dataset for the New World. *Ecology*.
62. **Sandel, B.**, A.-C. Monnet, R. Govaerts, M. Vorontsova. Accepted. Late Quaternary climate stability and the origins and future of global grass endemism. *Annals of Botany*.
61. Rech, A., B. Dalsgaard, **B. Sandel**, J. Sonne, J.-C. Svenning, N. Holmes, J. Ollerton. Accepted. The macroecology of wind versus animal pollination. *Plant Ecology and Diversity*.
60. Benito, B., J.-C. Svenning, T.K. Nielsen, F. Reide, G. Gil-Romero, T. Mailund, P.C. Kjaergaard, **B. Sandel**. Online early. The ecological niche and distribution of Neanderthals during the Last Interglacial. *Journal of Biogeography*.
59. Alexander, C., L. Arge, P.K. Bøcher, M. Revsbæk, **B. Sandel**, J.-C. Svenning, C. Tsirogiannis, J. Yang. 2016. Computing river floods using massive terrain data. *GIScience 2016*.
58. **Sandel, B.**, A.-C. Monnet, M. Vorontsova. Online early. Multidimensional structure of grass functional traits among species and assemblages. *Journal of Vegetation Science*.
57. Ma, Z., **B. Sandel**, J.-C. Svenning. 2016. Phylogenetic assemblage structure of North American trees is more strongly shaped by glacial-interglacial climate variability in gymnosperms than in angiosperms. *Ecology and Evolution* 6: 3092–3106.
56. Tsirogiannis, C., **B. Sandel**. 2016. PhyloMeasures: A package for computing phylogenetic biodiversity measures and their statistical moments. *Ecography* 39: 709-714.
55. Tsirogiannis, C., **B. Sandel**. 2016. Fast computations for measures of phylogenetic beta-diversity. *PLOS ONE* 11: e0151167.
54. Milton, K., D.A. Nolin, K. Ellis, J. Lozier, **B. Sandel**, E. Lacey. 2016. Genetic, spatial, and social relationships among adults in a group of Howler Monkeys (*Alouatta palliata*) from Barro Colorado Island, Panama. *Primates* 57: 253-265.
53. Tsirogiannis, C., **B. Sandel**. 2016. Fast phylogenetic biodiversity computations under a non-uniform random distribution. *Lecture Notes in Computer Science: 9649: 225-236* (Presented at RECOMB 2016)

