

# VANESSA K. S. BOUKILI

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## EDUCATION

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**Doctor of Philosophy (Ph.D.), Ecology and Evolutionary Biology** 2013

**University of Connecticut, Storrs, CT**

Primary Advisor: Robin L. Chazdon

Dissertation title: "A Functional Trait Approach to Understanding Natural Regeneration and Restoration of Neotropical Forests"

**Bachelor of Arts in Integrative Biology** 2003

**University of California, Berkeley, CA**

Minor in Spanish

**Universidad de Alcalá, Alcalá de Henares, Spain** 2000–2001

University of California, Berkeley Education Abroad Program (1 year)

## PUBLICATIONS

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Plourde, B., **V. Boukili**, R. Chazdon. 2013. Wood specific gravity of tropical trees: inter- and intra-specific variation during secondary succession. *Submitted for publication*.

Lasky, J.R., M. Uriarte, **V. Boukili**, R.L. Chazdon. 2013. Trait-mediated assembly processes predict successional changes in community diversity of tropical forests. *Submitted for publication*.

Norden, N., S. G. Letcher, **V. Boukili**, N. G. Swenson, R. Chazdon. 2012. Demographic drivers of successional changes in phylogenetic structure across life-history stages in tropical plant communities. **Ecology** 93(8) Supplement: S70-S82.

Chazdon, R.L., B. Finegan, R.S. Capers, B. Salgado-Negret, F. Casanoves, **V. Boukili**, N. Norden. 2009. Composition and Dynamics of Functional Groups of Trees During Tropical Forest Succession in Northeastern Costa Rica. **Biotropica** 42(1): 31-40.

Ewing, H.A., K.C. Weathers, T.E. Dawson, M.K. Firestone, P. Templer, A. Elliot, **V.K.S. Boukili**. 2009. Fog Water and Ecosystem Function: Heterogeneity in a California Redwood Forest. **Ecosystems** 12(3): 417-433.

**Boukili, V.K.S.**, M. F. Hoopes, C.J. Briggs. 2007. Effect of Microenvironment on a Gall Midge. **Environmental Entomology** 36(2): 441 – 450.

**Schmidt, V. K.** 2003. Dominance interactions at bird feeders. **Berkeley Scientific Journal** 7(1).

## PUBLICATIONS IN PROGRESS

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**Boukili, V.**, R.L. Chazdon, C. J. Peterson. Deterministic changes in species and leaf functional trait composition during early tropical pre-montane succession. (Dissertation Ch. 1) *In prep.*

**Boukili, V.**, N. Norden, R.L. Chazdon. Changes in functional trait composition of canopy trees and palms along a wet tropical forest successional gradient. (Dissertation Ch. 2) *In preparation.*

**Boukili, V.**, R.L. Chazdon. Taxonomic and functional beta diversity of canopy trees and palms along a wet tropical forest successional gradient. (Dissertation Ch. 3) *In preparation.*

**Boukili, V.**, R.L. Chazdon, J. Volin. Using leaf functional traits to refine ecological restoration techniques in a tropical wet forest region. (Dissertation Ch. 4) *In preparation.*

Lasky, J.R., M. Uriarte, **V. Boukili**, D.L. Erickson, W.J. Kress, R.L. Chazdon. Biodiversity-ecosystem function relationships change across succession in a tropical forest. *In preparation.*

Contreras, D., **V. Boukili**, R. Chazdon. Intraspecific variability in leaf functional traits is associated with the ecological breadth of tropical species. *In preparation.*

## FELLOWSHIPS, GRANTS, AND HONORS

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**Outstanding Scholar Fellowship**, University of Connecticut Graduate School      2007–2013  
Half-time graduate assistantship support

**National Science Foundation Doctoral Dissertation Improvement Grant**      2011–2012  
Functional trait diversity and community assembly of trees and seedlings during tropical forest succession (\$14,909)

**Organization for Tropical Studies Fellowship**      2011  
Using plant functional traits to refine restoration techniques: a seedling transplant experiment (\$3,650)

**Doctoral Dissertation Fellowship, University of Connecticut**      2011  
The role of plant functional traits in the community assembly of regenerating tropical wet forests (\$2,000)

**Garden Club of America Award in Tropical Botany**      2010  
Processes of community assembly in naturally regenerating tropical forests (\$5,500)

**Center for Environmental Sciences and Engineering**, University of Connecticut      2010  
Processes of community assembly in tropical forests; implications for refining restoration techniques (\$8,000)

