

DANIEL E. BUNKER

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EDUCATION

Ph.D., 2004, University of Pittsburgh.
B.S., B.A., 1994, The Evergreen State College.

PROFESSIONAL POSITIONS

Assistant Professor, Department of Biological Sciences, secondary appointment in
Mathematical Sciences, New Jersey Institute of Technology. 2008-Present.
Graduate Faculty, Rutgers University - New Brunswick, Ecology and Evolution Graduate
Program. (2009 - Present).
Co-Director: TraitNet Research Coordination Network, Columbia University. 2006-
present.
Post-Doctoral Research Scientist: Department of Ecology, Evolution and Environmental
Biology, Columbia University. 2004-2008.
Associate Director: BioMERGE Research Coordination Network, Columbia University.
2004-2008.

COURSES TAUGHT

New Jersey Institute of Technology
Biology 222, Evolution
Biology 630, Critical Thinking For Research in the Life Sciences
Math 373, Intro To Mathematical Biology

PUBLICATIONS

JOURNAL ARTICLES

Nichols, E., Uriarte, M., Bunker, D. E., Louzada, J. N.C, Larsen, T., Vaz de Mello, F.,
Vulinec, K., Favila, M., Slade, E., Naeem, S., Spector, S. H. (*in review*) Trait-
dependent response of dung beetle populations to tropical forest conversion at local to
global scales. *Ecology Letters*.
Perrings, C., Naeem, S., Ahrestani, F., Bunker, D. E., Burkill, P., Canziana, G., Elmqvist,
T., Ferrati, R., Fuhrman, J., Jaksic, F., Kawabata, Z., Kinzig, A., Mace, G., Milano,
F., Mooney, H., Prieur Richard, A.-H., Tschirhart, J., Weisser, W. (2011). Ecosystem
services, targets, and indicators for the conservation and sustainable use of
biodiversity. *Frontiers in Ecology and the Environment*, 9(9), 512-520. doi:
10.1890/100212

- Kattge, J., ... Bunker, D. E., et al. (2011). TRY – a global database of plant traits. *Global Change Biology*, 17(9), 2905-2935. doi: 10.1111/j.1365-2486.2011.02451.x
- Lin, B. B., Flynn, D. F.B., Bunker, D. E., Uriarte, M., Naeem, S. (2011). The effect of agricultural diversity and crop choice on functional capacity change in grassland conversions. *Journal of Applied Ecology*, 48, 609–618. DOI: 10.1111/j.1365-2664.2010.01944.x
- Hovick, S. M., Bunker, D. E., Peterson, C. J., Carson, W. P. (2011). Purple loosestrife suppresses plant species colonization far more than broad-leaved cattail: experimental evidence with plant community implications. *Journal of Ecology*, 99, 225-234. doi: 10.1111/j.1365-2745.2010.01754.x
- Wright, S. J., Kitajima, K., Kraft, N., Reich, P., Wright, I., Bunker, D. E., Condit, R., Dalling, J., Davies, S., Diaz, S., Engelbrecht, B., Harms, K., Hubbell, S., Marks, C., Ruiz-Jaen, M., Salvador, C., Zanne, A. (2010). Functional traits and the growth-mortality tradeoff in tropical trees. *Ecology*, 91(12), 3644-3674. doi: 10.1890/09-2335.1
- Perrings, C., Naeem, S., Ahrestani, F., Bunker, D. E., Burkill, P., Canziana, G., Elmqvist, T., Ferrati, R., Fuhrman, J., Jasic, F., Kawabata, Z., Kinzig, A., Mace, G., Milano, F., Mooney, H., Prieur Richard, A.-H., Tschirhart, J., Weisser, W. (2010). Letter to the editor – Response. *Biodiversity Transcends Services*. *Science*, 330(6002), 324-324. <http://www.sciencemag.org/content/330/6012/1745.full>
- Perrings, C., Naeem, S., Ahrestani, F., Bunker, D. E., Burkill, P., Canziana, G., Elmqvist, T., Ferrati, R., Fuhrman, J., Jaksic, F., Kawabata, Z., Kinzig, A., Mace, G., Milano, F., Mooney, H., Prieur Richard, A.-H., Tschirhart, J., Weisser, W. (2010). Ecosystem Services for 2020. *Science*, 330(6002), 324-324. <http://www.sciencemag.org/cgi/content/full/330/6002/323>
- Perrings, C., Naeem, S., Ahrestani, F., Bunker, D. E., Burkill, P., Canziana, G., Elmqvist, T., Ferrati, R., Fuhrman, J., Jaksic, F., Kawabata, Z., Kinzig, A., Mace, G., Milano, F., Mooney, H., Prieur Richard, A.-H., Tschirhart, J., Weisser, W. (2010). Ecosystem services and target-setting for the conservation and sustainable use of biodiversity. Nairobi: Ecosystem Services Economics, United Nations Environment Program.
- Carson, W., Hovick, S., Baumert, A., Bunker, D. E., Pendergast, T. (2008). Evaluating the post-release efficacy of invasive plant biocontrol by insects: A comprehensive approach. *Arthropod-Plant Interactions*, 2(2), 77-86.
- Bunker, D. E. (2009). Back to basics on the cutting edge: building statistical models from the bottom up. Book review of "Ecological data and models in R" by Benjamin Bolker. *Ecology/Ecological Society of America*, 90(8), 2333-2334.
- Bunker, D. E., Naeem, S. (2006). Species diversity and ecosystem functioning. Letter to the editor. *Science*, 312, 846-847. <http://www.sciencemag.org/cgi/content/full/312/5775/846b>
- Stark, S. C., Bunker, D. E., Carson, W. P. (2006). A null model of exotic plant diversity tested with exotic and native species-area relationships. *Ecology Letters*, 9(2), 136-141.
- Bunker, D. E., DeClerck, F., Bradford, J. C., Colwell, R. K., Perfecto, I., Phillips, O. L., Sankaran, M., Naeem, S. (2005). Species Loss and Above-ground Carbon Storage in