52. Goldsmith, G.R., N. Morueta-Holme, **B. Sandel**, E.D. Fitz, S.D. Fitz, B. Boyle, N. Casler, R. Condit, S. Dolins, J. Donoghue, K. Engemann, P.M. Jørgensen, N.J.B. Kraft, A. Marcuse-Kubitzka, B. McGill, R.K. Peet, W. Piel, J. Regetz, M. Schildhauer, N. Spencer, J.-C. Svenning, B. Thiers, C. Violle, S. Wisser, B. Enquist. Online early. Plant-O-Matic: A dynamic and mobile field guide to all plants of the Americas. *Methods in Ecology and Evolution* 7: 960-965.
51. Nielsen, T.K., B.M. Benito, J.-C. Svenning, **B. Sandel**, L. McKerracher, F. Reide, P.C. Kjaergaard. Online early. Investigating Neanderthal dispersal above 55N in Europe during Marine Isotope Stage 5. *Quaternary International*.
50. Morueta-Holme, N., B. Blonder, **B. Sandel**, B. McGill, R.K. Peet, J. Ott, C. Violle, B. Enquist, P.M. Jørgensen, J.-C. Svenning. Online early. A network approach for inferring species associations from co-occurrence data. *Ecography*.
49. Li, Y., X. Li, **B. Sandel**, D. Blank, Z. Liu, X. Liu, S. Yan. 2016. Climate and topography explain range sizes of terrestrial vertebrates. *Nature Climate Change* 6: 498-502.
48. **Sandel, B.**, C. Tsirogiannis. 2016. Species introductions and the phylogenetic and functional structure of California's grasses. *Ecology* 97: 472-483.
47. Engemann, K. **B. Sandel**, B.J. Enquist, P.M. Jørgensen, N.J.B. Kraft, A. Marcuse-Kubitzka, B. McGill, N. Morueta-Holme, R.K. Peet, C. Violle, S. Wisser and J.-C. Svenning. 2016. Patterns and drivers of plant functional group dominance across the Western Hemisphere – a macroecological re-assessment based on a massive novel botanical dataset. *Botanical Journal of the Linnean Society* 180: 141-160.
46. Karger, D.N., A. Cord, M. Kessler, H. Kreft, I. Kühn, S. Pompe, **B. Sandel**, J. Sarmiento-Cabral, A. Smith, J.-C. Svenning, H. Tuomisto, P. Weigelt, K. Wesche. 2016. Delineating probabilistic species pools in ecology and biogeography. *Global Ecology and Biogeography* 25: 489-501.
45. Sonne, J., A.M. Martin González, P.K. Maruyama, **B. Sandel**, S. Abrahamczyk, R. Alarcon, A.C. Araujo, F.P. Araujo, S.M. de Azevedo Jr., A.C. Baquero, D. Nogues-Bravo, P.A. Cotton., T.T. Ingversen, G. Kohler, C. Lara, F.M.G. Las-Casas, A.O. Machado, C.G. Machado, M.A. Maglianesi, A.C. Moura, G.M. Olivera, P.E.Oliveira, J.F. Ornelas, L. da Cruz Rodrigues, L. Rosero-Lasprilla, A.M. Rui, M. Sazima, M. Schleuning, A. Timmermann, I.G. Varassin, J. Vinzentin-Bugoni, Z. Wang, S. Watts, J. Fjeldså, J.-C. Svenning, C. Rahbek, B. Dalsgaard. 2016. High proportion of smaller-ranged hummingbird species coincides with ecological specialization across the Americas. *Proceedings of the Royal Society B* 283: 20152512.
44. Doughty, C., A. Wolf, N. Morueta-Holme, P.M. Jørgensen, **B. Sandel**, C. Violle, B. Boyle, N.J.B. Kraft, R.K. Peet, B. Enquist, J.-C. Svenning, S. Blake, M. Galetti. 2016. Megafauna extinction, tree species range reduction, and carbon storage in Amazonian forests. *Ecography* 39: 194-203.
43. Svenning, J.-C., P.B.M. Pedersen, C.J. Donlan, R. Ejrnaes, S. Faurby, M. Galetti, D.M. Hansen, **B. Sandel**, C.J. Sandom, J.W. Terborgh, F.W.M. Vera. 2016. Reply to Rubenstein and Rubenstein: Time to move on from ideological debates on rewilding. *Proceedings of the National Academy of Sciences of the United States of America* 113: E2-E3.

42. Feng, G., L. Mao, **B. Sandel**, N.G. Swenson, J.-C. Svenning. 2016. High plant endemism in China is partially linked to reduced glacial-interglacial climate change. *Journal of Biogeography* 43: 145-154.
41. Svenning, J.-C., P.B.M. Pedersen, C.J. Donlan, R. Ejrnaes, S. Faurby, M. Galetti, D.M. Hansen, **B. Sandel**, C.J. Sandom, J.W. Terborgh, F.W.M. Vera. 2016. Science for a wilder Anthropocene – synthesis and future directions for rewilding research. *Proceedings of the National Academy of Sciences, USA* 113: 898-906.
40. Pasgaard, M., N. Strange, B. Dalsgaard, P.K.M. Mendonça, **B. Sandel**. 2015. Geographical imbalances and divides in scientific production of climate change knowledge. *Global Environmental Change* 35: 279-288.
39. Svenning, J.-C., W. Eiserhardt, S. Normand, A. Ordonez, **B. Sandel**. 2015. The influence of paleoclimate on present-day patterns in biodiversity and ecosystems. *Annual Reviews in Ecology, Evolution and Systematics* 46: 551-572.
38. Eiserhardt, W., F. Borchsenius, **B. Sandel**, W.D. Kissling, J.-C. Svenning. 2015. Late Cenozoic climate change and the phylogenetic structure of regional conifer floras worldwide. *Global Ecology and Biogeography* 24: 1136-1148.
37. **Sandel, B.**, A. Gutierrez, P.B. Reich, F. Schrodte, J. Dickie, J. Kattge. 2015. Estimating the missing species bias in plant trait measurements. *Journal of Vegetation Science* 26: 828-838.
36. Blonder, B., D. Nogués-Bravo, M.K. Borregaard, J. Donoghue, P.M. Jørgensen, N.J.B. Kraft, J.-P. Lessard, N. Morueta-Holme, **B. Sandel**, J.-C. Svenning, C. Violle, C. Rahbek, B.J. Enquist. 2015. Assembly of communities in climate space. *Ecology* 96: 972-985.
35. **Sandel, B.** 2015. Towards a taxonomy of spatial scale-dependence. *Ecography* 38: 358-369.
34. Engemann, K., B. Enquist, **B. Sandel**, B. Boyle, P. Jørgensen, N. Morueta-Holme, R. Peet, C. Violle, J.-C. Svenning. 2015. Limited sampling hampers 'big data' estimation of species richness in a tropical biodiversity hotspot. *Ecology and Evolution* 5: 807-820.
33. Sebastián-González, E., **B. Sandel**, B. Dalsgaard, P. Guimarães. 2015. Macroecological trends in nestedness and modularity of seed-dispersal networks. *Global Ecology and Biogeography* 24: 293-303.
32. Dalsgaard, B., D.W. Carstensen, J. Fjeldså, P.K. Maruyama, C. Rahbek, **B. Sandel**, J. Sonne, J.-C. Svenning, Z. Wang, W.J. Sutherland. 2014. Does geography, current climate or historical climate determine bird species richness, endemism and island network roles in Wallacea and the West Indies? *Ecology and Evolution* 4: 4019-4031.
31. Amano, T., **B. Sandel**, H. Eager, E. Bulteau, J.-C. Svenning, B. Dalsgaard, C. Rahbek, R.G. Davies, W.J. Sutherland. 2014. Global distribution and drivers of language extinction risk. *Proceedings of the Royal Society B: Biological Sciences* 281: 20141574.
30. Tsirogiannis, C., **B. Sandel**, Kalvisa, A. 2014. New algorithms for computing phylogenetic biodiversity. *Lecture Notes in Computer Science* 8701: 187-203.

