Ellen Stuart-Haëntjens

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EDUCATION

Virginia Commonwealth University — Richmond, VA
PhD Candidate, Integrative Life Sciences Program — Expected 2019

- Dissertation: Resilience of ecosystem carbon sequestration through disturbance, succession, and climatic change
- Fields: Global change ecology, ecosystem ecology, biogeochemistry

MS Biology — May 2014

- Thesis: Forest net primary production resistance across a gradient of disturbance

University of Richmond — Richmond, VA
BA Environmental Studies & German Studies, *cum laude* — June 2012

University of Konstanz — Konstanz, Germany
International Student Exchange Program — February-July 2011

PEER-REVIEWED RESEARCH PUBLICATIONS

Halbritter, A. H., De Boeck, H. J., Eycott, A. E., Reinsch, S., Robinson, D. A., Vicca, S, Berauer, B., Christiansen, C.T., Estiarte, M., Grünzweig, J.M., Gya, R., Hansen, K., Jentsch, A., Lee, H., Linder, S., Marshall, J., Peñuelas , J., Schmidt, I.K., **Stuart-Haëntjens, E.J.**, Wilfahrt, P., The ClimMani Working Group, and Vandvik, V. 2019. The handbook for standardised field and laboratory measurements in terrestrial climate-change experiments and observational studies (ClimEx). *Methods in Ecology and Evolution*. DOI: 10.1111/2041-210X.13331

Fahey, R.T., Atkins, J.W., Gough, C.M., Hardiman, B.S., Nave, L.E., Tallant, J., Nadelhoffer, K., Vogel, C.S., Scheuermann, C., **Stuart-Haëntjens, E.J.**, Haber, L., Fotis, A.T., Ricart, R., and Curtis, P.S. 2019. Defining a spectrum of integrative trait-based vegetation canopy structural types. *Ecology Letters*. DOI: 10.1111/ele.13388

Stuart-Haëntjens, E.J., De Boeck, H.J., Lemoine, N.P., Mänd, P., Kröel-Dulay, G., Schmidt, I.K., Jenstsch, A., Stampfli, A., Anderegg, W.R.L., Bahn, M., Kreyling, J., Wohlgemuth, T., Lloret, F., Classen, A.T., Gough, C.M., and Smith, M.D. 2018. Mean annual precipitation predicts primary production resistance and resilience to extreme drought, *Science of the Total Environment* 636: 360-366. DOI: 10.1016/j.scitotenv.2018.04.290

Fahey, R.T., **Stuart-Haëntjens, E.J.**, Gough, C.M., De La Cruz, A., Stockton, E., Vogel, C.S., and Curtis, P.S. 2016. Evaluating forest subcanopy response to moderate severity disturbance and contribution to ecosystem-level productivity and resilience, *Forest Ecology and management* 376: 135-147. DOI: 10.1016/j.foreco.2016.06.001

Stuart-Haëntjens, E.J., Fahey, R., Curtis, P.S., Vogel, C.S., and Gough, C.M. 2015. Net primary production of a temperate deciduous forest exhibits a threshold response to increasing disturbance severity, *Ecology* 96(9): 2478-2487. DOI: 10.1890/14-1810.1

PEER-REVIEWED RESEARCH PUBLICATIONS (in prep or in review)

Jeff W Atkins, J.W., Bond-Lamberty, B., Fahey, R.T., Hardiman, B.S., Haber, L.T., **Stuart-Haëntjens, E.J.**, LaRue, E., McNeil, B., Orwig, D.A., Stovall, A.E.S., Tallant, J., Walter, J.A., Gough, C.M. Multidimensional Structural Characterization is Required to Detect and Differentiate Among Moderate Disturbance Agents, *in review*

Stuart-Haëntjens, E.J., Bohrer, G., Cheng, S., Hardiman, B., Rey-Sanchez, C., Vogel, C.S., and Gough, C.M. Ecological and environmental drivers of sustained net ecosystem production in a transitioning temperate forest. In prep for *Ecosystems*

Stuart-Haëntjens, E.J., Atkins, J.W., Fahey, R.T., Fotis, A.T., Hardiman, B.S., and Gough, C.M. Effects of moderate disturbance on production and structural complexity in mid-successional and old growth forests, In prep for *Forest Ecology and Management*

Atkins, J.W., Fahey, R.T., Hardiman, B.S., Haber, L., **Stuart-Haëntjens, E.J.**, LaRue, E., McNeil, B., Orwig, D., Stovall, A., Tallant, J., and Gough, C.M. Canopy structural signatures of moderate severity disturbance. In prep for *Forest Ecology and Management*

OTHER PUBLICATIONS

Stuart-Haëntjens, E.J. Standing Up for Science Funding on Capitol Hill. *EcoTone: ESA Blog*. May 3, 2018.

