Allyson B. Salisbury

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EDUCATION

Rutgers, the State University of New Jersey, New Brunswick, NJ

Ph.D in Environmental Science — May 2017

- Dissertation: *Photosynthetic capacity along a gradient of trace element contamination in a spontaneous urban forest community*

M.S. in Environmental Science — October 2013

- Master's Thesis: *Comparing the Conditions and Design of Stormwater Detention Basins Built Between 1970 and 2011 to Estimate Service Life*

Susquehanna University, Selinsgrove, PA — May 2008

Bachelor of Science in Earth and Environmental Science

PROFESSIONAL EXPERIENCE

The Morton Arboretum, Lisle, IL

Post-Doctoral Researcher, Tollway Project — June 2018 – Present

- Evaluated previously planted trees on the Illinois Tollway which were planted over a 30 year period to assess factors which influence survivorship and growth
- Assessed soil conditions and plant physiology in newly planted trees along the Tollway to improve tree planting and management practices in a highway environment
- Provided progress reports and research summaries to project sponsor

Biology Department, Rutgers University, Newark, NJ

Post-Doctoral Research Associate — September 2017 – May 2018

- Analyzed plant species composition collected over the course of 8 years in an abandoned industrial site to study the effects of heavy metal pollution on biodiversity
- Supervised an undergraduate research assistant conducting lab work and data entry
- Mentored undergraduate and graduate students in the lab group on issues relating to research, presentations, and career development

Research Consultant

I-95 Bioretention Basin Ecophysiology Project — May 2017 – October 2017

Client: Temple University

- Assessed plant response to water and pollutant stress using photosynthesis gas exchange and fluorescence techniques in stormwater bioretention basins
- Organized and prepared photosynthesis data for further analysis

Urban Biodiversity Database Development and Literature Review — July 2017 – August 2017

Client: Rutgers University and Urban Biodiversity Network (UrBioNet)

- Developed a plan to create a database repository for urban biodiversity research
- Conducted a literature review of urban biodiversity studies

Delaware River Basin Land Use/Land Cover Analysis — April 2017 – May 2017

Client: Rutgers University and Center for Watershed Protection

- Compiled and synthesized land use, land cover, and public access data for the Delaware River Basin to identify target sites and sub-basins for future in depth water quality analysis

Urban and Community Forestry Group, Rutgers University, New Brunswick, NJ
Research Assistant April 2017 – August 2017

- Coordinated and led a team of students to collect allometry and physiology data on a 20-year old study of street trees growing in structural soil in Brooklyn, New York
- Analyzed data to test effects of structural soil on tree growth and condition

Research Assistant, Ph.D. Candidate Jan. 2014 – April 2017

- Led a study about the ability of an urban forest growing on polluted soil to store carbon and prevent the movement of pollution off site
- Collected and analyzed data on photosynthetic rates, tree growth, and soil properties
- Taught undergraduate students how to use various research equipment, create sampling plans, and analyze data

Research Assistant. M.S. Candidate June 2013 – Sept. 2013

- Conducted a study of tree health in stormwater detention basins in Central NJ

NJ State Forestry Services, NJ Department of Environmental Protection, Trenton, NJ
Community Forestry Intern Oct. 2013 – Apr. 2014

- Coordinated the distribution of 100,000+ tree seedlings as part of the NJ Tree Recovery Campaign, a joint program with the National Arbor Day Foundation
- Reviewed Community Forestry Management Plans written by NJ municipalities
- Created educational material on community forestry topics

Douglass Project for Women in Math, Science & Engineering, Rutgers, New Brunswick, NJ
Environmental Living Learning Community Graduate Mentor Sept. 2015 – May 2016

- Planned environmental themed activities for student in Living Learning Community, including field trips, documentary screenings, and educational games at other residence hall events
- Advised students on choosing courses, majors, research, and extracurricular activities

Environmental Science Graduate Mentor Sept. 2011 – May 2013

- Advised the Douglass Sustainability Committee, a student group, by mentoring students, planning events, and soliciting speakers for meetings
- Coordinated a Sustainability Symposium featuring two panels of professors and graduate students discussing careers in the environmental science field and sustainable agriculture
- Partnered with other graduate mentors to develop and provide educational events about choosing a major and related topics for residents of an all women science residence hall

Passaic River Coalition, Morristown, NJ
Environmental Specialist Sept. 2008 – Aug. 2010 (FT), Sept. 2010 – Aug. 2013 (PT)

- Wrote an Action Plan for the Water Resources Protection Report for Greenwood Lake
- Created maps using GIS for Land Trust properties and other projects
- Updated Natural Resource Inventories and Open Space Master Plans for several municipalities
- Wrote content for quarterly membership newsletter
- Obtained grant funding to preserve undeveloped properties as open space

Douglass Science Institute, Rutgers University, New Brunswick, NJ
Class Instructor July 2011, July 2012

- Designed and taught hands-on environmental science classes at a summer science camp for high school girls

PUBLICATIONS

Salisbury, A.B., M. Midgley, C. Rollinson, G. Watson, C. Cannon, J. Miesbauer. "Tree selection, planting, and maintenance to improve tree health and benefits along highways." *Urban Forestry & Urban Greening*. In review.

