

KELSEY L. HOEGENAUER

Soil Health Institute
2803 Slater Road, Suite 115
Morrisville, NC 27560

Email: khoegenauer@soilhealthinstitute.org
Cell: (830) 708-5446

EDUCATION

- 2019 **Ph.D. (Crop, Soil, and Environmental Sciences, Soil Fertility emphasis)**
University of Arkansas, Fayetteville, AR
- Dissertation title: Using Cover Crops to Recycle Nutrients in an Arkansas No-Till Corn System
 - GPA: 4.0
- 2014 **M.S. (Plant Science)** Auburn University, Auburn, AL
- Thesis title: Conservation System Impacts on Soil Properties and Water-use Efficiency in the Southeastern U.S. Coastal Plain
 - GPA: 4.0
- 2012 **B.S. (Agronomy)** Texas A&M University, College Station, TX
- GPA: 3.96

CERTIFICATION

- 2018-Present **Associate Professional Soil Scientist**

RESEARCH EXPERIENCES

- 2019-Present **Project Scientist**, Soil Health Institute
- Collect soil samples and measurements from participating long-term research sites for analysis of chemical, physical, and biological indicators of soil health as part of the North American Project to Evaluate Soil Health Measurements
 - Coordinate with principal investigators to analyze historical data from each site for the impact of long-term management, climate, and inherent soil characteristics on soil health
- 2014-2018 **Senior Graduate Research Assistant**, University of Arkansas
- Investigated the recycling of nutrients by cover crops in a no-till corn system and under greenhouse conditions using ¹⁵N-enriched fertilizer, evaluated the mineralization of cover crop residue using aerobic laboratory incubation methods
 - Assisted fellow graduate assistants in field research that evaluated the effects of N fertilizer management on rice and corn
 - Developed and distributed a survey to producers in Arkansas about their use of and perceptions regarding cover crops

- 2012-2014 **Graduate Research Assistant**, Auburn University
- Assessed cover crop influence on soil bulk density and macroporosity with X-ray computed tomography (CT) and evaluated the influence of a sod-based rotation and strip-tillage on the water-use efficiency of peanut and cotton using ^{13}C isotope ratio analysis.
 - Assisted fellow graduate students in extracting gas samples from soil to assess the methane and carbon dioxide release from soils under a sod-based peanut and cotton rotation.
- 2011 **Lloyd Noble Scholar in Agriculture**, Samuel Roberts Noble Foundation, Ardmore, OK
- Evaluated the impacts of mowing and herbicides on blackberry control, worked with consultants to discuss soil fertility management with producers
 - Collaborated with consultants and fellow scholars to provide a comprehensive management report for a producer
- 2009-2012 **Biological Sciences Aid**, USDA-ARS, College Station, TX
- Collected data on U.S. cotton germplasm for research geneticist using DNA extraction, gel electrophoresis, and nuclear magnetic resonance
 - Assisted in field research including cross-pollination, harvesting, and processing of cotton

TEACHING EXPERIENCES

- 2018 **Instructor**, Undergraduate Crop Science Course, CSES 2103 & CSES 2101L (face-to-face lecture: 17 students and face-to-face laboratory: 16 students), Crop, Soil, and Environmental Sciences Department, University of Arkansas
- Utilized hands-on demonstrations, worksheets with example questions, and interactive lecture guides to facilitate student learning
 - Developed and coordinated weekly greenhouse experiments for crop science laboratory students in which students implemented the scientific method to investigate the chemical, physical, and biological processes that affect crop growth
- 2015-2018 **Lingle Elementary Outdoor School**, Rogers, AR
- Engaged 6th graders (approximately 60 students each year) in interactive lessons about corn growth and production, the soil ecosystem, soil health, and soil conservation
- 2017 **Instructor**, Undergraduate Crop Science Course, CSES 2103 (face-to-face lecture: 45 students), Crop, Soil, and Environmental Sciences Department, University of Arkansas
- Created and delivered interactive lectures related to biological, chemical, and physical processes that influence crop production
 - Guided a class tour of the university's research farm and developed interactive worksheets and lecture guides to engage students in learning