Stuart-Haëntjens, E.J. How farmers in the Great Plains are changing local climate. *Massive*. April 11, 2018.

Stuart-Haëntjens, E.J. Tree-murdering fungi and insects increasingly contribute to climate change. *Massive*. May 8, 2018.

GRANTS AND TRAVEL AWARDS

Dominion Higher Education Grant, Dominion Foundation, CO-PI, 2016-2018, ($50,000)

- Funds allocated towards the planning and teaching of a new Eco-Techniques course, the established of Environment Scholars for undergraduate mentoring, and research on restored versus established wetland ecosystem functioning
- Co-PI with Drs. Christopher Gough and Scott Neubauer

Thomas F. Huff Graduate Scholarship in Integrative Life Sciences, VCU ($5,000)
Henry Allan Gleason Graduate Fellowship, University of Michigan ($1,077)
Rice Rivers Student Research Award, VCU, 2015 ($1,995)
Travel Award, ESA Science Communication and Policy Workshop, 2017 ($200)
Travel Award, INTERFACE, 2017 ($1,500)
Travel Award, AmeriFlux PI Meeting, Golden, CO, 2016 ($300)

AWARDS AND FELLOWSHIPS

Leonard A. Smock Integrative Life Sciences Scholar, VCU, 2018
Outstanding Biology PhD Student in Ecology, VCU, 2017
VCU Three-Minute Thesis Competition (3MT), 3rd Place Winner, 2017
GCA Coastal Wetlands Scholarship Finalist, Garden Club of America, 2016

ORAL PRESENTATIONS

Stuart- Haëntjens, E.J., et al. Lessons from a 15-year eddy-covariance dataset: could changing soil water content tip the temperate forest carbon balance? AGU 2019 Fall Meeting, Session B13B-06. San Francisco, CA. December 9, 2019.

Stuart- Haëntjens, E.J. and Haber, L.T. The Multiple Dimensions of Climate Science: Accessing, Communicating, Mitigating & Practicing. Virginia Outdoor Writers Association Annual Meeting, *Invited*, Charlottesville, VA, March 16, 2019.

Stuart-Haëntjens, E.J. Ecosystem resilience to precipitation extremes. Jackson School of Geosciences at the University of Texas, Water, Climate & Environment Seminar, *Invited*, October 12, 2018.

Stuart-Haëntjens, E.J., et al. Divergent patterns of primary production resistenace and resilience to extreme drought across a global precipitation gradient. ESA Annual Meeting, COS-81, New Orleans, LA, August 8, 2018.

Stuart-Haëntjens, E.J., et al. Primary production resistance and resilience to extreme drought across a global precipitation gradient. Dynamics of Forest Growth and Resource Use Symposium, *Invited*, Charlottesville, VA, February 23, 2018.

Stuart-Haëntjens, E.J., et al. Global patterns in the resistance and resilience of primary production following extreme drought. Integrative Life Sciences Showcase, Richmond, VA, February 8, 2018.

Stuart-Haëntjens, E.J., et al. Using below-canopy lidar to evaluate canopy structure-production relationships in a late successional forest undergoing moderate press disturbance. ESA Annual Meeting 2017, OOS2-6, Portland, OR, August 6, 2017.

Stuart-Haëntjens, E.J. Challenging long-held ecological theory: how forest age and development affect carbon sequestration. University of Antwerp's Plant&Vegetation Ecology-Global Change Ecology Seminar, *Invited*, March 10, 2017.

Stuart-Haëntjens, E.J. Terrestrial resistance and resilience to extreme events: a cross ecosystem comparison. ClimMani Common metrics and common protocols for improving inter-site comparison. Finse, Norway, *Invited*, March 8, 2017.

