

Curriculum vitae

Postdoctoral Research Associate  
School of Forestry and Environmental Studies  
Yale University  
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**EDUCATION**

**Ph.D. Ecology**, SUNY College of Environmental Science and Forestry, May 2016.

**B.A. Environmental Studies**, University of Pittsburgh. May 2011.

**Certificate Geographical Information Systems**, University of Pittsburgh. May 2011.

**RESEARCH APPOINTMENTS**

**Postdoctoral Research Associate**, Brodersen Lab, Yale University, New Haven, CT. May 2016 – present.

**Research Assistant**, Dovciak Lab of Plant Ecology, SUNY ESF, Syracuse, NY. August 2011-May 2016.

**Research Intern**, Kruger National Park, South Africa. Organization for Tropical Studies Research Experience for Undergraduates at Duke University. Summer 2010.

**TEACHING APPOINTMENTS**

**Instructor** for several modules of a team-taught field course Ecological Monitoring and Biodiversity Assessment (EFB 202, 3 credits), Cranberry Lake Biological Station, SUNY ESF. Summer 2014 and 2015.

Taught Plant Ecology, Statistics, and Mapping and Orienteering Field Modules, and co-lead Student Research Projects during this three week field course (74 students).

**Teaching Fellow**, Graduate Assistant Colloquium on Teaching and Learning, SUNY ESF. Spring-Summer 2015.

Worked with the Assistant to the President for Outreach on organizing and conducting the annual two day orientation and training seminar for new incoming graduate assistants.

**Teaching Assistant**, Plant Ecology and Global Change (EFB 495/645), SUNY ESF. Spring 2015.

Managed blackboard course webpage and course discussion forums (in-class and online), wrote, administered, and graded exams, and held weekly office hours.  
Professor: Dr. Martin Dovciak

**Teaching Assistant**, Organismal Biology and Ecology Laboratory I (EFB 102), SUNY ESF. Fall 2014.

Taught field and indoor laboratories on biological principles of ecosystems, populations, and organisms. Two sections (1 credit hour, 43 students).  
Professor: Dr. Gregory McGee

**Teaching Assistant**, Dendrology I (EFB 336), SUNY ESF. Fall 2011.

Taught field and indoor laboratories on tree characteristics and identification (lab component of 3 credit hour course, 16 students)  
Professor: Dr. Donald Leopold

## **PUBLICATIONS**

### **Peer reviewed**

4. **Wason J**, Huggett B, and Brodersen C (2017). MicroCT imaging as a tool to study vessel endings *in situ*. *American Journal of Botany*, **In press**.
3. **Wason J**, Bevilacqua E, and Dovciak M (2017). Climates on the move: Implications of climate warming for species distributions in mountains of the northeastern United States. *Agricultural and Forest Meteorology*, 246, 272-280. DOI: 10.1016/j.agrformet.2017.05.019.
2. **Wason J**, Dovciak M, Beier C, and Battles J (2017). Tree-growth is more sensitive than species distributions to recent changes in climate and acidic deposition in the northeastern United States. *Journal of Applied Ecology*, **In press**. DOI: 10.1111/1365-2664.12899.
1. **Wason J** and Dovciak M (2017). Tree demography suggests multiple directions and drivers for species range shifts in mountains of northeastern United States. *Global Change Biology*, **In press**. DOI: 10.1111/gcb.13584.

### **Technical Reports**

Dovciak M, Friar J, Lesser M, **Wason J**, and Roberts M (2016). Evaluating deer impacts on forests of New York State. Final Report for New York State Department of Environmental Conservation.

**Wason J** (2013). Climate change impacts in high-elevation northeastern boreal forest plant communities. Final Report for Edna Bailey Sussman Award, 6 pages.

**Wason J** (2010). Riverine forest dynamics and informing Thresholds of Potential Concern along the Sabie River, Kruger National Park. Final Report for Research Internship, 19 pages.

### **SEMINARS AND PRESENTATIONS**

(\* denotes undergraduate mentee)

**Wason J**, Anstreicher K\*, Stephansky N\*, Huggett B, Brodersen C. "Hydraulic safety margins in roots, trunks, branches, and petioles of northern hardwood trees". Ecological Society of America's Annual Meeting (August 2017).

**Wason J** "Northeastern forest health in the Anthropocene: What are you trying to prove?". **Invited Seminar**. Bates College, (May 2017).

**Wason J**, Anstreicher K\*, Stephansky N\*, Huggett B, Brodersen C. "Hydraulic safety margins in roots, trunks, branches and petioles of northern hardwood trees". Northeast Regional American Society of Plant Biologists Conference, (April 2017).