- 2017 **Graduate Teaching Assistant**, Undergraduate/Graduate Soil Fertility Course (face-to-face lecture and laboratory), Crop, Soil, and Environmental Sciences Department, University of Arkansas
- Presented lectures in the absence of the instructing professor and provided guidance to students during laboratory activities
- Arkansas County Soil Fertility Training**, Stuttgart, Arkansas
Jackson County Soil Fertility Training, Newport, Arkansas
- Delivered presentations about plant essential nutrients, nutrient mobility, and nutrient deficiency symptoms to extension agents and crop advisors
- 2016 **University of Arkansas Extension Soil Fertility Training**, Marianna, Arkansas
- Presented lesson about plant essential nutrients, nutrient movement in soil and plants, and nutrient deficiency symptoms to county extension agents
- 2014-2016 **Environmental and Agricultural Sustainability Tour**
- Conducted discussion and hands-on demonstrations for local high school students (approximately 100 students each year) about implications and prevention of erosion, as well as surface residue measurement in a field
- 2015 **Guest Lecturer**, Soil and Water Conservation Course, Crop, Soil and Environmental Sciences Department, University of Arkansas
- Presented lecture on cover crop management and effects of cover crops on soil quality
- 2014 **Graduate Teaching Assistant**, Undergraduate Crop Science Course (online distance education), Crop, Soil and Environmental Sciences Department, Auburn University, Auburn, AL
- Evaluated student performance on course assignments and provided timely feedback
- 2013 **Graduate Teaching Assistant**, Undergraduate and Graduate Soil Chemistry Laboratory (face-to-face and online distance education), Crop, Soil and Environmental Sciences Department, Auburn University, Auburn, AL
- Prepared materials for laboratory, presented short lectures related to laboratory topic and procedures, and evaluated student assignments and lab reports
- Cullman County Library Summer “Dig into Reading” Program**
- Facilitated demonstrations and hands-on activities about basic uses of soil for children
- Auburn University Environmental Institute’s Environmental Education Program**
- Led discussions and hands-on demonstrations for rural students emphasizing soil chemical and physical properties and the importance of soil

PUBLICATIONS

- Roberts, T., **K. Hoegenauer**, J. Ross, J. Norsworthy, T. Barber, B. Robertson, G. Lorenz, and T. Faske. 2018. Cereal rye as a winter cover crop. Univ. Ark. Div. Ag. Res. Ext. Pub. Fact Sheet FSA2182.
- Roberts, T.L., C. Ortel, **K.L. Hoegenauer**, H. Wright, and T. Durre. 2018. Understanding cover crops. Univ. Ark. Div. Ag. Res. Ext. Pub. Fact Sheet FS2156.
- Hoegenauer, K.L.**, T.L. Roberts, N.A. Slaton, W.J. Ross, C.E. Greub, and J.T. Davidson. 2016. Biomass accumulation and nitrogen uptake by rye and tillage radish cover crops in Arkansas. *In* N.A. Slaton (ed.) Wayne E. Sabbe Arkansas Soil Fertility Studies 2015. Univ. Ark. Ark. Agri. Exp. Stat. Res. Ser. 633. p. 27-29.
- Roberts, T.L., W.J. Ross, **K.L. Hoegenauer**, J. Shafer, C. Greub, S. Williamson, and C. Scott. 2017. Cover crop species and planting date influence soybean yield. *In* W.J. Ross (ed.) Arkansas Soybean Research Studies 2015. Univ. Ark. Ark. Agri. Exp. Stat. Res. Ser. 637. p. 186-188.

PRESENTATIONS

- 2017 **Hoegenauer, K.L.**, T.L. Roberts, N.A. Slaton, R.J. Norman, W.J. Ross, C.E. Greub, and J.T. Davidson. Recycling ¹⁵N Fertilizer using Cover Crops in a Corn System. ASA-SSSA-CSSA Annual Meeting, Tampa, FL.
- 2016 **Hoegenauer, K.L.** and T.L. Roberts. Recycling Nutrients Using Cover Crops. Jefferson County Cover Crop Workshop, Pine Bluff, Arkansas.
- Hoegenauer, K.L.**, T.L. Roberts, N.A. Slaton, R.J. Norman, W.J. Ross, C.E. Greub, and J.T. Davidson. Cover Crops Influence Biomass Accumulation and Macronutrient Uptake by Corn. ASA-SSSA-CSSA Annual Meeting, Phoenix, AZ.
- Hoegenauer, K.L.** and T.L. Roberts. Recycling Nutrients Using Cover Crops. Northeast Arkansas Cover Crop Workshop, Wilson, Arkansas.
- Hoegenauer, K.L.** and T.L. Roberts. Cover Crop Establishment and Management. USDA-NRCS Soil Health Workshop, Clarksville, Arkansas.
- 2015 **Hoegenauer, K. L.**, T. L. Roberts, N. A. Slaton, W. J. Ross, C. E. Greub, and J. Davidson. Recovery of ¹⁵N by Tillage Radish and Rye Cover Crops in Arkansas. Oral Presentation at the ASA, CSSA, and SSSA Annual Meeting, Minneapolis, MN.
- 2014 **Hoegenauer, K. L.**, T. L. Roberts, W. J. Ross, and N. A. Slaton. Edamame Yield Response to Late-season Nitrogen Applications. Arkansas Crop Protection Association Meeting, Fayetteville, AR.
- Hoegenauer, K. L.**, J. A. Howe, and D. Rodekahr. Impact of Cover Crops on Soil Properties and Nutrients in a Coastal Plain Soil. Poster presentation at the ASA, CSSA, and SSSA Annual Meeting, Long Beach, CA.