Stuart-Haëntjens, E.J., et al. Ecological and environmental controls on decadal carbon cycling processes in a temperate deciduous forest. ILS Research Showcase, Richmond, VA, February 9, 2017.

Goodrich-Stuart, E.J. Resisting the decline: Disturbance severity and net primary production resilience of a Great Lakes forest ecosystem. UMBS Winter Meeting, Ann Arbor, MI, February 23, 2013.

Gough, C.M., Atkins, J.A., Fahey, R.T., Hardiman, B.S., Haber, L., Hickey, L., **Stuart-Haëntjens, E.J.**, Wales, S. When Does Shifting Species Diversity and Canopy Structure Matter for the Land Carbon Sink?: A Cross-Scale Analysis. AGU 2018 Fall Meeting, Washington D.C. December 11, 2018.

Gough, C.M., Bond-Lamberty, B.P., **Stuart-Haëntjens, E.J.,** Atkins, J., Haber, L., and Fahey, R.T. Carbon cycling at the tipping point: Does ecosystem structure predict resistance to disturbance? AGU 2017 Fall Meeting, New Orleans, LA, December 13, 2017.

Gough, C.M., Bohrer, G., Bond-Lamberty, B., **Stuart-Haëntjens, E.J**., Curtis, P., Nave, L.,

Atkins, J., Fahey, R., Sagara, B., Haber, L., and Hardiman, B. The surprising role of disturbance in maintaining forest carbon sequestration: Implcations for carbon science, policy and managaement. 2017 Joint Ameriflux NACP Principal Investigators Meeting, Bethesda, MD, March 29, 2017.

POSTER PRESENTATIONS

Stuart-Haëntjens, E.J., Atkins, J.W., Fahey, R.T., Fotis, A.T., Ricart, R.D., Hardiman, B.S., and Gough, C.M. Using Terrestrial LiDAR to Examine Forest Structural Complexity Following Disturbance. AGU Fall Meeting, Washington D.C., December 12, 2018.

Atkins, J.W., Fahery, R.T., **Stuart-Haëntjens, E.J.**, Turner, L., LaRue, E., McNeil, B.E., Orwig, D.A., Stovall, A.E., Tallent, J., Gough, C.M., Hardiman, B.S. Unique Canopy Structural Signatures of Moderate Disturbance Derived from Terrestrial LiDAR. AGU 2018 Fall Meeting, Washington D.C., December 10, 2018.

Stuart-Haëntjens, E.J., et al. Global resistance and resilience of primary production following extreme drought are predicted by mean annual precipitation. AGU 2017 Fall Meeting, New Orleans, LA, December 13, 2017.

Fahey, R.T., Atkins, J., Gough, C.M., Haridman, B., Haber, L., **Stuart-Haëntjens, E.J.**, Orwig, D., Campbell, J.L., Rustad, L. And Duffy, M. Effects of different types of moderate severity disturbance on forest structural complexity and ecosystem functioning: A story of ice and fire. AGU 2017 Fall Meeting, New Orleans, LA, December 15, 2017.

Stuart-Haëntjens, E.J., Neubauer, S.C., Shuart, W., and Gough, C.M. Biophysical drivers of carbon dioxide and methane fluxes in a restored tidal freshwater wetland. Rice Rivers Center Research Symposium, Charles City, Virginia, May 12, 2017.

Stuart-Haëntjens, E.J., Ricart, R.D., Fotis, A.T., Fahey, R.T., Hardiman, B., Tallant, J., Nave, L., Knadelhoffer, K., and Gough, C.M. Moderate disturbance may stimulate carbon sequestration in a late-successional forest. Joint NACP AmeriFlux Meeting 2017, Bethesda, MD, March 30, 2017.

Stuart-Haëntjens, E.J., Ricart, R.D., Fotis, A.T., Fahey, R.T., Hardiman, B., Tallant, J., and Gough, C.M. Using remote sensing technologies to quantify the effects of beech bark disease on the structure, composition, and function of a late-successional forest. AGU 2016 Fall Meeting, San Francisco, CA, December 16, 2016.

