

## **JUSTIN PROUTY WRIGHT**

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### **Education**

- Ph.D. in Ecology and Evolutionary Biology, Cornell University, Ithaca, NY and Institute of Ecosystem Studies, Millbrook, NY. August 1997 - May 2002. “The effects of an ecosystem engineer, the beaver, on patterns of species richness at multiple spatial scales”
- B.A. with Honors in Biology and Environmental Studies, Williams College, Williamstown, MA. 1996

### **Professional Positions**

- Assistant Professor, Department of Biology, Duke University. 2007-Present
- Research Assistant Professor, Department of Biology, Duke University. 2004-2007
- Visiting Lecturer, Flathead Lake Biological Station, University of Montana. 2005-2006
- Columbia Science Fellow, Department of Ecology, Evolution, and Environmental Biology, Columbia University. 2003
- Postdoctoral Research Associate, University of Washington. 2002
- Watson Fellow. 1996-1997
- Intern, US Forest Service, Cooperative Forestry Division. 1995

### **Grants, Fellowships, Awards, and Honors**

- PI on “Will climate change alter rates of old field succession across the Eastern Deciduous Forest? A cross-latitude experiment” NSF DEB \$135,000
- Co-PI on “Dissertation Research: Plant species and functional trait effects on methane and nitrous oxide fluxes from a North Carolina restored wetland” NSF DEB \$12,000 (DDIG awarded to Eileen Thorsos)
- Cornell Sigma Xi Grant. 2000
- Laurel Foundation Grant for study of ecosystem engineers in Israel. 1999
- Keickhefer Adirondack Fellowship. 1999 & 2000
- Mario Einaudi International Travel Grant for research on controls on freshwater fish diversity in Venezuela. 1998
- NSF Research Training Grant: Human Accelerated Environmental Change. 1997-01
- Watson Fellowship to study conservation efforts in New Zealand and Madagascar. 1996
- Sigma Xi, Williams College. 1996

### **Professional Service Activities**

- Peer reviewer: American Naturalist, Australian Journal of Ecology, Basic and Applied Ecology, Biological Conservation, BioScience, Ecography, Ecological Applications, Ecology, Ecology Letters, Functional Ecology, Hydrobiologia, Journal of Applied Ecology, Journal of Ecology, Journal of Theoretical Biology, Journal of Vegetation Science, Oecologia, Oikos, Plant Biology, PNAS, Restoration Ecology, Soil Biology and Biochemistry, Wetlands
- Reviewed proposals from NSF (Ecology and Ecosystems Panels), Israeli Science Foundation, National Geographic Foundation, Natural Sciences and Engineering Research Council of Canada, New Hampshire Sea Grants, and Sigma Delta Epsilon Graduate Women in Science Fellowship
- Book reviewer Quarterly Review of Biology
- Coordinated Organized Oral Session on “Organisms as Ecosystem Engineers: Conceptual Progress, Limitations, and Challenges” at Annual Meeting of Ecological Society of America. 2004
- Co-Organizer of Symposium on “Biodiversity and ecosystem restoration in a changing world” at Annual Meeting of Ecological Society of America 2007

- Guest Editor, Special Section of *BioScience*: The concept of organisms as ecosystem engineers: Progress, limitations and future directions 2006
- Outreach and guest lectures at North Carolina School for Science and Math 2005 – 2006
- Mentor for Howard Hughes Precollege Program in the Biological Sciences to promote laboratory experience for women and minority high school students

