

## Curriculum Vitae Dr. Bénédicte Bachelot

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Department of Biological Sciences

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### ACADEMIC APPOINTMENT

2017- present Rice University, Huxley fellow

2015-2017 Duke University, Postdoctoral Associate

### EDUCATIONAL BACKGROUND

2016-2017 “Preparing Future Faculty” fellow

2015-2017 Duke University, Postdoctoral fellow

2011-2015 Columbia University, PhD program: E3B

2009-2011 Michigan State University, dual Master’s program: Forestry and Ecology (EEBB)

2006-2011 AgroParisTech (formerly Institute National Agronomique Paris-Grignon)  
France’s leading post graduate engineering school for agricultural and life sciences. Master in Environmental engineering

2004-2006 Lycée Sainte Genevieve, Versailles. Preparatory classes for the national entrance exams for the selective “Grandes Ecoles” specialized in biology, mathematics, physics and chemistry

### PUBLICATIONS

1. Hogan J., Hérault B., **Bachelot B.**, Gorel A., Baraloto C., Jounieaux M. (*In review*). Understanding the recruitment response of juvenile tropical trees to logging intensity using functional traits.
2. Clark J.S., **Bachelot B.**, Dunn R.R., Gelfand A.E., Kays R., Nunes C., Rodriguez-Taylor D., Shliep E., and B. Tomasek (*In review*). Generative models forecast species loss and community reorganization with climate change.
3. **Bachelot B.**, Uriarte M., Muscarella R., Forero-Montaña J., Thompson J., McGuire K., Zimmerman J.K., Swenson N.G. and J.S. Clark (2018). Associations among arbuscular mycorrhizal fungi and tropical tree communities change with tree successional status. **Ecology**, 99:607-620.
4. **Bachelot B.**, and C. Lee (2018). Preferential carbon allocation to arbuscular mycorrhizal fungi along succession and fungal coexistence. **Ecology**, 99:372-384.

5. Taylor B., Chazdon R., **Bachelot B.**, and D. Menge (2017). Nitrogen-fixing trees inhibit growth of regenerating Costa Rican rainforests. **PNAS**, 114:8817-8822.
6. **Bachelot B.**, Uriarte M., McGuire K., Thompson J., and J.K. Zimmerman (2017). Arbuscular mycorrhizal fungal diversity and natural enemies promote coexistence of tropical tree species. **Ecology**, 98:712-720.
7. **Bachelot B.**, Uriarte M., Zimmerman J.K., Thompson J., Leff J.W., Asaii A., Koshner J., and K. McGuire (2016). Long-lasting effects of land use history on soil fungal communities in secondary tropical rain forests. **Ecological Applications**, 26:1881-1895.
8. **Bachelot B.** (2016). Sky: Canopy Openness Analyzer Package. R package version 1.0.<http://CRAN.R-project.org/package=Sky>
9. **Bachelot B.**, Uriarte M., Thompson J., and J.K. Zimmerman (2016). The advantage of living at the extremes: tree seedlings at intermediate abundance suffer greater richness of aboveground enemies and more damage in a tropical forest. *Journal of Ecology*. **Journal of Ecology**, 104:90-103.
10. Lasky, J.R., **Bachelot B.**, Muscarella R., Schwartz N., Forero-Montaña J., Nytch C.J., Swenson N.G., Thompson J., Zimmerman J.K., and M. Uriarte (2015). Ontogenetic shifts in trait-mediated mechanisms of plant community assembly. **Ecology**, 96:2157-2169.
11. **Bachelot B.**, Kobe R.K., and C. Vriesendorp (2015). Negative density-dependent mortality varies over time in a wet tropical forest advantaging rare species, common species, or no species. **Oecologia**, 179:853-861.
12. **Bachelot B.**, Uriarte M., and K. McGuire. (2015). Interactions among mutualism, competition, and predation foster species coexistence in diverse communities. **Theoretical Ecology**, 8:297-312.
13. **Bachelot B.**, and R.K. Kobe (2013). Rare species advantage? Richness of damage types due to natural enemies increases with species abundance in a wet tropical forest. **Journal of Ecology**, 101:846-856.
14. Hérault B., **Bachelot B.**, Poorter L., Rossi V., Bongers F., Chave J., Paine C.E.T., Wagner F., and C. Baraloto (2011). Functional traits predict ontogenetic growth trajectories among neotropical trees. **Journal of Ecology**, 99:1431-1440.

