

# MAYA P. SCOTT-RICHARDSON

Department of Pathobiology,  
University of Illinois Urbana-Champaign  
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My research and teaching interests encompass the areas of Spatial Epidemiology, Environmental Toxicology, Environmental Health, and Population Health.

## EDUCATION

Ph.D. in Pathobiology Expected December 2019

Specialization: Spatial Epidemiology

University of Illinois at Urbana-Champaign (UIUC)

Dissertation title: "The Legacy of Arsenic: Identification of Arsenic Exposure Potential and Negative Health Outcomes"

Advisor: Drs. Marilyn O'Hara Ruiz and Rebecca Smith

MS in Environmental Science May 2014

Tuskegee University

Thesis title: "Evaluation of the effects of arsenic contamination on soil enzymes activity and microbial composition"

Advisor: Drs. Ramble Ankumah and Raymon Shange

BS in Environmental Science May 2012

Option: Environmental Health

Tuskegee University

*Magna Cum Laude*

## RESEARCH EXPERIENCE

Graduate Research Assistant June 2014 - Present

University of Illinois, Urbana-Champaign

- Ph.D. Student in the Department of Pathobiology. My studies consist of exploring the risk of exposure and negative health outcomes to arsenic from a specific point source location in Florida.
- Perform and assist in research pertaining to environmental contamination and toxicology, spatial epidemiology, population health, and vector-borne diseases.
- Supervise undergraduate and veterinary student in conducting research pertaining to environmental health and spatial epidemiology.

Graduate Research Assistant August 2012 - May 2014

Research Assistant June 2010 - August 2012

Water Quality Lab, Tuskegee University

- Conducted detection and quantifications tests of soil microbes using DNA Extractions, RNA Extractions, Pyrosequencing, another bioinformatics analysis, and PCR.
- Monitoring and assessing soil/water samples and writing up findings for clients.
- Performed and supervised undergrad students' basic soil/water experiments & assessments.
- Conducted detection and quantifications tests of soil microbes using PCR and Gel Electrophoresis
- Performed experiments using soil sample collections, pH reading, DNA, enzyme assay, & protein assays.

## TEACHING EXPERIENCE

Teaching Assistant, NRES 103 – The Great Lakes at Risk Fall 2018  
Department of Natural Resources and Environmental Science, University of Illinois at Urbana-Champaign

- Facilitate 8-week online assignments and discussion sections (300 students).
- Graded assignments and weekly papers
- Proctored final exam for the course.

Teaching Assistant, PLSS 210 – General Soil Science 2012-2014  
Department of Environmental Science, Tuskegee University

- Taught the laboratory section of the Soil Science course (35 students).
- Planned lessons and experiments for Soil Science laboratory sections.
- Graded papers, class projects, and exams.
- Provided additional supplementary information and tutorials for students in need.
- Prepared lab experiments and assignments for students as well as assisted in student's learning.

Teaching Assistant, BIOL 140 & 141 – Environmental Biology (Lecture and Lab) Spring 2013  
Department of Biology, Tuskegee University

- Taught a section on soil and water pollution in Environmental Biology (50 -60 students).
- Led discussion sections and graded the environmental pollution portion of the exam.
- Organized and led laboratory section on environmental pollution and soil science.
- Prepared lab experiments and assignments for students as well as assisted in student's learning.

## SELECTED PRESENTATIONS & PAPERS

### Manuscripts

**Scott-Richardson, M.**; O'Hara Ruiz, M.; Smith, R.L. Florida Arsenic Distribution Index: Quantifying the Distribution of Past and Present Arsenic Usage. *Int. J. Environ. Res. Public Health* **2019**, *16*, 744.

### Abstracts

S. Cooks-Fagbodun, M. McHugh, M. Graham, M. Scott, H. Sleets, F. Quarcoo, W. Witola, & D.A. Alexander. 2014. Molecular identification of *Trypanosoma cruzi* in *Anasa tristis* (LB268). *The FASEB Journal*, 28(One Supplement), LB268.