**Wason J**, Anstreicher K\*, Stephansky N\*, Huggett B, Brodersen C. "New England Forests and the 2016 Drought: Hydraulic safety margins and physiological tipping points of four hardwood tree species". 33<sup>rd</sup> Annual Yale School of Forestry and Environmental Studies Research Conference, (April 2017).

**Wason J**, Anstreicher K\*, Stephansky N\*, Huggett B, Brodersen C. "Hydraulic safety margins in roots, trunks, branches and petioles of northern hardwood trees". Harvard Forest Ecology Symposium, (March 2017).

Stephansky N\*, Anstreicher K\*, **Wason J**, Brodersen C, Huggett B. "The resistance to drought in two dominant New England hardwood species". Research Experiences for Undergraduates Symposium, Council on Undergraduate Research (October 2016).

Dovciak M, **Wason J**, Lesser M, Hurst J, Frair J. "Ecological drivers of native and non-native forest plant species diversity and composition in New York State". Ecological Society of America's Annual Meeting (August 2016).

**Wason J**, Dovciak M, and Bevilacqua E. “Mountain Climates on the Move: Implications for Past and Future Vegetation Shifts in the Northeastern United States”. American Geophysical Union’s Annual Fall Meeting (December 2015).

**Wason J** and Dovciak M. “Demographic responses of tree communities relative to recent environmental change in northeastern mountain forests”. Ecological Society of America’s Annual Meeting (August 2015).

**Wason J**. “The deliberation of the Ents: Tree community response lags recent environmental change in northeastern mountain forests.” **Invited Seminar**. Utica College (March 2015).

**Wason J**. “A walk in the woods: Plant communities of northeastern mountain forests”. **Invited Seminar**. Syracuse Botanical Club (March 2015).

**Wason J** and Dovciak M. “Evidence of elevational shifts in northeastern U.S. forest tree populations”. New York Society of American Foresters Annual Meeting (January 2015).

**Wason J** and Dovciak M. “Elevational distributions of tree species: Climate, land management history, or soils?” New York Society of American Foresters Annual Meeting (January 2015).

**Wason J**, Dovciak M, Beier C, and Battles J. “Responses of tree populations to recent climatic trends in northeastern mountain forests: Thinking beyond range margins”. Ecological Society of America’s Annual Meeting (August 2014).

**Wason J**, Dovciak M, Beier C, and Battles J. “Responses of tree populations to recent climatic trends in northeastern mountain forests: Thinking beyond range margins”. ESF Spotlight on Student Research and Outreach (April 2014).

Busman A\*, **Wason J**, and Dovciak M. “Recent convergence of red spruce (*Picea rubens*) growth rates at high and low elevations on Whiteface Mtn., New York”. Adirondack Research Consortium 20th Annual Conference (May 2013).

**Wason J**, Kruger L, and Grant R. “Riverine forest dynamics and informing Thresholds of Potential Concern along the Sabie River, Kruger National Park”. South African National Parks Meeting on Elephant Impacts in Kruger National Park (July 2010).

## **MENTORING**

Ecological Society of America **SEEDs Meeting Mentor**, August 2017.

## JAY W. WASON

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Katherine Anstreicher and Nathan Stephansky, **Harvard Forest Research Experience for Undergraduates**. Summer 2016.

Adam Busman, **NSF-UMEB Scholar and an Undergraduate Intern**. Fall 2012 – Fall 2013.  
“Forest dynamics and growth-rates of red spruce along elevation gradients on Whiteface Mountain relative to regional climate change”.

### PROFESSIONAL SERVICE

**Graduate Student Representative on Faculty Search Committee**, SUNY ESF Department of Environmental and Forest Biology, December 2015 – April 2016.

**Department Representative**, SUNY ESF Graduate Student Association, April 2014 – April 2015.

Co-representative for graduate students in the Department of Environmental and Forest Biology. Grants and Awards committee member. Coordinator of Graduate Student Travel Grants.

**Graduate student mentor**, Ecological Society of America’s Plant Population Ecology Section, September 2015 – present.

**Reviewer** for *Plant Ecology*, *Applied Vegetation Science*, *Journal of Vegetation Science*, *International Journal of Climatology*, *Forest Science*, *Biodiversity and Conservation*, *Northeastern Naturalist*, and *Restoration Ecology*.

**Invited Grant Review Committee Member**, SUNY ESF Graduate Student Association Research Grants, Fall 2013 and Spring 2014.

**Invited panelist**, Core Course for Graduate Students (EFB 797), SUNY ESF. October 2013 and September 2015.

**Judge**, Environmental Challenge 2013, 7<sup>th</sup> and 8<sup>th</sup> Grade Science Fair, Syracuse University. Syracuse, NY.