## PROFESSIONAL EXPERIENCE

2017-2018	Actively participate in Rice Women in Science group (Wins)
Fall 2017	Instructor for two undergraduate courses: Ecology Lab Module, and Insect Biology Lab/Lecture
Fall 2016	“Preparing Future Faculty” fellow
Fall 2014	Teaching certificate track

- Sep-Dec 2014 Lab instructor for Dr. Duncan Menge in Theoretical Ecology
- Jan-May 2014 Lab instructor for Dr. Paul Olsen, Dr. Matt Palmer, and Dr. Kevin Griffin in Environmental Biology II
- Sep-Dec 2012 Lab instructor for Dr. Maria Uriarte in Statistical Modeling
- Feb-March 2010 Completed the graduate course “Tropical biology: an ecological approach” through Organization for Tropical Studies (OTS)
- Jan-July 2009 Completed a 6-month internship with the CIRAD in French Guiana studying the growth of tropical trees: Ontogenic and competition traits-based models
- June-Nov 2008 Completed a 6-month internship at the US Forest Service (3 months at Hubbard Brook Experimental Forest and 3 at Forest Service Office in Burlington, VT). Investigating the effects of increased soil nitrogen concentration on the roots of sugar maple; also, the role of herbs in the nitrogen cycle and changes in nitrogen and N15 concentrations in beech and sugar maple seedlings
- August 2007 Worked as a researcher in genetic epidemiology at the INSERM, Paris  
Created models to estimate model parameters

### **GRANTS, FELLOWSHIPS and HONORS**

- 2018 NSF – Dynamics of Coupled Natural and Human Systems (CNH, \$1.5 millions, proposal submitted)
- 2013 Second place at the MCED young modeler award
- 2013 Sigma Xi Grants-in-Aid of research (\$900)
- 2013 Institute of Latin American Studies, summer field research grant (\$1,100)
- 2012 Institute of Latin American Studies, summer field research grant (\$1,480)
- 2012 E3B, Pre-Dissertation research travel grant (\$2,500)
- 2011 OTS research fellowship (\$1,890)
- 2011 Graduate school of Art and Sciences Faculty fellowship, Columbia University, 4 years (~ 267,000\$)
- 2010 Honorary Member, Phi Beta Delta Honor Society for International Scholars
- 2010 Organization for Tropical Studies post course grant (1,000\$)
- 2009 Second place at Michigan State University international essay contest

### **MEETINGS and TALKS**

March 2018

Invited seminar at University of Georgia, Special seminar.

February 2018

Invited seminar at University of Wyoming, Special seminar.

February 2017

Invited seminar at Cornell University, Special seminar.

January 2017

Invited seminar at Washington State University, Spring 2017 seminar series.

September 2016

Invited seminar at Rice University, Vanzant Lecture series.

June 2016

ATBC meeting.

February 2016

Invited seminar at University of North Carolina, Ecology Seminar.

November 2015

Invited seminar at Swarthmore College, Biology Department.

September 2015

Invited seminar in Population Biology at Duke University.

October 2014

Two guest lectures about the Lotka-Volterra competition model in Theoretical Ecology taught by Dr. Duncan Menge at Columbia University

August 2014

ESA meeting.

September 2011

E3B research seminar.

25th March 2011

Graduate Academic Conference at Michigan State University.

August 2010

ESA meeting. (poster)

10th August 2009

Weekly research seminar at UMR Ecofog (Kourou, French Guiana).

19th June 2008

1st Annual Undergraduate research and Outreach conference at Hubbard Brook Experimental Forest.

## **SERVICES**

Reviewer PLOS One, Ecology, Oecologia, Axios, Austral Ecology, Biotropica, Functional Ecology, Plant Ecology and Diversity

Committee Filled in Rice graduate student committee meeting when needed

Advisor Mentored Rice graduate students in their quantitative skills

## **LANGUAGES AND OTHER SKILLS**

French Native speaker

English	Fluent in written and spoken language
Spanish	Moderate writing and speaking ability
Computer skills	R, Mathematica, Matlab, PHP, language C, SAS, LaTeX