29. Pedersen, R., Ø., **B. Sandel**, J.-C. Svenning. 2014. Macroecological evidence for competitive regional-scale interactions between the two major clades of mammal carnivores (Feliformia and Caniformia). *PLoS ONE* 9: e100553.
28. Tsirogiannis, C., **B. Sandel**. 2014. Computing the skewness of the phylogenetic mean pairwise distance in linear time. *Algorithms for Molecular Biology* 9: 15. [the extended journal version of the conference paper 20 below]
27. Lamanna, C.A., B. Blonder, C. Violle, N.J.B. Kraft, **B. Sandel**, I. Simova, J. Donoghue, J.-C. Svenning, B.J. McGill, B. Boyle, V. Buzzard, S. Dolins, P.M. Jørgensen, A. Marcuse-Kubitza, N. Morueta-Holme, R.K. Peet, W.H. Piel, J. Regetz, M. Schildhauer, N. Spencer, B. Theirs, S.K. Wisser, B.J. Enquist. 2014. Functional trait space and the latitudinal diversity gradient. *Proceedings of the National Academy of Sciences, USA* 111: 13745-13750.
26. Kissling, D., L. Dalby, C. Fløjgaard, J. Lenoir, **B. Sandel**, C. Sandom, K. Trøjelsgaard, J.-C. Svenning. 2014. Establishing macroecological trait datasets: digitalization, extrapolation and validation of diet preferences in terrestrial mammals worldwide. *Ecology and Evolution*: 4: 2913-2930.
25. Sandom, C., S. Faurby, **B. Sandel**, J.-C. Svenning. 2014. Global Late Quaternary megafauna extinctions linked to humans, not climate change. *Proceedings of the Royal Society B: Biological Sciences* 281: 20133254.
24. Barnagaud, J.Y., W.D. Kissling, **B. Sandel**, W. Eiserhardt, H. Balslev, C.H. Sekercioglu, B. Enquist, C. Tsirogiannis, J.-C. Svenning. 2014. Ecological traits influence the phylogenetic structure of bird species co-occurrences worldwide. *Ecology Letters* 17: 811-820.
23. Feng, G., X.C. Mi, P.K. Bøcher, L.F. Mao, **B. Sandel**, M. Cao, W.H. Ye, Z.Q. Hao, H.D. Gong, Y.T. Zhang, X.H. Zhao, G.Z. Jin, K.P. Ma, J.-C. Svenning. 2014. Relative roles of local disturbance, current climate and palaeoclimate in determining phylogenetic and functional diversity in Chinese forests. *Biogeosciences* 11: 1361-1370.
22. Schleuning, M., L. Ingmann, R. Strauß, S. Fritz, B. Dalsgaard, D.M. Dehling, M. Plein, F.V. Saavedra, **B. Sandel**, J.-C. Svenning, K. Böhning-Gaese, C.F. Cormann. 2014. Ecological, historical and evolutionary determinants of modularity in weighted seed-dispersal networks. *Ecology Letters* 17: 454-463.
21. **Sandel, B.** and J.-C. Svenning. 2013. Human impacts drive a global topographic signature in tree cover. *Nature Communications* 4: Article 2474.
20. Tsirogiannis, C., **B. Sandel**. 2013. Computing the skewness of the phylogenetic mean pairwise distance in linear time. *Lecture Notes in Bioinformatics* 8126: 170-184.
19. Smith, A.B., **B. Sandel**, N.J.B. Kraft and S. Carey. 2013. Characterizing scale-dependent community assembly using the functional-diversity-area relationship. *Ecology* 94: 2392-2402.
18. Dalsgaard, B., K. Trøjelsgaard, A.M. Martin González, D. Nogues-Bravo, J. Ollerton, T. Petanidou, **B. Sandel**, M. Schleuning, Z. Wang, C. Rahbek, B. Sutherland, J.-C. Svenning, J.M. Olesen. 2013. Historical climate-change influences modularity of pollination networks. *Ecography* 36: 1331-1340.

