# Arjun Chhetri

# Title: Graduate Research Assistant

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# EDUCATION

1. **Doctor of Philosophy** (Biosystems Engineering and Soil Science – Plant, Soil and Environmental Science): The University of Tennessee, Knoxville (2021-present)
2. **Master of Science** (Environmental Studies): Kentucky State University, Frankfort, Kentucky (2019-2020)
3. **Bachelor of Science** (Institute of Agriculture and Animal Science): Tribhuvan University, Nepal (2010-2014; GPA)

**DOCTORAL RESEARCH FOCUS**

* Nitrous oxide emissions from organic grain production systems: quantification and driving factors.
* Developed soil gas sampling protocol and framework.
* Gained skills in molecular and isotopic tools identifying dominant microbial N2O cycling pathways.
* Mentored four undergraduate students in soil and gas sampling and their laboratory processing and analyses.
* Data collection, proposal writing, project management, and scientific data presentation.

**MS RESEARCH FOCUS**

* Impact of integrated crop-livestock rotation on soil water quality within organic grain production system
* Collected groundwater data and their analysis for dissolved nutrients (nitrate and phosphorus)
* Management of crop-livestock rotation field
* Data collection, organic project management, and scientific data presentation

**BS RESEARCH FOCUS**

* Screening of maize genotypes against southern leaf blight (*Bipolaris maydis*) during summer season in Nepal
* Disease scoring: Anthracnose in beans and yellow rust in wheat

# PROFESSIONAL EXPERIENCES

# Graduate Research Assistant - University of Tennessee, Knoxville (2021-Present)

# Graduate Research Assistant – Kentucky State University, Kentucky (2019-2020)

# Technical Officer – Nepal Agricultural Research Council (NARC), Nepal (2016-2018)

**Instructor** - Matedewal Janasahayogi (Vocational and Technical) Higher Secondary School Parbat, Nepal (2014-2016)

**PRESENTATIONS**

* Poster presentation: Soil nitrous oxide emissions from corn phase of organic grain rotation systems in Tennessee (**Arjun Chhetri**\*-presenter, Sindhu Jagadamma, Debasish Saha). Tri-society: American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA) annual meeting Baltimore, MD (November 2022)
* Poster presentation: Drivers and controls of nitrous oxide emissions during cover crop decomposition in organic crop rotation (**Arjun Chhetri**\*-presenter, Sindhu Jagadamma, Debasish Saha). Tri-society: American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and Soil Science Society of America (SSSA) annual meeting Baltimore, MD (November 2022).
* Poster presentation: Impact of integrated crop-livestock (goats) rotation on nitrate and phosphorus concentration in soil water within organic grain production system (**Arjun Chhetri**\*-presenter, Ellyn Anthony, Kimberly Barmore, Blake Van Sanford, Shawn Lucas) Kentucky State University, Frankfort, KY (105th Kentucky Academic of Science Annual Meeting; November 2019)

# AWARDS AND HONOURS

# Second position in poster presentation “Drivers and controls of nitrous oxide emissions during cover crop decomposition in organic crop rotation” in Biochar: Agronomic and Environmental Uses Community (Tri society: ASA, CSSA, and SSSA) annual meeting Baltimore, MD (November 2022)

# Graduate Student Senate (GSS) travel award from University of Tennessee to attend the ASA, CSSA, and SSSA annual meeting Baltimore, MD in November 2022

# Student/Faculty Research Award (SFRA) Spring 2022, University of Tennessee, Knoxville – Microbial pathways regulating N2O emissions ($5,000)

**SKILLS AND KNOWLEDGE AREAS**

* Molecular Biology: Isolation of DNA and RNA from plant and soil samples, Polymerase Chain Reaction (PCR) and qPCR
* Soil nutrient and water quality analysis: Ammonium, nitrate and phosphorus concentration in soil and water samples
* Instruments: Gas chromatograph, microplate reader, soil gas chambers, soil moisture and temperature sensors
* Remote Sensing: ArcMap, ERDAS Imagine
* Programming: R

**PUBLICATIONS**

1. **Chhetri, A.,** Anthony, E., Andries, K., & Lucas, S. (2022). Early impacts of establishing an integrated organic crop–livestock rotation: Nitrate and phosphorus in subsoil water*. Agrosystems, Geosciences & Environment*, 5(3), e20289.
2. **Chhetri, A.,** & Bhatta, A. (2017). Agro-Morphological Variability Assessment of Common Bean (Phaseolus vulgaris L.) Genotypes in High Hill Jumla, Nepal. *International Journal of Environment, Agriculture and Biotechnology*, 2(6), 3110-3115.
3. Pandey, G., Khanal, S., Pant, D., **Chhetri, A.,** & Basnet, S. (2017). An Overview of Fertilizer Distribution Scenario in Nepal: A Time Series Analysis (1991/92-2015/16). *International Journal of Research in Agriculture Sciences*, 4(6), 319-324.
4. Bhandari, R. R., Aryal, L., Sharma, S., Acharya, M., Pokhrel, A., G. C., A., Kaphle, S., K.C., S., Shahi, B., Bhattarai, K., & **Chhetri, A.** (2017). Screening of maize genotypes against southern leaf blight (*Bipolaris maydis*) during summer season in Nepal. *World Journal of Agricultural Research*, 5(1), 31.