## Publications

1. Cardinale, B., **J.P. Wright**, M. Cadotte, I. Carroll, A. Hector, D. Srivastava, M. Loreau, J. Weis. 2007. Impacts of plant diversity on biomass production increase through time because of species complementarity. *PNAS*. **104**:18123-18128.
2. Badano, E.I., C.G. Jones, L.A. Cavieres, and **J.P. Wright**. 2006. Assessing impacts of ecosystem engineers on community organization: effects of the high-Andean cushion plant *Azorella monantha*. *Oikos*. **115**:369-385.
3. Cardinale, B., D. Srivastava, E. Duffy, **J. Wright**, A. Downing, M. Sankaranan, and C. Jouseau. 2006. Consistent effects of biodiversity on the functioning of trophic groups and ecosystems. *Nature*. **443**:989-992.
4. **Wright, J.P.** and C.G. Jones. 2006. The concept of organisms as ecosystem engineers ten years on: Progress, limitations, and challenges. *BioScience*. **56**:203-209.
5. **Wright, J.P.**, C.G. Jones, B. Boeken, M. Shachak. 2006. Predictability of ecosystem engineering effects on species richness across environmental variability and spatial scales. *Journal of Ecology* **94**: 815-824
6. **Wright, J.P.**, S. Naeem, A. Hector, C. Lehman, P. Reich, B. Schmid, and D. Tilman. 2006. Conventional functional classification schemes underestimate the relationship with ecosystem functioning. *Ecology Letters* **9**: 111-120.
7. **Wright, J.P.**, W.S.C. Gurney, and C.G. Jones. 2004. Patch dynamics in an engineered landscape. *Oikos* **105**: 336-348.
8. **Wright, J.P.** and A.S. Flecker. 2004. The role of large woody debris in maintaining fish diversity in a Venezuelan piedmont stream. *Biological Conservation* **120**: 443-451.
9. **Wright, J.P.** and C.J. Jones. 2004. Predicting effects of ecosystem engineers on patch-scale richness from primary productivity. *Ecology* **85**: 2071-2081.
10. Naeem, S. and **Wright, J.P.** 2003. Disentangling biodiversity effects on ecosystem functioning: deriving solutions to a seemingly insurmountable problem. *Ecology Letters* **6**: 567-579
11. **Wright, J.P.**, A.S. Flecker, and C.G. Jones. 2003. Local versus landscape controls on plant species richness in beaver meadows. *Ecology* **84**: 3162-3173
12. **Wright, J.P.**, C.G. Jones, and A.S. Flecker. 2002. An ecosystem engineer, the beaver, increases species richness at the landscape scale. *Oecologia* **132**:96-101.

## Book Chapters and Book Reviews

1. Wilson, W.G. and **J.P. Wright**. 2007. Environmental effects on Lotka-Volterra community theory. in Cuddington, K., J. Byers, A. Hastings, and W. Wilson eds. *Ecosystem Engineers: Plants to Protists*. Elsevier. pp 211-228
2. Naeem, S., R. Colwell, S. Díaz, J. Hughes, C. Jouseau, S. Lavorel, P. Morin, O. Petchey, **J. Wright**. 2007. Predicting the ecosystem consequences of biodiversity loss: the BioMERGE framework. In J. Canadell, Pataki, D., and Pitelka, L. eds. *Terrestrial Ecosystems in a Changing World*. Springer. pp 113-126.
3. **Wright, J.P.** 2004. The beaver: natural history of a wetlands engineer: Review. *Quarterly Review of Biology* **79**: 215
4. Ewing, H., K. Hogan, F. Keesing, H. Bugmann, A. Berkowitz, L. Gross, J. Oris, and **J. Wright**. 2003. The Role of Modeling in Undergraduate Education. in C.D. Canham, J.J. Cole, and W. K. Lauenroth eds. *Models in Ecosystem Science*. Princeton University Press. pp 413-427.

## Publications In Review and In Preparation

1. **Wright, J.P.**, A. Symstad, J.M. Bullock, K. Engelhardt, L. Jackson, E. Bernhardt. In Review. Restoring biodiversity and ecosystem function: will an integrated approach improve results? in S. Naeem, Bunker, D., Hector, A., M. Loreau and C. Perrings. eds. *The Disentangled Bank: the ecological and social implications of human modification to biodiversity*. Oxford University Press.

2. L. Jackson, Rosenstock, T., Thomas, M., Symstad, A., **Wright, J.P.** In Review. Managed ecosystems: biodiversity and ecosystem functions in landscapes modified by human use. *in* S. Naeem, Bunker, D., Hector, A., M. Loreau and C. Perrings. eds. *The Disentangled Bank: the ecological and social implications of human modification to biodiversity*. Oxford University Press.
3. **Wright, J.P.** In Review. Biodiversity scenarios resulting from changes in the population dynamics of an ecosystem engineer, the beaver. *Oikos*
4. **Wright, J.P.**, J. Fridley. In Prep. Geographic mosaic of rates of woody invasion in old fields of the Eastern U.S.: pattern, process, and latitudinal gradients. To be submitted to *American Naturalist*.
5. Bartel, R.A., N.M. Haddad, and **J.P. Wright**. In Review. Contrasting effects of ecosystem engineers on plant diversity and dynamics at local and landscape scales. *Ecology*
6. Srivastava, D., B. Cardinale, A. Downing, J. E. Duffy, C. Jouseau, M. Sankaran, **J.P. Wright**. In Review. Diversity has stronger top-down than bottom-effect effects on decomposition. *Ecology*
7. Sutton-Grier, A., **J.P. Wright**, S. Qian, and C. Richardson. In Review. Do plant traits, plant diversity, or environmental conditions regulate riparian zone nitrogen cycles? *Ecological Monographs*

