

Ala Khaleel

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Education

Doctor of Philosophy in Soil Science and Environmental Science (Nov/2023)

Iowa State University, Ames, IA

Advisers: Dr. Michael Thompson and Dr. Marshall McDaniel

Master of Science in Sustainable Agriculture (2018)

Iowa State University, Ames, IA

Advisers: Dr. Thomas J Sauer and Dr. John Tyndall

Thesis: Soil carbon sequestration potential of tree windbreaks in the U.S. Great

Bachelor of Science: Land, Water, and Environment (2014)

The University of Jordan, Amman, Jordan.

Professional Experience

Lecturer (2025-present)

The University of Jordan, Department of Land, Water, and Environment, Amman, Jordan

Post-Doctoral Research Associate (2023-2025)

Iowa State University, Department of Agronomy, Ames, IA

Supervisor: Dr. Marshall McDaniel

Graduate Research Assistant (2018-2023)

Iowa State University, Department of Agronomy, Ames, IA

Supervisor: Dr. Michael Thompson and Dr. Marshall McDaniel

Graduate Research Assistant (2015-2018)

National laboratory of Agriculture and Environment, USDA- ARS, Ames, IA

Supervisor: Dr. Thomas J Sauer and Dr. John Tyndall

Research Assistant (2014)

Department of plant pathology, The University of Jordan, Amman, Jordan

Supervisors: Dr. Luma Al-Bana and Dr. Nida's Salem

Teaching Experience

Teaching Assistant

Environmental Soil and Water Chemistry, AGRON 459/559 (2018-2023)

Bachelor and Graduate students level lecture

Environmental Soil and Water Chemistry, Laboratory – AGRON 459/559 (2018-2023)

Bachelor and Graduate students level laboratory

Organic Compounds in Plants and Soils, AGRON 259 (2018-2021)

Junior level lecture

Instructor of Record

Environmental Soil and Water Chemistry, AGRON 459/559 (Fall 2021)

Bachelor and Graduate students level lecture

Environmental Soil and Water Chemistry, Laboratory – AGRON 459/559 (Fall 2021)

Bachelor and Graduate students level laboratory

Mentoring Experience

First-year honors mentor program through Honors College – Rebekah Veldboom (2023)

Undergraduate Student Mentor for Malinali Carmona Sanchez in McNair Program (2024-2025)

<https://www.mcnair.iastate.edu/>

Scholarly Awards

Frederick Soil Microbiology award| 2022

Teaching excellence award | recipient | 2021

Vernon c. miller scholarship | 2021

Mario Gutierrez scholarship| 2020

Third place poster in sustainable agriculture research symposium| 2017

First place poster in soil health conference| 2017

R. Howard and Hazel Kintzley| 2016

INTEL International Science and Engineering Fair, Atlanta, GA| 2008

Invited Talks

Soil and Water conversation club (Sept 2022)

Iowa State University, Ames, Iowa, (~30 attendees)

Khaleel, A. (2022). Working Tree Windbreaks for Soil Carbon; Soil Carbon Storage Potential of Tree Windbreak.

Soil Carbon Forum (April 2022)

Iowa State University, Ames, Iowa, (~150 attendees)

Implementation Panelist

Sustainable Agriculture Colloquium (Aug 2017)

Iowa State University, Ames, Iowa, (~40 attendees)

Khaleel, A., Sauer, T., & Tyndall, J. (2017). Tree Windbreaks Plantings for Bioenergy Production and Carbon Sequestration.

DAAD-German Academic Exchange Service International Summer Schools/ Beirut, Lebanon/ 2012.

The American University of Beirut, Beirut, Lebanon (~100 attendees)

Talk: Agriculture in Jordan

Publications

Khaleel, A., Sauer, T.J. & Tyndall, J.C. Changes in Deep Soil Organic Carbon and Soil Properties Beneath Tree Windbreak Plantings in the U.S. Great Plains. *Agroforestry System* 94, 565–581 (2020). <https://doi.org/10.1007/s10457-019-00425-0>.

Anderson, A., **Khaleel, A.**, Dutter, C., Blauwet, M., Flores, A., Miller, B., ... & Fidel, R. (2022). *Introduction to Soil Science*. Iowa State University Digital Press. Details Published: July 15, 2022 Publisher: Iowa State University Digital Press Location: Ames, Iowa DOI: <https://doi.org/10.31274/isudp.2022.123,199,50011-2102>. [Introduction to Soil Science](#)

Under review:

Khaleel, A., Thompson, M., McDaniel, M. (2025). Diversified Perennial Cropping and Nitrogen Fertilizer partially affect Soil Enzyme kinetics.

In Preparation:

Khaleel, A., Hall, S., McDaniel, M., Sauer, T., & Tyndall, J. (2026). Do Tree Windbreaks Increase or Decrease Soil Organic Carbon?

Khaleel, A., Dutter, C., Thompson, M., McDaniel, M. (2026). Meta-analysis of soil potential enzyme activities methods.

