

Michelle Norinne Catania
Soil Ecology Research Assistant II
The Morton Arboretum, Lisle, IL
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Curriculum vitae

EDUCATION

MS in Geography, Northern Illinois University DeKalb, IL
Advisor: Dr. Lesley Rigg May 2008

- Natural environmental systems, forest ecology, plant physiology, & soil science

Thesis Title: Exploration of chlorophyll fluorescence for *Acer saccharum* Marsh. seedlings and saplings growing along their northern range limit and at a mid-range site in North America.

BS in Biological Sciences, Northern Illinois University DeKalb, IL
May 2004

- Plant science and geology focused courses

PROFESSIONAL EXPERIENCE

Research Assistant I, December 2009 – January 2016

Research Assistant II, January 2016 - Present

The Morton Arboretum Soil Science Laboratory
4100 Illinois Route 53, Lisle, IL 60532

- Plan & manage laboratory/field projects, and manage volunteers, interns & students
- Soil Science Lab under the direction of Dr. Bryant Scharenbroch (2009-2015)
- Soil Ecology Lab under the direction of Dr. Meghan Midgely (2015 – present)

Field Research Assistant, May 2009 – September 2009

Northern Illinois University, DeKalb, IL
Department of Biological Sciences

- Assisted in the reintroduction of amphibians in the restored flatwood wetlands at MacArthur Woods Forest Preserve, Lake County, Illinois.

Wetland Planting Internship, May - July 2006

V3 Company, Natural Resource Division
7325 Janes Avenue, Woodridge, IL 60517

- Rebuilt wetlands with native plants for erosion control, mitigation credits and wildlife diversity.

Graduate Student Thesis Research, 2005 - 2006

Lake Superior Provincial Park, Ontario, Canada
Blackberry Maples Forest Preserve, Kane County, Illinois

- Collected, analyzed and reported data on sugar maples' response to light stress

Aquatic & Native Plant Specialist/Office Generalist, April 2000 – September 2011

Lurvey Landscape Supply and Garden Center
2550 E. Dempster Street, Des Plaines, IL 60018

TEACHING EXPERIENCE

The Morton Arboretum, Lisle, IL, ACCA Programs

Introduction to Soil Science for The Morton Arboretum ACCA Program, Spring 2019

- Taught lecture and lab for college level course
- Developed agriculture-based lab project synthesized into a non-technical report

Northern Illinois University, DeKalb, IL, Department of Geography

Introduction to Physical Geography laboratory- GEOG102

- Served as Coordinator of teaching assistants, Fall 2006
- Taught laboratory class: Spring 2005, Fall 2005, Spring 2006 & Fall 2006

Introduction to Maps and Map Making- GEOG256S

- Served as Coordinator of teaching assistants: Spring 2005, Fall 2005, and Spring 2006
- Taught Introduction to Maps and Map Making Lab: Spring 2005, Fall 2005, and Spring 2006

PROFESSIONAL MEMBERSHIPS

Association of American Geographers (2006-2008)

Ecological Society of America (2009-2011)

Midwest Ecological Landscapers Association (2011- 2013)

International Society of Arboriculture (2012- current)

Urban Tree Growth and Longevity Working Group (2013 – current)

Illinois Arborists Association (2016 – present)

PROFESSIONAL CONFERENCE PARTICIPATION

EXTENSION PRESENTATIONS & WORKSHOPS

Northeast Municipal Foresters monthly meeting, Webinar, November **2020**

Talk Title: Building a soil quality tool kit for arboriculture applications

Chicago Wilderness Congress 2020, Webinar, May **2020**

Talk Title: *Virtual* Urban Soils Workshop

Expanding Your Horizons Chicago STEM Symposium (young girls), April **2020** - *cancelled* -

Talk Title: Urban Soils Workshop, 2 sessions

Illinois Tech Savvy STEM Career Conference (young girls), March **2020** - *cancelled* -

Talk Title: Urban Soils Workshop

Urban Soil Regeneration Conference, Naperville, IL, February **2020**

Talk Title: Introduction to Online Soil Resources and Hands-on Soils Workshop

Illinois Arborist Association Annual Conference, Tinley Park, IL, November **2019**

Talk Title: Growing Healthy Trees in the Built Environment – A Scientific Review of Expert Remediation Techniques & Engineering Solutions

Openlands Tree Stewards Intern Training, The Morton Arboretum, May **2019**

Talk Title: Introduction to Urban Soils & Remediation Techniques plus hands-on soils workshop

