Stephanie Duston
305 Cheatham Hall, Blacksburg, VA 24061
Stephad5@vt.edu

EDUCATION

Ph.D. in Forest Resources and Environmental Conservation *Expected May 2024*
Virginia Tech, Blacksburg, VA
Co-advisors: Drs. Brian Strahm and Brian Badgley

M.S. in Forest Resources and Environmental Conservation *August 2020*
Virginia Tech, Blacksburg, VA
Thesis Title: "Capturing and Characterizing Soluble Organic Matter Dynamics in Soil Formation Processes."
Advisor: Dr. Brian Strahm
GPA: 3.97

B.S. in Environmental Science and Water Quality *May 2017*
Wetland Science Minor – GPA 3.27
Virginia Tech, Blacksburg, VA

RESEARCH EXPERIENCE AND POSITIONS

Laboratory Technician and Research Associate – Dr. Brian Strahm
Virginia Tech, Blacksburg, VA *Sept 2017 to July 2018*
- Prepped and analyzed soil and plant tissue samples for nitrogen isotope studies.
- Mastered skills in chemical methods for solution preparation and wet chemistry techniques.
- Extracted solid-phase soil samples for selective dissolution analysis of Fe, Al, Mn, and Si.

Research Associate – Dr. Ryan Pollyea *Sept 2017 to Dec 2017*
Virginia Tech, Blacksburg, VA
- Created a database for injection well volumes to be used in GIS and other analyses.
- Analyzed, edited, and manipulated data from various sources to create GIS maps in ArcMap.

Undergraduate Research Assistant – Dr. Brian Badgley *Jan 2017 to Sept 2017*
Virginia Tech, Blacksburg, VA
- Prepared and managed soil and plant sample growth in greenhouse, including organization and gathering of two sample sets.
- Processed soil samples through DNA extraction, 16S PCR, gel electrophoresis, DNA cleanup, and sequencing prep.
- Analyzed soil samples for dissolved organic carbon using various lab instrumentation.
- Managed data storage, processing, and basic statistical analysis.
- Performed quantitative analysis of soil and water samples using UV/VIS and Fluorescence Spectroscopy.

Undergraduate Independent Research – Dr. Kevin McGuire *Jan 2017 to June 2017*
Virginia Tech, Blacksburg, VA

- Identified and characterized laterally and vertically developed soil sites at Hubbard Brook Experimental Forest (HBEF) to compare horizontal and vertical water movement along a steep forested hillslope.
- Collected soil cores from sample sites and analyzed them for saturated hydraulic conductivity.

NSF Research Experience for Undergraduates (REU) Program *June 2016 to Aug 2016*
Hubbard Brook Experimental Forest (HBEF) – Thornton, NH

- Developed and executed an independent research project mapping soils in a small watershed catchment.
- Collected, processed, and prepared stream water samples for shipment and chemistry testing.
- Maintained lab data and built spreadsheets for nitrification tests and data analysis.
- Described soil profiles, sampled soil, and installed wells for future monitoring projects.

HONORS AND AWARDS

- 3rd Place Individual – Society-wide Student Competition – ASA-CSSA-SSSA Meeting ($250) *2020*
- Best Paper of Session – Forest, Range, and Wildland Div. – ASA-CSSA-SSSA Meeting *2020*
- Outstanding Master's Student – Dept. Forest Resources and Environmental Conservation *2020*
- Best Paper – Session 133 Forest, Range, and Wildland Div. – ASA-CSSA-SSSA Meeting *2019*
- Robert J. Luxmoore Graduate Student Travel Award Recipient ($1500) *2019*
- Invited Participant – Graduate Student Leadership Conference – ASA-CSSA-SSSA Meeting *2019*
- 3rd Place Individual – National Collegiate Soils Contest *2017*
- 3rd Place Individual – Southeast Region Soil Judging Contest *2016*
- Virginia Soil Scientist Scholarship Recipient ($6100) *2015 – 2017*
- John R. Dawkins Scholarship Recipient ($1000) *2014 – 2015*

TEACHING AND MENTORING

Upward Bound – Keene State College, Keene, NH *2019*

Soil Judging Asst. Coach – Virginia Tech, Blacksburg, VA *2018 – 2019*

REU Mentor – Hubbard Brook Experimental Forest, Thornton, NH *2018 – 2019*

Ceramics Instructor – YMCA, Blacksburg, VA *2018 – current*

LEADERSHIP AND PROFESSIONAL SERVICE

Virginia Tech Forestry Graduate Student Association – Secretary *2019 – current*

Virginia Tech Graduate Honor System – Review panelist *2018 – current*

Virginia Tech Soil Judging Team – Secretary, Team Captain *2015 – 2017*

Advanced Research Skills Workshop – University Library at Virginia Tech *2016*

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RESEARCH PRESENTATIONS

- **Duston, S.A.** Characterizing soluble organic matter along spatial gradients of podzolization. SSSAJ Soils Meeting, 2020 November 13, Virtual. **Won Best Paper of Session - Forest, Range, and Wildland Division.**
- **Duston, S.A.** Quantifying dissolved organic matter flux along hydrologic flow paths using ion exchange and passive sampling. SSSAJ Soils Meeting, 2019 November 11; San Antonio, TX. **Won "Best Paper" – Session 133 Forest, Range, and Wildland Division.**
- **Duston, S.A.** Testing efficacy of ion exchange resins in sorption and desorption of dissolved organic matter for use in passive sampling. Hubbard Brook Ecosystem Study 56th Annual Cooperators' Meeting, 2019 July 10; Thornton, NH.
- **Duston, S.A.** Dissolved Organic Matter: Passive Sampling Techniques and Characterization. Poster presented at: Hubbard Brook Experimental Forest LTER Midterm Review, 2019 July 3; Thornton, NH.
- **Duston, S.A.** Dissolved Organic Carbon: Passive Sampling Techniques and Characterization. FREC Spring Seminar, 2019 April 19; Blacksburg, VA.
- **Duston, S.A.** Organic acids: influencing lateral weathering gradients. SSSAJ International Soils Meeting, 2019 January 6; San Diego, CA.
- **Duston, S.A.** Influence of organic acidity on the weathering engine of the critical zone. Hubbard Brook Ecosystem Study 55th Annual Cooperators' Meeting, 2018 July 11; Thornton, NH.
- **Duston, S.A.** Comparing lateral and vertical saturated hydraulic conductivity of podzols developed along a steep hillslope catena. Virginia Tech, 2017 May 4; Blacksburg, VA.
- **Duston, S.A.** Determination of hydropedologic units present within the Upper Cascade Brook watershed. Hubbard Brook Experimental Forest REU Symposium, 2016 August 10; Thornton, NH. (Oral presentation)

PROFESSIONAL AFFILIATIONS

Soil Science Society of America – 2018 to current
American Association for the Advancement of Science – 2020

REFERENCES

Dr. Kevin McGuire – Virginia Tech
E: Kevin.mcguire@vt.edu P: 540-231-6017

Dr. Brian Badgley – Virginia Tech
E: Badgley@vt.edu P: 540-231-9629

Dr. Scott Bailey – USDA Forest Service
E: scott.bailey@usda.gov P: 603-484-5053

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