17. Svenning, J.-C. and **B. Sandel**. 2013. Disequilibrium vegetation dynamics under future climate change. *American Journal of Botany* 100: 1266-1286.
16. Sandom, C., L. Dalby, C. Fløjgaard, W.D. Kissling, J. Lenoir, **B. Sandel**, K. Trøjelsgaard, R. Ejrnæs, and J.-C. Svenning. 2013. Mammal predator and prey species richness are strongly linked at macroscales. *Ecology* 94: 1112-1122.
15. Schleuning, M., J. Fründ, A.-M. Klein, S. Abrahamczyk, R. Alarcón, M. Albrecht, G. Andersson, S. Bazarian, K. Böhning-Gaese, R. Bommarco, B. Dalsgaard, D.M. Dehling, A. Gotlieb, M. Hagen, T. Hickler, A. Holzschuh, C.N. Kaiser-Bunbury, H. Kreft, R.J. Morris, **B. Sandel**, W.J. Sutherland, J.-C. Svenning, T. Tschardt, S. Watts, C.N. Weiner, M. Werner, N.M. Williams, C. Winqvist, C.F. Dormann and N. Blüthgen. 2012. Specialization of mutualistic interaction networks decreases towards tropical latitudes. *Current Biology* 22: 1925-1931.
14. Tsirogiannis, C., **B. Sandel** and D. Cheliotis. 2012. Efficient computation of popular phylogenetic tree measures. *Lecture Notes in Computer Science* 7534: 30-43.
13. Greve, M., A.M. Lykke, C.W. Fagg, J. Bogaert, I. Friis, **B. Sandel**, J. Ndayishimiye, C. Sandom, M. Schmidt, J. Wieringa, G. Zizka and J.-C. Svenning. 2012. Diversity patterns of African acacias - the role of the environment, historical climate change and herbivore pressure. *Journal of Ecology* 100: 1093-1104.
12. **Sandel, B.** and J.D. Corbin. 2012. Scale and diversity following manipulation of productivity and disturbance in Californian coastal grasslands. *Journal of Vegetation Science* 23: 906-918.
11. **Sandel, B.** and Dangremond, E. 2012. Climate change and the invasion of California by grasses. *Global Change Biology* 18: 277-289.
10. **Sandel, B.**, L. Arge, B. Dalsgaard, R.G. Davies, K.J. Gaston, W.J. Sutherland and J.-C. Svenning. 2012. Response – Global endemism needs spatial integration. *Science* 335: 285-286.
9. **Sandel, B.**, L. Arge, B. Dalsgaard, R.G. Davies, K.J. Gaston, W.J. Sutherland and J.-C. Svenning. 2011. The influence of Late Quaternary climate-change velocity on species endemism. *Science* 334: 660-664.
 - **A Faculty of 1000 “Must Read”**
8. Dalsgaard, B., E. Magård, J. Fjeldså, A.M. Martin González, C. Rahbek, J.M. Olesen, J. Ollerton, R. Alarcón, A. Cardoso Araujo, P.A. Cotton, C. Lara, C. Graco Machado, I. Sazima, M. Sazima, A. Timmermann, S. Watts, **B. Sandel**, W. Sutherland and J.-C. Svenning. 2011. Specialization in plant-hummingbird networks is associated with species richness, contemporary precipitation and Quaternary climate-change velocity. *PLoS ONE* 6: e25891.
7. **Sandel, B.**, J.D. Corbin and M. Krupa. 2011. Using plant functional traits to guide restoration: A case study in California coastal grassland. *Ecosphere* 2: Article 23.
6. **Sandel, B.**, L.J. Goldstein, N.J.B. Kraft, J.G. Okie, M.I. Shuldman, D.D. Ackerly, E.E. Cleland, K.N. Suding. 2010. Contrasting trait responses in plant communities to experimental and geographic variation in precipitation. *New Phytologist* 188: 565-575.

