Ashani M. Thilakarathne

*curriculum vitae*

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| Phone: (618) 412-1875  Email: [ashanit@iastate.edu](mailto:ashanit@iastate.edu) [/ madushiat@gmail.com](mailto:/%20madushiat@gmail.com)  LinkedIn: <https://www.linkedin.com/in/ashani-thilakarathne-44779b10b/> | Iowa State University  Department of Agronomy  716 Farmhouse Ln  Ames, IA, 50010 |

# Education

**Ph.D.** in Agricultural Science - Southern Illinois University – Carbondale 2022

Dissertation:*Minimizing Phosphorus and Nitrogen Loss from Agricultural*

*Systems with Cover Crops and Tillage in Southern Illinois*

Major Professor: Dr. Karl Williard

**M.S.** in Environmental Soil Science - University of Peradeniya - Sri Lanka 2018

**B.S.** inAgricultural Technology and Management - University of Peradeniya 2016

Thesis:*Trace Elements in Urban soils under Long-Term Vegetable*

*Cultivation and Natural Vegetation in Up-Country Sri Lanka.*

Major Professor: Dr. Chammi Attanayake

# Research Experience

Post-doctoral Research Associate - Iowa State University 2023-Present

Conceptualize and research to identify the impact of diversified cropping

systems on soil health that lead to climate resilience in soybeans to drought.

Post-doctoral Researcher - Southern Illinois University-Carbondale 2022-2023

Researched the impact of cover crops on nitrate leaching and soil health.

Responsibilities included Mid-year and annual reporting to the funding Agency,

Writing grants, Collecting and analyzing data, Presenting results at conferences

Graduate Research Assistant - Southern Illinois University-Carbondale 2018-2022

Researched cover crop impact on soil health, water quality, P stratification

Conducted research on the N cycle using 15N isotopes. Developed experience

in data analysis, conveying efficient research messages to scientific and non-

scientific community.

Assistant Lecturer/ Research Assistant - University of Peradeniya. 2016-2018

Conducted research on baselines of trace elements (Cd, As, and Pb) in soil

and plant samples in the mid-country area of Sri Lanka to ensure the soil

contaminations and food safety

# Teaching Experience

**Instructor of Record** - Southern Illinois University 2020

FOR 430 - Wildlife and Watershed Management (48 Students)

Responsible for teaching a whole semester, including exams, problem sets,

and quizzes. Used online platform for grading and exams (D2L)

**Teaching Assistant** - Southern Illinois University 2021

FOR 502 - Advanced Watershed Management (10 students)

Conducted discussion-based classes for half of the semester with graduate

Students and handled weekly grading

**Guest Lecture** - Southern Illinois University 2021 & 2022

CSEM/PSAS 448 - Soil Fertility Evaluation (~20 Students)

Lectured one time on Soil P stratification and lab method on quantification

**Guest Lecture** – Iowa State University 2024

AGRON 553 -Soil-Plant Relationships

Conducted two lectures on the topics of soil and plant testing and Stable

isotopes on soil and plant relationships

**Assistant Lecturer** - University of Peradeniya 2017-2018

SS 1101 – Soil Resource and Ecosystem (150 Students)

SS 1201 – Properties and Functions of Soil (150 Students)

SS 2101 – Soil Fertility and Plant Nutrients (150 Students)

SS 3101 – Management of Soils of Sri Lanka (150 Students)

SS 4101 – Soil Chemistry (8 Students)

Conducted laboratory sessions for all these courses with occasional lectures

in SS1101

***Mentoring***

***Graduate Students***

Noah Mardian - M.S. in Forestry at Southern Illinois University – Carbondale 2023-Present

Michael James – Distant Master in Agronomy – Iowa State University 2023-Present

***Undergraduate****s*

Served as a resource person /mentor for undergraduate students (three) on an internship 2017

program offered to Sultan Qaboos University, organized by the Agricultural Education

Unit, University of Peradeniya.

# Teaching Improvement

Participated in Project LEA/RN conducted by ISU 2024

Participate in weekly discussions for Project LEA/RN 2024-Present

Teaching Practicum 2024

Preparing Future Faculty 2024

Iowa State University

Participant in a selective program that consists of panels, discussions, and

workshops to overview the faculty life, including hiring, promotions, and tenure process.