Khaleel, A., Thompson, M., McDaniel, M. (2026). Comparison of Potential Enzyme Activity with Depth under Annual vs Perennial Cropping systems.

Khaleel, A., Dutter, C., Olk, D., Thompson, M., McDaniel, M. (2026). Increased Potential Nitrogen Mineralization under *Miscanthus x giganteus* is Likely due to Increase in Soil Amino Compounds.

McDaniel, M., Studt, J., **Khaleel, A.**, Heaton, E., VanLoocke, A., Howe, A., (2026). Carbon and Nitrogen Stoichiometry Regulates Soil Nitrogen Cycling across Annual and Perennial Crops.

Olk, D., McDaniel, M., **Khaleel, A.** (2026) tentative title “Comparison of cover crops and no cover crops effect on soil organic matter and enzyme activity).

Research Presentations

Oral Presentations:

Khaleel, A., Thompson, M., McDaniel, M. (2022) High Nitrogen Rates and Perennial Cropping Had Limited Effects on Soil Extracellular Enzyme Activities and Microbial Biomass. ASA, CSSA, SSSA International Annual Meeting, Baltimore, MD.

Khaleel, A., Sauer, T., Chendev, Y. (2022) Comparison of Soil Morphology Under Tree Windbreaks and Adjacent Fields in the U.S. Great Plains.

Khaleel, A., Sauer, T., & Tyndall, J. (2019). Changes in Soil Organic Carbon and Soil Properties Beneath Tree Windbreak Plantings in the US Great Plains. SSSA International Soils Meeting, San Diego, CA. (2019).

Khaleel, A., Sauer, T., and Tyndall, J. 2017. Contribution of Tree Windbreaks to Soil Organic Matter Content in the U.S. Great Plains. ASA, CSSA, and SSSA International Annual Meetings. Tampa, FL.

Sauer, T., **Khaleel, A.**, Hernandez-Ramirez, G., Anderson, KA., Evans, B., Howe, L., Labenz, T., Latta, C., Tyndall, J., and J. Richter. 2016. Profile Soil Organic Matter Content Beneath Tree Windbreaks in the U.S. Great Plains. ASA, CSSA, and SSSA International Annual Meetings. Phoenix, AZ.

Poster Presentations:

Biotto, E. F. M., **Khaleel, A.**, Dutter, C., McDaniel, M. D., & Cihacek, L. J. (2025). Double Sampling a 55-Year CRP Chronosequence to Resolve Soil Organic Carbon Nuances. *CANVAS 2025*.

Khaleel, A., Thompson, M., McDaniel, M. (2023). Miscanthus Increases Soil Amino Compounds Regardless of Nitrogen Fertilizer Rate. ASA, CSSA, SSSA International Annual Meeting, St. Louis, MO.

Thompson, M., **Khaleel, A.**, McDaniel, M. (2021) Kinetics of Soil Enzyme Activities Under Long-Term Cropping Systems. ASA, CSSA, SSSA International Annual Meeting, Salt Lake City, UT.

Thompson, M. L., Rivas, F., Ibrahim, M., & **Khaleel, A.** (2019). Soil Health Assessments in Biofuel Cropping Systems. In ASA, CSSA and SSSA International Annual Meetings | VIRTUAL.

Khaleel, A., Sauer, T., and Tyndall, J. (2017). Soil Properties as Affected by Tree Windbreak Planting in the U.S. Great Plains. NAAC, Blacksburg, VA.

Khaleel, A., McDaniel, M., Hernandez Ramirez, G., Chendev, Y., Sauer, T., and Tyndall, J. (2017). Determining Tree Contributions to Soil Organic Matter Content Beneath Windbreaks in the U.S. Great Plains and Russian Steppe. NAAC, Blacksburg, VA.

Khaleel, A., Sauer, T., and Tyndall, J. (2017). Soil Organic Carbon Dynamics of Tree Windbreaks in the U.S. Great Plains. Annual graduate program in sustainable agriculture symposium, Ames, IA. **Third place poster award.**

Khaleel, A., Sauer, T., and Tyndall, J. (2017). Soil Organic Carbon Dynamics of Tree Windbreaks in the U.S. Great Plains. Soil Health Conference. Ames, IA. **First place poster award**

Khaleel, A., Sauer, T., and Tyndall, J. Changes in Soil Properties Following Tree Windbreak Planting in the U.S. Great Plains. Society of American Foresters National Convention. Madison, WI.

Grants Awarded

Professional Development Grant, Iowa State University, 2019

Natural Resource Ecology and Management Travel Grant, Iowa State University, (2019)

Certificates, Associations & Memberships

Soil Science Society of America (Since 2016)

American Forestry Association (2016-2018)

Leadership and Organizations

Agronomy Department- ISU Graduate Student club | seminar planning chair | 2020 – 2021 | I was responsible for planning, coordinating, and organizing the soil science seminar series which featured weekly seminars throughout the 2021 school year.

Skills

R programming software

Sigma Plot Software

GraphPad Prism software

Languages

Arabic: Mother Tongue

English: Professional