### PROFESSIONAL ASSOCIATIONS

Ecological Society of America  
American Geophysical Union  
New York Flora Association  
University of Pittsburgh Alumni Association

### GRANT PROPOSALS FUNDED

**Edna Bailey Sussman Foundation.** \$6,370. May – August 2013. “Climate change impacts in high-elevation northeastern boreal forest plant communities”.

## **OTHER AWARDS AND HONORS**

Best Poster Award, 33<sup>rd</sup> Yale School of Forestry and Environmental Studies Research Conference. April 2017.

Plant Population Ecology Student Travel Award. \$200. August 2015.

SUNY ESF Graduate Student Association Travel Grant. \$250. August 2015.

Josiah L. Lowe-Hugh Wilcox Graduate Scholarship. \$1,505. May 2015.

Ecological Society of America, Student Section Real Brown Travel Award. \$300. August 2014.

SUNY ESF Graduate Student Association Travel Grant. \$250. August 2014.

SUNY ESF Graduate Student Travel Grant. \$400. August 2014.

Randolph G. Pack Environmental Institute Graduate Student Travel Grant. \$250. May 2013.

Edwin H. Ketchledge Scholarship. \$800. May 2012.

## **INTERNATIONAL EXPERIENCE**

**Semester abroad: South Africa**, Organization for Tropical Studies, Duke University. Spring 2010.

Studied ecology, ecological field methods, and biological conservation

## **TEACHING AND PROFESSIONAL DEVELOPMENT**

**Certificate of College Teaching Preparation**, Center for Teaching and Learning, Yale University. Spring 2017 - present.

Training program for college teaching theory and practice.

**Ouch! That Stereotype Hurts**, Diversity Workshop, Yale University. March 2017.

Dealing with disrespectful behavior and building healthy work environments (2 hours).

**Scientific Writing Course**, Yale University. October - December 2016.

Principles and techniques for effective scientific writing (16 hours).

**Writing and Designing NSF Proposals Workshop**, Columbia University. March 2016.

Strategies for developing successful NSF grant proposals (8 hours).

**Embedding Research in Undergraduate Classes across the Geoscience Curriculum**

**Workshop**, American Geophysical Union Fall Meeting. December 2015.

Developed strategies to incorporate research into classes (2.5 hours).

**Beginner Blackboard Seminar**, SUNY ESF. Spring 2015.  
Blackboard course administration seminar (1 hour).

**Annual Colloquium on Teaching and Learning**, SUNY ESF. Fall 2011.  
Strategies for teaching success. (2 days).

## **OUTREACH**

**3D printed models for teaching plant xylem anatomy**, Yale University. 2016 and 2017.  
Produced a series of 3D models and information sheets for teaching plant anatomy that are part of a free online data portal (linked from my webpage).

Participant, **Onondaga Lake Bioblitz**, SUNY ESF. Fall 2014.  
Identified plants and mentored undergraduate students as part of 24-hour biodiversity assessment of Onondaga Lake.

## **SKILLS**

### **Software**

Spatial: ArcGIS 10 (ArcMap, ArcScene, ArcCatalog), R 2.15  
Statistics: R 2.15, Statistical Analysis Software 9.4, PC-ORD 5.0, Minitab 16  
Dendrochronology: ARSTAN, COFECHA 6.06, MeasureJ2X, CooRecorder 7.7, CDendro 7.7  
Microsoft Office Suite 2010: Word, Excel, PowerPoint, Access  
Other: Avizo 9 (3D visualization), Zotero 3.0 (references manager), Prezi (presentation editor), GNU Image Manipulation Program 2.6, Inkscape 0.48 (vector graphics editor), YNAB 4.1 (budgeting software), FIJI

### **Databases**

National Atmospheric Deposition Program's National Trends Network, PRISM gridded climate data, Forest Inventory and Analysis National Program, National Climatic Data Center (NOAA) station climate data

### **Field and laboratory**

Overstory tree sampling (e.g., Bitterlich Prisms, Point-centered-quarter)  
Understory plant sampling (e.g., quadrat, line-intercept)  
Dendrochronology: tree coring using increment borer; processing, measuring, detrending, and analyzing cores  
Plant physiology: hydraulic conductivity, water potential (pressure chamber, thermocouple psychrometers), air-seeding, Photosynthetic Gas Exchange Analyzer (LCpro+)  
High resolution X-ray micro computed tomography: scanning samples, reconstructing images, and analyzing data  
Campbell Scientific dataloggers (soil moisture probes, thermometers, rain gauge)

iButton temperature and humidity loggers

3D printing (Form Labs 1+)

Backcountry navigation (Orienteering and handheld GPS- e.g., Garmin Rino 520)

Identification of Vascular Plants of the Northeastern United States (e.g., Gleason and Cronquist 1991, Manual of Vascular Plants. 2<sup>nd</sup> edition)

Bird diversity surveys (point counts by sight and sound, familiar with birds of United States and South Africa)