Conference Paper: Shange, R, Ankumah, R., Maiga, Y., Scott, M., Egiebor, N. (2013). Assessing impacts of cyanide treatments on soil microbial community composition and structure. 98th ESA Annual Convention 2013

### Presentations

M. Scott-Richardson, M.O. Ruiz, and R.L. Smith, 2019. Examining arsenic levels from surface soil and drinking water sources and its contribution to the occurrence of low birth weight infants in Escambia and Santa Rosa counties, Florida. American Association of Geographers' Annual Meeting 2019, Washington D.C., USA

M. Scott-Richardson, M.O. Ruiz, and R.L. Smith, 2018. Identify the Contribution of Environmental Arsenic Levels to the Occurrence of Low Birth Weight Infants in Escambia and Santa Rosa Counties, Florida. GIS-Pro & CalGIS 2018, Palm Springs, CA, USA

**M. Scott** and Dr. M.O. Ruiz, 2018. Identifying the Arsenic Potential Index (API) for Escambia and Santa Rosa counties, FL. College of Veterinary Medicine's Research Day, University of Illinois Urbana-Champaign, Urbana, IL, USA

**M. Scott** and Dr. M.O. Ruiz, 2017. Exposure to Arsenic in Florida and Associated Cancer Risk: A Spatial Epidemiological Study. Sixth Annual Voss Graduate Student EXPO, College of Veterinary Medicine, University of Illinois Urbana-Champaign, Urbana, IL, USA

N. Staton, **M.Scott**, M.O. Ruiz, 2017. Does Proximity to Railroads Increase Arsenic-Related Health Risks? Summer Research Training Program at Illinois. College of Veterinary Medicine, University of Illinois at Urbana-Champaign, Urbana, IL, USA.

**M. Scott** and Dr. M.O. Ruiz, 2017. Past Use of Arsenic and Associated Health Risks: The Florida Riskscape. College of Veterinary Medicine's Research Day, University of Illinois Urbana-Champaign, Urbana, IL, USA

**M. Scott** and Dr. M.O. Ruiz, 2017. Past Use of Arsenic and Associated Health Risks: The Florida Riskscape. 2017 Global Health & Infectious Disease Conference and Trainee Oral Symposium. Washington University School of Medicine, St Louis, MO, USA

**M. Scott** and Dr. M.O. Ruiz, 2016. The Legacy of Arsenic: Past Use as a Pesticide and Associated Health Risks Today. University of Illinois Urbana-Champaign, Interdisciplinary Environmental Toxicology Conference 2016, Beckman Institute, Urbana, IL, USA

**M. Scott** and Dr. M.O. Ruiz, 2016. The Legacy of Arsenic: Past Use as a Pesticide and Associated Health Risks Today. College of Veterinary Medicine's Research Day, University of Illinois Urbana-Champaign, Urbana, IL, USA

**M. Scott** and A. Kent, 2015. Understanding potential water quality tradeoffs that may occur with the restored connection of river and floodplain systems. University of Illinois Urbana-Champaign, Interdisciplinary Environmental Toxicology Conference 2015, Beckman Institute, Urbana, IL, USA

A. Brooks, J. Brown, D. Richardson, **M. Scott**, M. Robinson, and Dr. R. Shange. 2013. Preparing Student Farm for Soil Amendments. AgriTrek/AgDiscovery Student Competition. Tuskegee, AL

**M.Scott**, R. Shange, Y. Maiga, and R.O. Ankumah. The Impact of Cyanide Treatment on Soil Microbial Community Composition and Function. 17th Biennial Association of Research Directors. Jacksonville, FL, April 6-10.

**M. Scott** and J. Labavitch. Bacterial Xylanases and Digestion of Cell Wall Xylan Polysaccharides. 2011. In: University of California- Davis NSF REU Summer Symposium. Davis, CA.

**M. Scott**, L.J. Odom, R.O. Ankumah, and R. Shange. 2010, 2011, 2012. Influences of Synthetic Peptide D4E1 on Phosphomonoesterase Activity. In: Proceedings of the 68th Annual Professional Agricultural Workers Conference 2010, USA, 17th Biennial Association of Research Directors. Atlanta, GA, April 2011, ASA Southern Regional Branch Meeting 2012. Birmingham, AL.