5. **Sandel, B.** and J.D. Corbin. 2010. Scale, disturbance and productivity control the native-exotic richness relationship. *Oikos* 119: 1281-1290.
4. **Sandel, B.** 2009. Geometric constraint model selection– An example with New World birds and mammals. *Ecography* 32: 1001-1010.
3. **Sandel, B.** and A.B. Smith. 2009. Scale as a lurking factor: Incorporating scale-dependence in experimental ecology. *Oikos* 118: 1284-1291.
2. **Sandel, B.S.** and M.J. McKone. 2006. Reconsidering null models of diversity: Do geometric constraints on species' ranges necessarily cause a mid-domain effect? *Diversity and Distributions* 12: 467-474.
1. Camill, P., M.J. McKone, S.T. Sturges, W.J. Severud, E. Ellis, J. Limmer, C.B. Martin, R.T. Navratil, A.J. Purdie, **B.S. Sandel**, S. Talukder, and A. Trout. 2004. Community and ecosystem-level changes in a species-rich tallgrass prairie restoration. *Ecological Applications* 14: 1680-1694.

POPULAR SCIENCE PUBLICATIONS

Svenning, J.-C., **B. Sandel**, C. Fløjgaard and M.C. Forchhammer. 2010. Økologi i en syndflod af data. *Aktuel Naturvidenskab* 5: 34-37. (Ecology in a deluge of data)

INVITED LECTURES

- 2015 *The influence of long-term climate stability on the structure and function of ecosystems.* University of Zurich.
- 2013 *Patterns of phylogenetic diversity in New World plants.* University of Arizona.
- 2013 *Scale in ecology: Measurement, management and prediction.* Göttingen University.
- 2012 *Climate-change velocity since the Last Glacial Maximum: Implications for modern distributions and communities.* Cambridge University.
- 2011 *The influence of long-term climate stability on modern patterns at macroecological and community scales.* Center for Macroecology, Evolution and Climate, University of Copenhagen.
- 2010 *Some computational challenges in macroecology.* Annual MADALGO retreat, Sandbjerg, Denmark.

WORKING GROUPS

- 2015 Biodiversity and remote sensing (Organizer), Aarhus, Denmark.
- 2015 Biotic interactions across space and time, Göttingen, Germany.
- 2015 Towards a biosphere-atmosphere change index (BACI) kickoff meeting, Jena, Germany.
- 2014 sPlot II meeting, Synthesis Centre for Biodiversity Science (sDiv), Leipzig, Germany. (Steering committee member)
- 2013 Biodiversity and spatial scale – the regional species pool link, Synthesis Centre for Biodiversity Sciences (sDiv), Leipzig Germany.
- 2013 MammalDIET working group, Kalø, Denmark.

- 2013 Plant trait-environment relationships across the world's biomes, Synthesis Centre for Biodiversity Sciences (sDiv), Leipzig, Germany. (Steering committee member, next meeting in late 2014)
- 2012 Botanical Information and Ecology Network (BIEN), National Center for Ecological Analysis and Synthesis, Santa Barbara, California.
- 2012, '14 Macroecology of Language working group, Copenhagen or Aarhus, Denmark
- 2010 iPlant Collaborative Conference, Las Vegas, Nevada.
- 2008 Ushering in a new era of functional ecology: Dynamics in a changing environment, National Center for Ecological Analysis and Synthesis, Santa Barbara, California.