a Tropical Forest. *Science*, 310(5750), 1029-1031.
<http://www.sciencemag.org/cgi/content/abstract/310/5750/1029>

- Bunker, D. E., Carson, W. P. (2005). Drought stress and tropical forest woody seedlings: effect on community structure and composition. *Journal of Ecology*, 93(4), 794-806.
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2745.2005.01019.x/abstract>
- Stevens, M. H. H., Bunker, D. E., Schnitzer, S. A., Carson, W. P. (2004). Establishment limitation reduces species recruitment and species richness as soil resources rise. *Journal of Ecology*, 92(2), 339-347.
<http://onlinelibrary.wiley.com/doi/10.1111/j.0022-0477.2004.00866.x/abstract>
- D'Arrigo, R., Malmstrom, C. M., Jacoby, G. C., Los, S. O., Bunker, D. E. (2000). Correlation between maximum latewood density of annual tree rings and NDVI based estimates of forest productivity. *International Journal of Remote Sensing*, 21, 2329-2336.
- Jacoby, G. C., Bunker, D. E., Benson, B. E. (1997). Tree-ring evidence for an AD 1700 Cascadia earthquake in Washington and northern Oregon. *Geology*, 25, 999-1002.
- Yamaguchi, D., Atwater, B., Bunker, D. E., Benson, B., Reid, M. (1997). Tree-ring dating the 1700 Cascadia earthquake. *Nature*, 389, 922-923.

BOOKS

- Naeem, S., Bunker, D. E., Hector, A., Loreau, M., Perrings, C., Editors. (2009). *Biodiversity, Ecosystem Functioning, and Human Wellbeing: An Ecological and Economic Perspective*. Oxford University Press.

BOOK CHAPTERS

- Naeem, S., Bunker, D. E. (2009). In Naeem, Bunker, Hector, Loreau, and Perrings (Ed.), *TraitNet: Furthering biodiversity research through the curation, discovery, and sharing of species trait data*. Oxford University Press.
- Solan, M., Godbold, J., Flynn, D., Symstad, A., Bunker, D. E. (2009). In Naeem, Bunker, Hector, Loreau, and Perrings (Ed.), *Biodiversity-ecosystem function research and biodiversity futures: Early bird catches the worm or a day late and a dollar short?* Oxford University Press.
- Naeem, S., Bunker, D. E., Hector, A., Loreau, M., Perrings, C. (2009). In Naeem, Bunker, Hector, Loreau, and Perrings (Ed.), *Can we predict the effects of global change on biodiversity loss and ecosystem functioning?* Oxford University Press.
- Engelhardt, K., Symstad, A., Prieur-Richard, A.-H., Thomas, M., Bunker, D. E. (2009). In Naeem, Bunker, Hector, Loreau, and Perrings (Ed.), *Opening communities to colonization –The impacts of invaders on biodiversity and ecosystem functioning*. Oxford University Press.
- Naeem, S., Bunker, D. E., Hector, A., Loreau, M., Perrings, C. (2009). In Naeem, Bunker, Hector, Loreau, and Perrings (Ed.), *The ecological and social implications of changing biodiversity: An overview of a decade of biodiversity and ecosystem functioning research*. (pp. 3-13). Oxford: Oxford University Press.