Minnesota Shade Tree Short Course, Bethel University, St. Paul, MN, March **2019**

Talk Title: Growing Healthy Trees in the Built Environment – A Case Study

Talk Title: The Landscape Below Ground- An Introduction to Soils

Illinois Arborist Association Summer Conference, Champaign, IL, July **2018**

Talk Title: Natural Vs. Urban Soils

Talk Title: Remediating Compacted Urban Soils

Northeast Municipal Foresters monthly meeting, Lisle, IL, May **2017**

Talk Title: Remediating Compacted Urban Soils

Minnesota Shade Tree Short Course, Bethel University, St. Paul, MN, March **2017**

Talk Title: Remediating Compacted Urban Soils

RESEARCH PRESENTATIONS

International Society of Arboriculture Annual *Virtual* Conference, November **2020**

Talk Title: Trees & Highways: Improving Planting Success Through Research

Science & Conservation Tree Talks, The Morton Arboretum, Lisle, IL March **2017**

Talk Title: Growing Healthy Trees in the Built Environment – A Scientific Review of Expert Remediation Techniques & Engineering Solutions

Science & Conservation Tree Talks, The Morton Arboretum, Lisle, IL March **2017**

Talk Title: Remediating Compacted Urban Soils

DuPage County Stormwater Management and The Conservation Foundation “lunch & learn”, Downers Grove, IL, April **2016**

Talk Title: Tree Species’ Suitability to Bioswales & Impacts on the Urban Water Budget

Urban Tree Growth Conference, The Morton Arboretum, Lisle, IL September **2011** (co-author)

Talk Title: A soil quality index for urban trees.

Association of American Geographers Annual Meeting, San Francisco, CA April **2007**

Talk Title: Physiological response of sugar maple seedlings from too much incoming solar radiation: From Ecotone to Mid-Range in North America

Midwest Ecology & Evolution Conference, Kent State University, OH March **2007**

Talk Title: Physiological response of sugar maple seedlings from too much incoming solar radiation: From Ecotone to Mid-Range in North America

PUBLICATIONS

- Scharenbroch, B.C., S. Miller, D. Carter, M. Bialecki, R. Fahey, L. Scheberl, **M. Catania**, L. Roman, N. Bassuk, R. Harper, L. Werner, A. Siewart, L. Hutyra and S. Raciti. 2015. A rapid urban site index for assessing the quality of street tree planting sites. *Urban Forestry & Urban Greening* 27:279-286
- Scharenbroch, B.C., E. Meza, **M. Catania** and K. Fite. 2013. Biochar and biosolids increase tree growth and improve soil quality for urban landscapes. *Journal of Environmental Quality* 42:1372-1385
- Scharenbroch, B.C., and **M. Catania**. 2012. Soil quality attributes as indicators of urban tree performance. *Arboricultural and Urban Forestry* 38:214-228.
- Scharenbroch, B.C., W. Treasurer, **M. Catania**, and V. Brand. 2011. Laboratory assays on effects of aerated compost tea and fertilization of biochemical properties and denitrification in a silt loam and Bt clay loam soils. *Arboricultural and Urban Forestry* 37:269-277.

SERVICES TO PROFESSION

Reviewer for **Urban Forestry & Urban Greening** and **Arboriculture & Urban Forestry**

SPECIALIZED LAB EQUIPMENT

Vario EL III CHNOS Elemental Analyzer and Software
Perkin Elmer AAnalyst 400 and Software
Synergy HT Multi-Mode Microplate Reader, Bio-Tek Instruments, Inc.

AWARDS

William Morris Davis Award for Graduate Research Support
Department of Geography, Northern Illinois University, Fall 2006

- \$500 award for field equipment

Work Studies Program

Geography Department, Biogeography Tree Ring Laboratory
Department of Geography Northern Illinois University, Spring 2003

Supervisor: Dr. Lesley Rigg

- Dendrochronology of oak/hickory woodlands of northern Illinois

Undergraduate Research Apprentice Program

Geography Department, Northern Illinois University, Fall 2003

Supervisor: Dr. Lesley Rigg

- Provided assistance with data manipulation regarding regeneration dynamics of *Araucaria laubenfelsii* growing on New Caledonia in the south Pacific.

COMPUTER SKILLS

Proficient with MS Office (Word, Excel, Powerpoint, Access); experience with ArcGIS; novice with R-statistics

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