GRANTS AND AWARDS

- 2015- Principle investigator on grant from FNU (the Danish "NSF") on "Macroecology of the Grasses (1.8 million dkk or ~\$300 000)
- 2014- Co-investigator on grant from EU Horizon 2020 program for "Detecting changes in essential ecosystem and biodiversity properties – towards a Biosphere Atmosphere Change Index: BACI" (€3 million, or ~\$4,000,000)
- 2013- Co-investigator on grant from AU IDEAS program to establish the "Centre for Biocultural History" (4.5 million dkk, or ~\$820,000)
- 2012- Co-investigator on grant from Danish "NSF" to study "Paleoclimate stability and the evolutionary ecosystem ecology of Earth's forests" (5.8 million dkk, or ~\$1 000 000)
- 2005-2010 Graduate Research Fellowship, National Science Foundation (\$135 000)
- 2004-2009 Berkeley Fellowship (\$54 000)

SELECTED CONFERENCE PRESENTATIONS

Sandel, B. 2015. Long-term climate stability and global endemism patterns. Ecological Society of America, Annual Meeting, Baltimore Maryland. [Part of a symposium on climate stability and endemism]

Zanne, A., Kraft, N.J.B., **Sandel, B.**, Webb, C. 2015. Frontiers in plant evolutionary ecology in the era of big botanical datasets. Ecological Society of America, Annual Meeting, Baltimore Maryland. [Part of a symposium on big data in ecology]

Sandel, B., Svenning, J.-C. 2014. Vegetation greening in the US: Trends and drivers over 25 years. Ecological Society of America, Annual Meeting, Sacramento California.

Sandel, B. 2013. Patterns of diversity across scales: Challenges and opportunities. INTECOL meeting, London, UK.

Tsirogiannis, C., **B. Sandel.** 2013. Computing the skewness of the phylogenetic mean pairwise distance in linear time. Workshop on Algorithms in Bioinformatics. Sophia Antipolis, France.

Svenning, J.-C. and **B. Sandel.** 2012. Non-equilibrium vegetation dynamics under future climate change. Meeting of the International Biogeographic Society, Miami, USA.

Tsirogiannis, C., **B. Sandel** and D. Cheliotis. 2012. Efficient computation of popular phylogenetic tree measures. Workshop on Algorithms in Bioinformatics. Ljubljana, Slovenia.

Sandel, B. and J.-C. Svenning. 2012. Topographic controls on the distribution of tree cover from local to global scales. Ecological Society of America, Annual Meeting, Portland Oregon.

Svenning, J.-C., Dalsgaard, B., Kissling, W.D., Lenoir, J., **Sandel, B.** 2011. Strong paleoclimatic imprints on ecological patterns and function across scales. European Ecological Federation Congress, Ávila, Spain

Sandel, B., Dalsgaard, B., Arge, L., Svenning, J.-C. 2011. Late Quaternary climate-change velocity: Implications for modern distributions and communities. Ecological Society of America, Annual Meeting, Austin, Texas.

Sandel, B., Arge, L., Svenning, J.-C. 2011. Climate change velocity since the Last Glacial Maximum and its importance for patterns of species richness and range size. Meeting of the International Biogeographic Society, Heraklion, Greece.

Sandel, B., L. Goldstein, N. Kraft, J. Okie, M. Shuldman, D. Ackerly, E. Cleland, K. Suding. 2010. Trait responses in plant communities to experimental and geographic variation in precipitation. Ecological Society of America, Annual Meeting, Albuquerque, New Mexico.

Corbin, J. and **B.S. Sandel.** 2008. Limitation of native grass seedling establishment in California coastal prairie: Seed availability versus competitive interactions. Ecological Society of America, Annual Meeting, Milwaukee, Wisconsin.

Sandel, B.S. and J. Corbin 2008. Scale, diversity, and community convergence in a grassland restoration experiment. Ecological Society of America, Annual Meeting, Milwaukee, Wisconsin.

Sandel, B.S. and J. Corbin. 2007. Scale-dependent effects of restoration practices in Californian grasslands (poster). Ecological Society of America, Annual Meeting, San Jose, California.

Sandel, B.S. and M.J. McKone. 2005. Geometric constraints on species' ranges do not necessarily produce a mid-domain effect in null models. Ecological Society of America, Annual Meeting, Montreal, Quebec.

BIBLIOMETRICS

63 peer-reviewed publications in international scientific journals

1 popular science publication

H-Index: 18

Total citations: 1256

Faculty of 1000 has evaluated 1 paper as a "Must Read"