# Publications

***Peer-reviewed Manuscripts***

***Published and In-Review***

1. Singh, G., **Thilakarathne, A.D**., Williard, K.W., Schoonover, J.E., Cook, R.L., Gage, K.L. and McElroy, R., 2020. Tillage and legume non‐legume cover cropping effects on corn–soybean production. *Agronomy Journal*, *112*(4), pp.2636-2648.
2. **Thilakarathne, A.**, Tiwari, M., Adeyami, O., Weidhuner, A., Kumar, P., Singh, G., Schoonover, J., Williard, K., Gage, K., Sadeghpour, A., Hairy vetch influence on nitrous oxide and nitrate leaching losses during corn growing seasons in reduces and no-toll systems (In review- Geoderma).
3. **Thilakarathne, A.,** Singh, G., Schoonover, J., Williard, K., Fate of 15N urea fertilizer in a no-till corn-soybean system with cover crops (In review- AEE)

***In Preparation***

1. **Thilakarathne, A.,** McDaniel, M., Diversified Cropping Systems Enhance Soybean Resilience to Extreme Drought. (In Preparation)
2. **Thilakarathne, A**., Singh, G., Schoonover, J., Williard, K., Sadeghpour, A., Impact of cover crops and tillage on soil properties with clay and fragipan in a corn-soybean rotation. (In Preparation).
3. **Thilakarathne, A.,** Singh, G., Schoonover, J., Williard, K., Sadeghpour, A., cover crops and tillage practices alter the vertical soil phosphorus distribution, inorganic phosphorus fractions, and DRP leaching in southern Illinois claypan soils. (In Preparation).
4. **Thilakarathne D.G.A.M.** and Attanayake A.M.C.P.K. (2016) Level of Contamination and Potential Bioavailability of Trace Elements in Up-Country Vegetable Growing Soils in Sri Lanka. (In Preparation).

***Presentations***

1. **Thilakarathne, A.M**., K.W.J. Williard, J.E. Schoonover, G Singh. Jackie F. Crim and Jennie Snyder 2022 Fate of 15N Urea Fertilizer in a No-till Corn-Soybean System with Cover crops. ASA, CSSA, SSSA annual conference Baltimore, Maryland. November 06-09, 2022, Oral Presentation
2. **Thilakarathne, A.M**., K.W.J. Williard, J.E. Schoonover, G Singh. Jackie F. Crim and Jennie Snyder 2022 Impact of Cover Crops and tillage on nitrate Leaching and Corn soybean Production in Southern Illinois. ASA, CSSA, SSSA annual conference Baltimore, Maryland. November 06-09, 2022, Poster Presentation
3. **Thilakarathne, A.M**., K.W.J. Williard, J.E. Schoonover, G Singh. Jackie F. Crim and Jennie Snyder 2022 cover Crop Impact on Soil Phosphorus. ASA, CSSA, SSSA annual conference Baltimore, Maryland. November 06-09, 2022, 5-minute rapid oral followed by a poster.
4. **Thilakarathne, A.M**., K.W.J. Williard, J.E. Schoonover, G Singh. Jackie F. Crim and Jennie Snyder 2022 Cover crop Effect on Nutrient Leaching in Southern Illinois. Illinois NREC investment Insight workshop, I-Hotel Champaign, IL. February 16, 2022 Poster presentation.
5. **Thilakarathne, A.M**., K.W.J. Williard, G Singh and J.E. Schoonover Jackie F. Crim, Jennie Snyder and Samantha S. Ritter. 2021 Do Cover crops Improve soil Health? ASA, CSSA, SSSA annual conference Salt Lake City, Utah. November 06-11, 2021 Oral Presentation.
6. **Thilakarathne, A.M.,** K.W.J. Williard, G Singh and J.E. Schoonover Jackie F. Crim, and Jennie Snyder 2021 Cover Crops and Nitrate Leaching. ASA, CSSA, SSSA annual conference Salt Lake City, Utah. November 06-11, 2021 5 Minute rapid Presentation followed by a Poster.
7. **Thilakarathne, A.M**., K.W.J. Williard, G Singh and J.E. Schoonover, Jackie F. Crim and Jennie Snyder. 2021 Impact of Cover Crops on Nutrient Leaching in Agricultural Fields. University Council on Water Resources annual conference, Virtual conference June 8-10, 2021 Presentation (Talk).
8. **Thilakarathne, A.M.,** K.W.J. Williard, G Singh, J.E. Schoonover and Jennie Snyder 2021 Impact of Cover Crops on nitrate Leaching in a Corn-Soybean Rotation. Research and Creative Activities Form, Southern Illinois University Carbondale, IL. April 9, 2021. Poster presentation.
9. **Thilakarathne, A.M**., K.W.J. Williard, G Singh, J.E. Schoonover, Jackie F. Crim, Jennie Snyder and Christopher Blattel. 2020 Impact of Cover Crops on nitrate Leaching from a Corn-Soybean Rotation. ASA, CSSA, SSSA annual virtual conference. November 09-13, 2020 Presentation (Talk).
10. **Thilakarathne, A.M.,** K.W.J. Williard, G Singh, J.E. Schoonover, Jackie F. Crim, Jennie Snyder and Christopher Blattel. 2019 Impact of Cover Crops on Nutrient Leaching in Vadose Zone. ASA, CSSA, SSSA annual conference San Antonio, Texas. November 11-13, 2019 Poster Presentation.
11. **Thilakarathne, A.M**., K.W.J. Williard, G Singh, J.E. Schoonover and Jennie Snyder. 2019 Impact of Cover Crops on Gravitational Water Transport through the Vadose Zone. Water Smart Innovations annual conference, Las Vegas, Nevada. October 2-4, 2019 Poster Presentation.
12. **Thilakarathne, A.M**., K.W.J. Williard, G Singh and J.E. Schoonover. 2019 Impact of Cover Crops on Nitrate and Phosphate Leaching in Vadose Zone. University Council on Water Resources annual conference, Snowbird, Utah. June 11-13, 2019 Poster Presentation.
13. **Thilakarathne, A.M**., K.W.J. Williard, J.E. Schoonover, and G Singh. 2018 Effect of cover crop and tillage on nitrate leaching in vadose zone Illinois NLSR workshop, University of Illinois Urbana-Champaign, IL. November 13, 2018, Poster presentation.
14. **Thilakarathne, A.M**., K.W.J. Williard, J.E. Schoonover, and G Singh. 2018 Effect of cover crop and tillage on nitrate leaching in row crop agricultural field. Natural Science Student Research Symposium, Southern Illinois University, Carbondale, IL. November 9, 2018.  Poster presentation.