Salisbury, A.B., J. Grabosky. "Leaf gas exchange and foliar macronutrients vary in *Quercus bicolor* but not *Quercus phellos* between a designed soil pavement system and open lawn." *Urban Forestry & Urban Greening*. In press.

Knapp, S., M. Aronson, … **A.B. Salisbury**, *et al*. "A research agenda for urban ecology under global biodiversity loss." *Bioscience*. In review.

Salisbury, A.B., F. Gallagher, H.A. Parag, L. Meneses-Florián, and C. Holzapfel. "Plant diversity increases in an urban wildland after four decades of unaided vegetation development in a post-industrial site." *Urban Ecosystems*. https://doi.org/10.1007/s11252-020-01018-x

Salisbury, A.B., F. Gallagher, J. Caplan, and J. Grabosky (2017). "Photosynthetic capacity of field grown *Betula populifolia* in metal contaminated anthropogenic soils." *Science of the Total Environment*. 625:1615-1627.

Salisbury, A.B., J. Reinfelder, F. Gallagher, and J. Grabosky (2017). "Long term stability of trace element concentration in a spontaneously-vegetated urban brownfield." *Soil Science*. 182(2).

Salisbury, A.B. and C. Obropta (2016). "Potential for Existing Detention Basins to Comply with Updated Stormwater Rules: Case Study." *Journal of Hydrologic Engineering*. 21(1).

RESEARCH PRESENTATIONS (2017-2020)

"Tracking transplant shock recovery between small and large stock size trees planted in amended highway soils." Ecological Society of America Annual Meeting, Virtual Conference. Aug 2020

"Twenty Years of Tree Growth in a Designed Sidewalk Soil System." Shanghai Municipal Landscape Management and Instructional Station, Shanghai, China. Nov 2019

"Planted tree diversity decreases over time in highway right-of-ways." (Poster) Ecological Society of America Annual Meeting, Louisville, KY. Aug 2019

"I-355 Highway Tree Research Projects: An overview of research projects from the Morton Arboretum and Illinois Tollway Authority Collaboration" Chicago Region Trees Initiative Transportation 'N Trees Workshop, Schaumburg, IL. Feb 2019.

"Tracking urban tree growth comparing paved and non-paved root zone treatments in a working streetscape over time." The Landscape Belowground IV Conference, Lisle, IL. Oct 2018

"Changes in plant community composition and diversity in response to metal contaminated soil." Ecological Society of America Annual Meeting, New Orleans, LA. Aug. 2018.

"Photosynthetic responses of mature *Betula populifolia* trees growing in trace element contaminated anthropogenic soil." Ecological Society of America Annual Meeting, Portland, OR. Aug 2017

CONTINUING EDUCATION AND ADULT LEARNING PRESENTATIONS

Tree Root Biology in the Built Environment

- New Jersey Shade Tree Federation Annual Meeting, Webinar, Oct 2020
- Midwest Tree and Shrub Conference, Webinar, Sept 2020
- Roots and Hardscape Workshop. Ohio Independent Arborists Association. Oct 2019

Don't Put Your Trees on the Highway to Hell: Best Practices for Growing Roadside Trees

- Urban Tree Conference, University of Illinois, Webinar, Jan 2021
- Chicago Region Trees Initiative Tree Stewardship and Planting Work Group Telenetwork, Webinar, Jul 2020

Urban Soils and Trees

- Chicago Wilderness Virtual Congress, Webinar, May 2020
- Urban Soil Regeneration Conference, Feb 2020
- Openlands Tree Stewards Intern Training, The Morton Arboretum. May 2019

The Wild Lives of Houseplants

- Scotch Plains Fanwood College Club, Webinar, Oct 2020
- The Morton Arboretum, Webinar, May 2020; In person, Feb 2020

TECHNICAL SKILLS

MS Office (Word, Excel, Powerpoint, Access); ArcGIS; R statistics; Adobe Creative Suite; HydroCAD; operation of LICOR 6400 and 6800 portable photosynthesis system; analysis of soil chemical, physical, and biological properties