GRANTS AND AWARDS

- Matveev, Victor V. (Principal), Golowasch, Jorge P. (Co-Principal), Russell, Gareth J. (Co-Principal), Prodan, Camelia (Supporting), Bose, Amitabha K. (Supporting), Miura, Robert M. (Supporting), Rotstein, Horacio G. (Supporting), Bunker, Daniel E. (Supporting), Cummings, Linda J. (Supporting), Hill, Andrew (Supporting), Nadim, Farzan (Supporting), Altan-Bonnet, Nihal (Supporting), Schafer, Karina V-R (Supporting), "Group Undergraduate Biology and Mathematics Training Program (G-UBMTP) at NJIT," Sponsored by National Science Foundation, Federal, \$239,824.00. (2009 - 2012).
- Bunker, Daniel E. (Co-Principal), Naeem, Shahid (Principal), "RCN: TraitNet - Coordinating trait-based ecological and evolutionary research," Sponsored by National Science Foundation, Federal, \$430,963.00. (2007 - 2012).
- Bunker, Daniel E. (Principal), DeVan, Caroline (Co-Principal), "Cascading effects of insect pollinator decline on plant functional diversity in urban systems," Sponsored by Meadowlands Environmental Research Institute, State, \$15,470.00. (2010 - 2011).
- Walter P. Carson, PI; Daniel E. Bunker, co-author. "The application of resource competition theory and keystone herbivory to plant invasions: towards a predictive theory." Sponsored by USDA NRI, \$200,000, (2000-2004)

WORKSHOPS AND WORKING GROUPS (*Organizer)

- 2nd International workshop on deer-forest relationships, August 17-22, 2011, Quebec City, Quebec.
- Phenotype RCN Plant Working Group Meeting, June 1-3, 2011, Boulder, CO.
- * TraitNet TraitBank Workshop, New York, NY. (May 25, 2011 - May 28, 2011).
- Phenotype RCN Annual Summit, February 25-28, 2011, Durham, NC.
- National Science Foundation, Research Coordination Network Meeting, Washington, D.C.. (December 6, 2010 - December 7, 2010).
- iPlant Collaborative, Las Vegas, NV. (May 24, 2010 - May 26, 2010).
- DIVERSITAS EcoServices Steering Group, New York, NY. (March 5, 2010 - March 7, 2010).
- International Biodiversity Information Standards Organization (TDWG), November 9-13, 2009, Montpellier, France.
- Phyloinformatics VoCamp, November 8-11, 2009, National Evolutionary Synthesis Center, Montpellier, France.
- * TraitNet Ontology Workshop, November 5-7, 2009, Montpellier, France.
- Scarabaeinae Research Network, 5rd Annual Meeting, September 26-28, 2008, Black Rock Forest, New York, USA.
- iPlant Meeting, April 7-9, 2008, Cold Spring Harbor Lab, New York, USA.
- * TraitNet I: Designing an ecoinformatics backbone for curating, sharing and discovering species trait data, 7-9 December 2007, New York City.

Ecophylogenetics Working Group, Linking phylogenetic history, plant traits, and environmental gradients to understand community organization at local and continental scales, 11-14 October 2007, Harvard Forest, MA, USA.

Research Coordination Network Meeting. National Science Foundation, Washington, D.C., USA. 10-11 September 2007

Fast Track Initiative on refining plant functional classifications for earth system modeling, International Geosphere and Biosphere Programme and DIVERSITAS, Alicante, Spain, 7-9 February 2007.

The economics of ecosystem services, BESTNet-DIVERSITAS, Paris, May 21-23, 2007.

* BioMERGE 4th Adaptive Synthesis Workshop, Ascona, Switzerland, 1-4 December 2006.

Center for Tropical Forest Science (CTFS) Species Trait Working Group. Smithsonian Tropical Research Institute, Panama City, Republic of Panama. 25-26 June 2006.

Research Coordination Network Meeting. National Science Foundation, Washington, D.C., USA. 12-13 September 2005.

Diversitas: Biodiversity and Carbon Storage, Danum Valley, Borneo, Malaysia, 7-10 September 2005.

Diversitas: Next Generation of Biodiversity Research, Kota Kinabalu, Borneo, Malaysia, 4-6 September 2005.

* BioMERGE 3rd Adaptive Synthesis Workshop, Kota Kinabalu, Borneo, Malaysia, 1-4 September 2005.

SEEK Early Career Faculty and Postdoctoral Training in Ecoinformatics, University of New Mexico, Albuquerque, NM, USA. 3-7 January 2005.

PEER REVIEW SERVICE

Journals:

Biological Invasions, Ecology Letters, Global Change Biology, Journal of Ecology, Oecologia, Frontiers in Ecology and the Environment, Oikos

Grants:

National Science Foundation, National Geographic Society

PROFESSIONAL MEMBERSHIPS

American Association for the Advancement of Science

Society for Conservation Biology

Ecological Society of America