# Honors and Awards

Graduate students’ Oral competition (3rd place, $150) ASA, CSSA, SSSA Conference 2022

Southern Illinois University 3MT (3 minute-Thesis) competition (2nd place) ($500) 2022

College of Agricultural, Life and Physical Sciences 3MT competition ($300) 2022

Career development reimbursement award ($150) Southern Illinois University 2021

High level of engagement at UCOWR NIWR annual water resource conference ($100) 2021

Career development reimbursement award ($150) Southern Illinois University 2020

Career development reimbursement award ($150) Southern Illinois University 2019

Graduate Student Poster Competition (2nd place, $100), ASA, CSSA, SSSA Conference 2019

Fralish travel award ($500) 2019

Graduate Student Poster Competition (1st place, $100), Water Smart Innovations (WSI) 2019

Scholarship ($500) to attend the Water Smart Innovations Conference in Las Vegas 2019

Graduate Student Poster Competition (3rd place, $100), UCOWR/NIWR,

Annual Water Resources Conference. 2019

University Prize for Academic Excellence 2017, University of Peradeniya, Sri Lanka 2017

# Grants

Co-PI - Impact of timing of cover crop termination on water quality and soil N and P: Phase two of a long-term cover crop and tillage study in Southern Illinois. (grant no: 2024-5-206939-590, amount: $169,074)

# Extension and Outreach Experience

Extension and Field days conducted by ISU at Marsden Farm 2023-2024

Annie’s Project 2022

A discussion-based workshop for women in agriculture to learn about risk assessments,

financial and marketing aspects of farming.

NREC field day 2019 & 2021

SIU-Carbondale conducted an outreach program to disseminate the outcomes of our

research and the field setup of experiments.

**Outreach Publication**

Do Healthy Soils Increase Crop Resilience to Drought? Submitted to publish in 2024

“Getting into Soil and Water,” an ISU Soil and Water Conservation Club publication.

This will be distributed to high school educators and Iowa soil and water conservation

professionals.

# Professional Training

Airman Certificate for Unmanned Aircraft Systems (UAS) Remote Pilot 2023-Present

# Professional Affiliations

Member of SSSA/ASA/CSSA: 2019-Present

Member of Soil Science Society of Sri Lanka: 2016-Present

Member of Phi Kappa Phi: Southern Illinois University Carbondale 2022-Present

# Professional and Community Service

Judge 3 MT competition -ISU 2024

Peer-Reviewed Articles for International Journal of Plant Production 2023

Student presentation judge at ASA/SSSA/CSSA 2022

Session coordinator at UCOWR conference 2022

Conducted a session on Sri Lanka for 4H students- arranged by the Southern Illinois 2021

Extension Office

Secretary of Sri Lankan Graduate Associate -SIUC 2020-2022