### Contributed Talks – Last 5 years

- **Wright, J.P.**, J. Fridley. 2008. Fast versus slow succession in Eastern North America: why do old fields persist in the North? Oral Presentation. Annual Meeting of the Ecological Society of America
- Wang, S., M. Wallenstein, E. Bernhardt, and **J.P. Wright**. 2008. Linking structure and function: consistent shifts in denitrifying bacteria communities in polluted urban streams. Oral Presentation. Annual Meeting of the Ecological Society of America
- **Wright, J.P.**, A. Symstad, J.M. Bullock, K. Engelhardt, L. Jackson, A. Sutton-Grier, E. Bernhardt. 2007. Can 15 years of biodiversity-ecosystem functioning research contribute anything useful to restoration ecology? Symposium presentation. Annual meeting of the Ecological Society of America
- Wang, S., **J.P. Wright**, and R. J. Vilgalys. 2007. Water quality consequences of microbial diversity in wetland soils. Poster. Thinking small: microbial diversity and its role in conservation – Symposium at the American Museum of Natural History.
- **Wright, J.P.**, A.E. Sutton-Grier, and P. Magwene. 2006. Le plus ca change: Evidence that trait plasticity may alter impacts of functional diversity on ecosystem functioning in variable environments. Oral Presentation. Annual Meeting of the Ecological Society of America
- **Wright, J.P.** 2004. Linking population dynamics of ecosystem engineers, patch dynamics, and patterns of diversity at the landscape scale. Oral Presentation. Annual Meeting of the Ecological Society of America.

### Invited Talks – Last 5 years

- 2007 Invited Speaker at Department of Biology seminar series, Appalachian State University
- 2006 Invited Speaker at Department of Biology seminar series, Syracuse University
- 2006 Invited Speaker in Biology Seminar Series, New Mexico State University
- 2005. Linking population dynamics of ecosystem engineers, patch dynamics and diversity at the landscape scale. Symposium talk at International Mammalogical Congress in Sapporo Japan
- 2005. Invited speaker at Haskell Indian Nations University, Lawrence, KA
- 2005. Invited speaker at Department of Biology seminar series, University of North Carolina, Chapel Hill, NC
- 2004. Invited speaker at Department of Zoology seminar series, North Carolina State University, Raleigh, NC
- 2004. Invited speaker in University Program in Ecology series, Duke University, Durham, NC
- 2003. Invited speaker at Department of Biology seminar series, Washington State University, Pullman, WA.
- 2003. Invited speaker at Department of Biology seminar series, University of Montana, Missoula, MT.
- 2003. Invited speaker at Department of Biology seminar series, George Washington University, Washington, D.C.
- 2003. Invited speaker at Smithsonian Institute, National Zoo. Washington, D.C.

### Professional Societies

Ecological Society of America  
Society of Wetland Scientists

**Graduate Students**

Siyi (Jenny) Wang, Duke University

**Graduate Committees**

Becky Bartel, North Carolina State University (Nick Haddad, Advisor)

Gregg Bonito, Duke University (Rytas Vilgalys, Advisor)

Julie Demeester, Duke University (Dan Richter, Advisor)

Jason Jackson, Duke University (Rytas Vilgalys, Advisor)

Michael Oslan, Duke University (Curt Richardson, Advisor)

Andrew Procter, Duke University (Rob Jackson, Advisor)

Carl Salk, Duke University (Jim Clark, Advisor)

Elizabeth Suddoth, Duke University (Emily Bernhardt, Advisor)

Ariana Sutton-Grier, Duke University (Curt Richardson, Advisor)

Eileen Thorsos, Duke University (Rob Jackson, Advisor)

**Advisors****Graduate**

Alex Flecker, Department of Ecology and Evolution, Cornell University

Clive Jones, Institute of Ecosystem Studies

**Post-Doctoral**

Shahid Naeem, Department of Biology, University of Washington & Columbia University