Gough, C.M., Curtis, P.S., Bohrer, G., Bond-Lamberty, B., Nadelhoffer, K., Nave, L., Fahey, R., Hardiman, B., Scheuermann, C.M., **Stuart-Haëntjens, E.J.**, and Atkins, J. Canopy complexity's role in (re)shaping carbon cycling following disturbance and with age: Do new observations support old theories? American Geophysical Union 2016 Fall Meeting, San Francisco, CA, December 16, 2016.

Stuart-Haëntjens, E.J., Neubauer, S.C., Lawrence, B., and Gough, C.M. Does wetland 'restoration' restore ecosystem function?: Greenhouse gas fluxes and carbon stocks of restored and old-growth forested wetlands. AmeriFlux PI Meeting, Golden, CO, September 22, 2016.

Stuart-Haëntjens, E.J., Cheng, S., Hardiman, B., Bohrer, G., Vogel, C.S., Curtis, P.S., and Gough, C.M. Ecological and environmental controls on decadal carbon cycling processes in a temperate deciduous forest. AmeriFlux PI Meeting, Golden, CO, September 22, 2016.

Stuart-Haëntjens, E.J., Neubauer, S.C., and Gough, C.M. Tower-based greenhouse gas fluxes in a restored tidal freshwater wetland: A shared resource for research and teaching. Rice

Rivers Center Research Symposium, Charles City, Virginia, May 12, 2016.

Stuart-Haëntjens, E.J., Curtis, P.S., Fahey, R., Vogel, C.S., and Gough, C.M. Net primary production of a temperate deciduous forest exhibits a threshold response to increasing disturbance severity. INTERFACE: After the extreme: Measuring and modeling impacts on terrestrial ecosystems when thresholds are exceeded, Florence, Italy, April 12, 2016.

Goodrich-Stuart E.J., Fahey R.T., Vogel C.S., Curtis C.S., Gough C.M. Forest Net Primary Production Across a Gradient of Moderate Disturbance. AmeriFlux Annual Principal Investigators Meeting, Potomac, MD, May 5, 2014.

Goodrich-Stuart, E.J., Fahey, R., De La Cruz, A., Gough C.M. Disturbance severity and net primary production resilience of a Great Lakes forest ecosystem. AGU 2013 Fall Meeting, San Francisco, CA, December 8, 2013.

MENTORING EXPERIENCE

Environmental Scholars Program, Director and Co-Founder June 2017-May 2018

- Research experience and career mentoring for undergraduate science majors

PINEMAP Undergraduate Fellowship Program Mentor, USDA May-September 2015

Undergraduate Student Researchers Mentored:

Catherine McGuigan, Independent Study, 2018, VCU
Sheryl Bradford, Directed Study & Environmental Scholars, 2017, VCU
Drashty Paresh Mody, Environmental Scholars, 2017, VCU
Caroline Baucom, Environmental Scholars, 2017, VCU
Raquell Wetzell, Environmental Scholars, 2017, VCU
Coridon Butts, Environmental Scholars, 2017, VCU
Brooke Goodnow, Environmental Scholars, 2017, VCU
Amanda Mazza, Environmental Scholars, 2017, VCU
Nadia Bangura, Directed Study, 2017, VCU
Marrina Nation, PINEMAP Intern, 2015, California State University Eastbay
Ashley Williams, Independent Study, 2015, VCU

TEACHING EXPERIENCE

Course Instructional Aide; Forest Ecosystems and Carbon Cyling, Spring 2018
University of Michigan Biological Station; Introductory Biology Lab 173

- Co-taught a new, 4-week intensive course focused on forest biogeochemistry and research
- Coordinated research projects and selected research sites for student projects; created and delivered lectures on forest disturbance, beech bark disease, and environmental change; wrote instructional modules for research techniques and equipment

Course Co-Instructor; Eco-techniques; VCU; Biology Capstone 491 Summer 2017

- Developed the syllabus and co-taught an ecological field techniques course that focused on advanced hands-on, experiential undergraduate training in environmental sciences and field ecology
- This course covered experimental design, and technical approaches to data collection, analysis, and visualization

Guest Lecturer; Forest Ecology; VCU; Biology 422 Fall 2017

Guest Lecturer; Water, Biology, and Chemistry; VCU; Biology 693 Fall 2016

Adjunct Faculty; VCU Biology Department; Biology 152 Spring 2015

Graduate Teaching Assistant; VCU Biology Department Fall 2012-Spring 2018

- Introductory Biology (Bio 151&152), Ecology (Bio 317), Forest Ecology (Bio 422)

