

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. Clark J., **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.
2. **Bachelot B.**, Clark J., Uriarte M., Muscarella R., Forero-Montaña J., Thompson J., McGuire K., and J.K. Zimmerman. (*Ecology –revision*). Associations among arbuscular mycorrhizal fungi and tropical tree communities change with tree successional status.
3. Taylor B., Chazdon R., **Bachelot B.**, and D. Menge (PNAS - *In press*). Nitrogen-fixing trees inhibit growth of regenerating Costa Rican rainforests.
4. **Bachelot B.**, and C. Lee (*Ecology – minor revision*). Preferential carbon allocation to arbuscular mycorrhizal fungi along succession and fungal coexistence.
5. **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*

6. **Bachelot B.**, Uriarte M., Zimmerman J.K., Thompson J., Leff J.W., Asiain 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*.
7. **Bachelot B.** (2016). Sky: Canopy Openness Analyzer Package. R package version 1.0.<http://CRAN.R-project.org/package=Sky>
8. **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.
9. 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.
10. **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.
11. **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.
12. **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.
13. Hauralt 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

Fall 2017	Instructor for two undergraduate courses: Ecology Lab Module, and Insect Biology
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: Ontogenetic 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**

- 2017 OTS Emerging Challenges Workshop (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**

February 2017

Cornell University, Special seminar: “Competition, predation, and mutualism: A recipe for coexistence”

January 2017

Washington State University, Spring 2017 seminar series: “Competition, predation, and mutualism: A recipe for coexistence”

September 2016

Rice University, Vanzant Lecture series: “Competition, predation, and mutualism: A recipe for coexistence”

June 2016

ATBC meeting: “Preferential carbon allocation to arbuscular mycorrhizal fungi and fungal coexistence in tropical rainforests”

February 2016

Invited seminar at University of North Carolina, Ecology Seminar: “Coexistence: a subtle balance among competition, predation, and mutualism”

November 2015

Invited seminar at Swarthmore College, Biology Department: “Coexistence: a subtle balance among competition, predation, and mutualism”

September 2015

Invited seminar in Population Biology at Duke University “Natural enemies and arbuscular mycorrhizal fungi; the perfect mixture for high tropical tree diversity?”

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: “Fluctuating positive and negative feedbacks can foster plant species coexistence in diverse communities”

September 2011

E3B research seminar: “Being a rare tropical seedling; an advantage and a disadvantage”

25th March 2011

Graduate Academic Conference at Michigan State University: “The Maintenance of Rare Tropical Tree Species and Negative Density Dependence”

August 2010

Ecological Society of America (ESA) meeting. Poster presented at the late breaking session “Are natural enemies of common tropical tree seedlings more diverse than natural enemies of rare tropical tree seedlings?”

10th August 2009

Weekly research seminar at UMR Ecofog (Kourou, French Guiana) “Croissance des arbres en forêt tropicale humide: effet de la biodiversité du voisinage”.

19th June 2008

1st Annual Undergraduate research and Outreach conference at Hubbard Brook Experimental Forest. “Sugar maple response to base cation depletion on a northern hardwood forest”

## **SERVICES**

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

## **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