## **AWARDS**

Ford Foundation Dissertation Fellowship Honorable Mention (Alternate), 2019

Academic Excellence Award, University of Illinois Urbana-Champaign Graduate College, 2019

People's Choice Award, College of Veterinary Medicine's Research Day Poster Competition, University of Illinois Urbana-Champaign, Urbana, IL, 2018

Voss Honorable Mention Award, Sixth Annual Voss Graduate Student EXPO, University of Illinois, Urbana-Champaign, 2017

Second Place Voss Competition Award, Fifth Annual Voss Graduate Student EXPO, University of Illinois, Urbana-Champaign, 2016

Interdisciplinary Environmental Toxicology Scholar 2015-2018  
Service Award, University of Illinois Urbana-Champaign Graduate College, 2015  
Harry Sims Memorial Agricultural Sciences Award Recipient, 2010- 2011  
Who's Who Among Student's in American Universities and Colleges Honoree, 2010- 2011  
Annual Tuskegee University Academic Achievement Scholarship Recipient, 2008-2012

### **PROFESSIONAL ASSOCIATION MEMBERSHIPS**

- American Association of Geographers, Graduate Student Member, 2018-2019
- American Geophysical Union Graduate Student Member, 2018 - 2019
- URISA Graduate Student Member, 2018 - 2019
- American Public Health Association, 2015 - 2016
- Alpha Kappa Mu Honorary, 2011 - 2014
- Gamma Sigma Delta Honor Society in Agriculture, 2011 - 2014
- Soil and Water Conservation Society, Tuskegee University Chapter, 2011 - 2012

### **COMMITTEE MEMBERSHIP**

Department of Pathobiology, Department Head Search Committee, University of Illinois, 2017-2018  
Department of Pathobiology, Pathobiology Seminar Organization Committee, University of Illinois, 2017-2018  
Department of Agriculture and Environmental Science, Graduate Student Association, Tuskegee University, 2012-2014

### **SYNERGISTIC ACTIVITIES AND OUTREACH**

- *STEM-FEM Alliance*, University of Illinois Urbana-Champaign, 2017-2018, Student Member
- *Girls Go for It*, University of Illinois Urbana-Champaign, Stratton Elementary School, 2017-2018, Mentor/Counselor
- *US-Brazil International Summer Experience in Agricultural & Related Sciences, Rio de Janeiro, Brazil, August 2013*, Student Participant
- *Tuskegee University REU Program, 2013*, Research Co-Mentor
- *AgDiscovery, 2013*, Research Co-Mentor
- *AgriTrek, 2013*, Research Co-Mentor
- *70<sup>th</sup> Annual Professional Agricultural Workers Conference, 2012, USA*, Moderator
- *1<sup>st</sup> Annual 2iE-Tuskegee Summer School: Water, Energy, Environment, and Food Security in a Changing Climate, Ouagadougou, Burkina Faso, June 2012*, Student Participant

### **STUDENTS MENTORED/ CO-MENTORED:**

#### **High School Students (graduation year)**

Amira Brooks (2013)  
J. Brown (2013)  
Dhara Richardson (2013)  
Jacob Hartsfield (2013)

#### **Undergraduate Research Students**

Kaila Stubbs (2013)  
Bradley Burch (2014)  
Darryl Howard (2014)  
Royal James (2014)  
Shaffa Mebdscole (2014)  
Alexandria Rouse (2014)  
Jasmyne Webb (2014)  
Danielle Smith (2014)

Halle Bentley (2015)  
Rosie Long (2015)  
Taylor Nzimiro (2015)  
Bianca Davis (2016)  
Kenyetta Render (2016)  
Morgan Dean (2017)  
Joshua Jackson (2017)  
DeAndre Fuller (2017)  
Ali-Ehsan Khan (2017)  
Erin L. Holland (2020)

#### **Graduate and Professional Students**

Mawzo Shitindi (M.S. Student)  
Nicole Staton (DVM Student)