- 2014 **Hoegenauer, K.L.** and J.A. Howe. Sod-based rotation, conservation tillage, and water use efficiency. Oral presentation at the Southern Regional Branch of the American Society of Agronomy Annual Meeting, Dallas, TX.
- 2013 **Hoegenauer, K. L.**, J. A. Howe, and D. Rodekahr. Influence of Cover Crops on Soil and Water Properties in a Southeast Alabama Soil. Poster presentation at the ASA, CSSA, and SSSA International Annual Meeting, Tampa, FL.
- 2011 Coffey, S., P. Graves, B. Green, L. Crotwell, **K. L. Hoegenauer**, H. Watson, D. Fisher, J. Koepp, and E. Ziegler. Texas A&M University Agronomy Society Provides Active Learning Experiences for Disadvantaged Children. Students of Agronomy, Soils, and Environmental Sciences Annual Meeting Club Poster, San Antonio, TX.
- Hoegenauer, K.L.** Evaluation of Herbicides for Blackberry Control in Mown and Not-mown Pasture and Rangeland Management Systems. Lloyd Noble Scholar in Agriculture Presentation, Samuel Roberts Noble Foundation, Ardmore, OK.

SERVICE AND LEADERSHIP

- 2016 **Reviewer**, Soil Science Society of America Journal
- 2015-2016 **Vice-President**, Graduate Student Organization, Department of Crop, Soil, and Environmental Science, University of Arkansas
- 2015 **Sweet Corn Harvest and Sale Volunteer**
- Benefit for local food bank and Graduate Student Organization, Department of Crop, Soil, and Environmental Science, University of Arkansas
- Down and Dirty 5K Race Volunteer**
- Benefit for Circle of Life Food Pantry and Graduate Student Organization, Crop, Soil, and Environmental Science Department, University of Arkansas
- 2013-2014 **Graduate Student Senator**, Department of Crop, Soil and Environmental Science (CSES), Auburn University
- Represented graduate students in the CSES department by voting on policies at monthly Graduate Student Council meetings and reported changes or new information to fellow graduate students in the department
- Auburn University Graduate Research Symposium**
- Facilitated registration of presentation participants and judges
- 2011-2012 **Agronomy Society Delegate**, “Farmers Fight”, Agriculture Advocacy Campaign, Texas A&M University
- Served as representative for the Agronomy Society and coordinated the establishment and operation of exhibit on campus to educate fellow students at Texas A&M University about agronomy and the importance of agriculture
- Secretary**, Texas A&M University Agronomy Society
- Recorded and distributed monthly meeting minutes and attendance

- 2011-2012 **Community Service, Bastrop, TX**
 – Removed brush and established a new fence at a residence destroyed by wildfire with the Texas A&M University Agronomy Society
- 2010-2012 **“The Big Event” Community Service Project, Texas A&M University**
 – Removed brush, installed grass sod, and repainted houses for residents in College Station, TX
- Texas A&M Agronomy Society “Adopt a Street” Project**
 – Removed litter from a roadside in College Station, TX each semester
- 2010-2011 **Agronomy Society Risk Management Chair, Texas A&M University**
 – Coordinated safety procedures and assessed the risk of Agronomy Society activities and projects
- Still Creek Boys and Girls Ranch Garden, Bryan, TX**
 – Developed garden project and hands-on lessons about soil and plant science for children living at the ranch

AWARDS AND RECOGNITION

- 2014-2018 **Doctoral Academy Fellowship, University of Arkansas**
- 2016 **International Plant Nutrition Institute Scholar Award**
- 2015 **1st place Ph.D. graduate student oral presentation competition, ASA, CSSA, and SSSA International Annual Meeting (Soil Fertility/Plant Nutrition Division), Minneapolis, MN**
- 2014 **Inducted into the Honor Society of Phi Kappa Phi, Auburn University**
- E.T. York International Scholars Program Grant for Agronomy in China study abroad program, College of Agriculture, Auburn University**
- 3rd place M.S. graduate student oral presentation competition, Southern Regional Branch of the American Society of Agronomy Annual Meeting, Dallas, TX**
- 2012 **Graduated Summa cum Laude, Texas A&M University**
- Senior Merit Award, College of Agriculture and Life Sciences, Texas A&M University**
- Senior Outstanding Achievement Award, Gamma Sigma Delta Agriculture Honor Society, Texas A&M University**
- Outstanding Senior Award, Department of Soil and Crop Sciences, Texas A&M University**
- 2011 **Soil and Crop Sciences Department Scholarship, Texas A&M University**
- College of Agriculture and Life Sciences Scholarship, Texas A&M University**

2011 **Deans Honor Roll**, College of Agriculture and Life Sciences, Texas A&M University
2nd place undergraduate visual presentation competition, Students of Agronomy, Soils, and Environmental Sciences annual meeting, San Antonio, TX

2008 **Houston Livestock Show and Rodeo Scholarship**
Deans Honor Roll, College of Agriculture and Life Sciences, Texas A&M University

PROFESSIONAL SOCIETIES MEMBERSHIPS

2018-Present Soil and Water Conservation Society

2010-Present American Society of Agronomy
Soil Science Society of America
Crop Science Society of America