- National Science Foundation Graduate Research Fellowship** 2009–2012  
The role of plant functional traits in regenerating tropical forest community assembly (\$30,000/year)
- American Philosophical Society; Lewis and Clark Fund** 2009  
Using plant functional traits to understand patterns of community assembly in naturally regenerating rain forests (\$2,400)
- Organization for Tropical Studies Fellowship** 2009  
The role of plant functional traits in rain forest natural regeneration (\$4,876)
- Ronald Bamford Endowment Fund, University of Connecticut** 2008–2009  
Using plant functional traits to understand patterns of community assembly in naturally regenerating rain forests (\$1,830)
- National Science Foundation Graduate Research Fellowship Program** 2008  
Plant functional traits in regenerating tropical rain forests (*Honorable Mention*)
- Las Cruces Restoration Workshop Research Grant** 2008  
Can plant functional traits explain species composition in tropical secondary forests? (\$2,500)
- Organization for Tropical Studies, post-course research grant** 2008  
Functional traits and phylogenetic relatedness in secondary and mature forests at La Selva Biological Station (\$1,000)
- Tropical Forest Restoration and Conservation Workshop Fellowship** 2008  
Las Cruces Biological Station, Costa Rica (Room, board, airfare)
- National Science Foundation Graduate Research Fellowship Program** 2007  
Role of herbivory and environmental conditions on community composition of old-growth and anthropogenically disturbed secondary forests (*Honorable Mention*)
- Biology Fellows Program & Gompertz Grant, University of California, Berkeley** 2003  
Undergraduate independent research project funding (\$6,000)

## RESEARCH EXPERIENCE

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- National Science Foundation Graduate Research Fellow** 2009–2012  
*University of Connecticut, Storrs*  
Dissertation research on community assembly processes during natural forest regeneration, tropical forest restoration, and plant functional traits  
Project management, functional trait methodology, field sampling, REU mentor, statistical analysis and graphing techniques using *R*, personnel training (7 undergraduates and 6 Costa Rican employees)

**Research Associate/ Lab Manager; Todd Dawson Lab** (Plant Ecophysiology) 2003–2007

*University of California, Berkeley*

Project management, field and lab training in ecophysiology and ecosystem ecology (stable isotope analysis, cryogenic water extraction, decomposition, throughfall and lysimeter collections), lab maintenance, equipment purchasing, hiring and training of undergraduate research assistants, redwood tree climbing and sampling, greenhouse maintenance, programming and troubleshooting Campbell Scientific dataloggers

**Field Assistant; Wayne Sousa Lab** (Community Ecology) 2006

*University of California, Berkeley (Field-work at the Smithsonian Marine Galeta Lab, Panama)*

Field sampling in mangrove forests

**Research Assistant; Todd Dawson Lab** (Plant Ecophysiology) 2002–2003

*University of California, Berkeley*

Sap-flow probe construction and deployment, ecophysiological measurements (Scholander Pressure chamber, LiCor 6400)

**Research Assistant; Cheryl Briggs Lab** (Population Ecology) 2001-2003

*University of California, Berkeley*

Field sampling, experimental design, microscopic processing, data entry

## **TEACHING EXPERIENCE**

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**Graduate Teaching Assistant, University of Connecticut** 2007–2013

General Ecology (Fall 2012, Spring 2013)

Introductory Biology for non-majors (Spring 2009, Fall 2007)

Methods of Ecology (Fall 2008)

Conservation Biology (Spring 2008)

## **STUDENT MENTORSHIP**

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**Frank Cervo** (University of Connecticut undergraduate) 2012–2013

*Independent Research Project/ Honor's Thesis:* Sapling functional traits of successional generalists and specialists in tropical wet forests

**Dori Thompson** (current University of California, Berkeley graduate student) 2011–2012

Research Experience for Undergraduates, La Selva Biological Station, Costa Rica

*Independent Project:* Intraspecific variability in functional traits of tropical trees: a determinant of ecological breadth

**Undergraduate Field and Laboratory Assistants (UConn and Costa Rica)** 2008–2011

Hoi-Fei Mok, Taylor Harvey, Kara Feilich, Frank Cervo, Michaela Girolamo, Amanda Harris, Karin Tse