Teaching scores:

Eco-Techniques (4 CR)

Summer 2017, Instructor Rating: 4.98/5.00

Ecology, Bio 317 (2 CR)

Fall 2013, Instructor Rating: 4.28/5.00 Spring 2014, Instructor Rating: 4.32/5.00

Biology, Bio 151 (1 CR)

Fall 2012, Instructor Rating: 4.15/5.00 Spring 2013. Instructor Rating: 4.25/5.00

Biology, Bio 152 (1 CR)

Fall 2017, Instructor Rating: 4.52/5.00 Spring 2015, Instructor Rating: 4.45/5.00

Spring 2018, Instructor Rating: 4.77/5.00

POLICY AND OUTREACH EXPERIENCE

Invited Speaker, Virginia Outdoor Writers Association 2019 Annual Meeting March 16, 2019

- Delivered a 45-minute presentation, alongside Lisa Turner, on accessing published sciencitifc studies, communicating science, and researching climate change

Lunch Break Science Series, Science Museum of Virginia July 4, 2018

- Delivered an hour-long lecture titled, "Trees, Carbon Storage, and Climate Change" to a public audience

Guest grammer, American Geophysical Union official Instagram May 29 – June 3, 2018

Contributing author, Massive Science November 2017-Present

- Select articles picked up by Salon Media Group

AAAS Catalyzing Advocacy for Science and Engineering Workshop March 2018

ESA Science Communication, Public Engagement, & Policy Workshop November 2017

Visiting Scientist, Richmond City and Henrico County public schools 2015-2019

- Environmental research exposure for high school students
- Supporting and understanding nature (preschool visits)

TMDL Outreach Intern, Chesapeake Bay Foundation December 2011-February 2012

- Contacted and interviewed Richmond and Petersburg City council members regarding their plans to implement the Chesapeake Bay TMDL (Total Daily Maximum Load)
- Researched and created a visual map of impaired waters within each council members' district using publicly available water quality data and ArcGIS
- Compiled a final report detailing impaired waters and plans for water quality improvement and TMDL implementation for each district of Richmond and Petersburg

SERVICE

SCIENTIFIC SOCIETIES

Session Convener/Moderator, Ecological Society of America Annual Meeting August 2018

- "Scaling up from the Smallest Actors to Global Patterns"
- INS 25, New Orleans- August 6-10, 2018

Meeting Moderator, AmeriFlux PI Meeting 2016, Golden, CO September 2016

UNIVERSITY-RELATED

Promotional Committee of Jill Reid for Associate Teaching Professor, VCU Fall 2018

Graduate Student Association Research Symposium Chair, VCU July 2017-June 2018
Annual Advanced Career Panel Panelist, University of Richmond 2016 & 2017
Graduate Student Panel Organizer, VCU October 2017

- Panel for undergraduates interested in graduate school or scientific research

Promotional and Tenure Committee of Dr. Daniel McGarvey, VCU Fall 2016

OTHER EXPERIENCE

Research Assistant; VCU Rice Rivers Center June 2015 - August 2015
Research Assistant; VCU Biology Department September 2014 - May 2015
Student Researcher; Rocky Mountain Biological Laboratory June 2010-August 2010

- Phenotypic plasticity in *Beochera stricta*

Research Assistant; University of Richmond August 2010-February 2011

- C. Wu's physiological ecology and quantitative genetics laboratory

Research Assistant; University of Richmond August 2009-May 2010

- C. Stevenson's environmental chemistry laboratory

IN THE PRESS

"VCU and the James, a love story", August 16, 2018.
"New Dominion funding helps new-generation environmental scientists", March 2017, pg. 13.
"Dominion Foundation gift helps support environmental sciences training", January 17, 2017.
"Measuring flux: New meteorological tower at the Rice Rivers Center gives researchers the big picture on environment and climate change", May 16, 2016.
"Sinks or Sources? Understanding Gas Flux in Tidal Freshwater Wetlands", interviewed for documentary made by Ronald Lopez on wetland research for Rice Rivers Center Research Symposium, May 12, 2016.