## PRESENTATIONS

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- Boukili, V.K.S.**, N. Norden, R. Chazdon. Community assembly in naturally regenerating wet tropical forests. 2013 Ecological Society of America Meeting, *Minneapolis, MN*
- Lasky, J.R., M. Uriarte, **V.K.S. Boukili**, D.L. Erickson, W.J. Kress, R.L. Chazdon. The relationship between phylogenetic diversity, trait diversity, and temporal biomass dynamics in tropical successional forests. 2013 Ecological Society of America Meeting, *Minneapolis, MN*
- Cervo, F.G., **V. Boukili**, R.L. Chazdon. Ontogenetic and successional variation in leaf functional traits of tropical wet forest trees. 2013 Association for Tropical Biology and Conservation Meeting, *San Jose, Costa Rica*
- Contreras, D.L., **V. Boukili**, R.L. Chazdon. Intraspecific variability in leaf functional traits is associated with the ecological breadth of tropical trees. 2013 Association for Tropical Biology and Conservation Meeting, *San Jose, Costa Rica*
- Lasky, J.R., M. Uriarte, **V. Boukili**, R.L. Chazdon. Multiple effects of functional trait variation on successional forest dynamics. 2013 Association for Tropical Biology and Conservation Meeting, *San Jose, Costa Rica*
- Uriarte, M., S.G. Letcher, **V. Boukili**, R.L. Chazdon, J.R. Lasky, D.A. Clark. Which functional traits best predict climate impacts on tropical tree growth and survival? 2013 Association for Tropical Biology and Conservation Meeting, *San Jose, Costa Rica*
- Boukili, V.K.S.**, R. Chazdon, J. Volin. Using plant functional traits to refine ecological restoration techniques: A seedling transplant experiment. 2012 Student Conference of Conservation Science, *New York, NY*
- Boukili, V.K.S.**, R. Chazdon, J. Volin. 2012. Using plant functional traits to refine ecological restoration techniques: A seedling transplant experiment. 2012 Ecological Society of America Meeting, *Portland, OR*
- Boukili, V.K.S.**, R. Chazdon. Successional convergence in functional traits and species composition of trees in Costa Rican wet forests. 2012 Association for Tropical Biology and Conservation Meeting, *Bonito, Brazil*
- Boukili, V.K.S.** Refining ecological restoration techniques in the tropics. 2012 Ecology and Evolutionary Biology Graduate Student Seminar, University of Connecticut, *Storrs, CT*
- Boukili, V.K.S.** From shrubs to forests: the evolution of my research. 2011 Presentation to Honors Biology Seminar (Biology 1109), University of Connecticut, *Storrs, CT*
- Boukili, V.K.S.** Regenerating tropical forests & plant functional traits. 2010 Invited seminar speaker for Tropical Biology Seminar, Eastern Connecticut State University, *Willimantic, CT*

**Boukili, V.K.S.** Regenerating tropical forests & plant functional traits. 2009 Ecology and Evolutionary Biology Graduate Student Seminar, University of Connecticut, *Storrs, CT*

**Boukili, V.K.S.** The life of a graduate student: How did I get here and what am I doing? 2009 Presentation to Honors Biology Seminar (Biology 1109), University of Connecticut, *Storrs, CT*

**Boukili, V.K.S.,** R.L. Chazdon. Las ventajas de la regeneración natural en los bosques húmedos tropicales. 2008 Tropical Forest Restoration and Conservation Workshop, *Las Cruces Biological Station, Costa Rica* (Public Poster Presentation)

Chazdon, R.L., R.S. Capers, B. Finegan, **V. Boukili.** Prospects and challenges in assessing ecological groups of tree species during tropical forest succession. 2008 MaGrann Conference, Rutgers University, *New Brunswick, NJ*

**Boukili, V.K.S.,** M.F. Hoopes, C.J. Briggs, T.E. Dawson. Population dynamics of *Rhopalomyia californica*: further support for the Plant Vigor Hypothesis. 2008 Monday Evening Seminar, Department of Ecology and Evolutionary Biology, University of Connecticut, *Storrs, CT*

**Boukili, V.K.S.,** K.C. Weathers, H.A. Ewing, P. Templer, T.E. Dawson. Variation in coast redwood forest decomposition and productivity along an environmental gradient. 2007 Ecological Society of America Meeting, *San Jose, CA* (Poster Presentation)

## **PROFESSIONAL SERVICE & AFFILIATION**

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Peer Reviewer

*Ecology, Conservation Biology, Plant Ecology, Restoration Ecology, Biotropica, Journal of Vegetation Science*

Scientist Mentor for Planting Science ( <a href="http://www.plantingscience.org">www.plantingscience.org</a> )	2011–Present
Association for Tropical Biology and Conservation (Student Member)	2011–Present
Botanical Society of America (Student Member)	2011–Present
Ecological Society of America (Student Member)	2011–Present
Sigma Xi (Student Member)	2008–Present
The Explorer's Club (Student Member)	2009–2011
Chief Financial Officer and Graduate Student Senator, Green Grads	2009–2010
Graduate Student Senator, Ecology and Evolutionary Biology Department	2007–2009
Chief Financial Officer & Board Member, Institute for a Better Democracy in America Today	2006–2009

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## **ADDITIONAL SKILLS AND TRAINING**

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**Languages:** Fluent in written and conversational Spanish

**Computer Programs:** Microsoft Word, Excel, Powerpoint; R Statistical Programming

**Teaching Methods Seminar** 2013

Ecology and Evolutionary Biology Department, University of Connecticut, *Storrs, CT*

**Communicating Science to Non-Scientists Seminar** 2011

Ecology and Evolutionary Biology Department, University of Connecticut, *Storrs, CT*

**GIS Cyberinfrastructure Module** 2011

Ecology and Evolutionary Biology Department, University of Connecticut, *Storrs, CT*

**Tropical Plant Systematics** 2008

Organization for Tropical Studies Plant Systematics Course (OTS-9)

**Tree Climbing Rigging Course** 2005

Tree Climbing Northwest

**Campbell Scientific CR10X – LoggerNet Training Course** 2004

Campbell Scientific Programming