

Mutyalu Sheshu

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D.no 5/129 Auditors Colony, JNTU road, Anantapuramu, Andhra Pradesh 515002.

Experience

Ph.D. Graduate Research Assistant Soil Biogeochemical Lab (Saha Lab), BESS, Utk Research Focus on Quantifying Soil Health Benefits and Greenhouse Gas Mitigation Opportunities of Climate Smart Practices Including Reduced Tillage, Cover Cropping, Nitrogen Fertilizer Management, and inclusion of High-Biomass Crops in Rotations	Jan 2025- Present Knoxville, USA
Agronomist (Soil-Water relationships, Sustainability team) Kritsnam Technologies Pvt. Ltd. <ul style="list-style-type: none">• Research on Satellite data-based inputs for Irrigation Scheduling for a selected Irrigation Project Command Area and water availability, working on soil-water-climate relationships.• Monitoring Greenhouse gas emissions and Creating Carbon credits and by carbon sequestration.• Using Software applications and analytical instruments of water and soil.• Data collection and modeling.	July 2022 – July 2024 Hyderabad, India
Soil Science Research Intern Eko Sight Technologies <ul style="list-style-type: none">• Worked on a portable soil sampling equipment's.• A Spatial-temporal Deep Learning Framework for Digital Soil Mapping.• Creating soil maps through Hyper-spectral data.	June 2022 – Sept 2022 Delhi, India
Research Assistant Department of Soil Science, Naini Agriculture Institute, SHUATS <ul style="list-style-type: none">• Working on physicochemical properties in the environmental samples (soil and water) analysis at Post graduate Soil Chemistry Laboratory, Department of Soil Science and Agricultural chemistry.• Data collection from Field and Lab samples and performing statistical analysis.• Studying on Heavy metal accumulations in soil. Fate and Transport dynamics of Phosphorous and Organic carbon.• Modelling and preparing risk assessment and prediction of soil erosion using USLE through GIS applications.• Writing, publishing, and presenting the scientific papers and articles.	Sept 2020 – June 2022 Prayagraj, India
Crop Research Intern Mantle Labs (Geospatial Data Technologies) <ul style="list-style-type: none">• Working on Geo-spatial technologies in the Rabi crops through machine learning and training data sets.• Application of geostatistics and GIS technique.• Travelling for 900+km to collect Data for ground truth points and validation.	Oct 2019 – Jan 2020 Pune, India

Education

Ph.D. Plant, Soil and Environmental Sciences <i>Biogeochemical and Nutrient cycling Lab (Saha Lab), Department of Biosystems Engineering and Soil Science, University of Tennessee</i>	Jan 2025 – Present Knoxville, USA
M.Sc. (Agriculture) Soil Science and Agricultural Chemistry <i>Department of Soil Science & Agricultural Chemistry, Naini Agriculture Institute, Sam Higginbottom University of Agriculture Technology and Sciences (Formerly Allahabad Agriculture Institute)</i>	Oct 2020 – Oct 2022 Prayagraj, India
B.Sc. (Hons) Agriculture <i>School of Agriculture, Suresh Gyan Vihar University</i>	Aug 2016 – May 2020 Jaipur, India

Trainings, Workshops & Certifications

DST sponsored Karyashala (High-End Workshop) titled “Novel concepts and innovative technologies in Agricultural Water Management for climate smart agriculture” KSCSTE-Centre for Water Resources Development and Management.	14-26 March 2022 Kozhikode, India
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Central Coffee Research Institute Organised workshop titled “Statistical Analysis for Data Analysis in Plantation crops using R Software.”	13-16 June 2022 Chikkamagaluru, India
DBT-North East Centre for Agricultural Biotechnology National Workshop titled “Microbial Biotechnology in Agriculture and Industry” at Assam Agricultural University, funded by Department of Biotechnology, Govt. of India.	26 April- 01 May 2021 Jorhat, India
ISRO and IISR organised online course on “ RS & GIS in Nature Resource Management.”	11 Nov-25 Nov 2022, Dehradun, India
NAHEP-CAAST funded Capacity Building & Training on “Integrated Nutrient Management” at JNKVV	01/Jan/2021 Jabalpur, India
IIT Kanpur conducted a six week AgMOOCs on “ Statistical Techniques for Agriculturists”	26 July 2022 Kanpur, India
Workshop on “Drones in Agriculture and Its Applications in Agriculture” at ICAR-IIWM in collaboration with IARI-Delhi NePPA project.	1-2 December 2024 Bhubaneshwar, India

Skills

General skills

Communication skills, presentation skills, leadership, entrepreneurial skills, public speaking, organizational skills, aptitude, logical reasoning, research, team player, time management, adaptability

Field & Laboratory Skills

Hypothesis, Spectrometry (Absorption and Emission), photometric, cloning, sterilization, soil physical-chemical & biological properties

Technical Skills

IoT, Data analysis, R, Python, QGIS, ArcGIS, DSAAT, Cropwat, SWAT, Aquacrop, Hydrus, Past4, SPSS, USGS, Bhoomi, GEE, Roth C. AWS, Image processing & machine-learning models.

Office suite

Spreadsheets, documents, presentations, outlook

Teaching/ Lectures delivered

Irrigation Scheduling through Aqua crop Modelling

Recurse person for two days workshop for Irrigation Engineers on IShWAR project held at Advanced Centre for Integrated Water Recourse Management (ACIWRM)

March 2024

Bengaluru, India

Aqua Crop Modelling for Irrigation Scheduling in Tungabhadra left bank canal

Recurse person for two days workshop on for Irrigation Engineers on IShWAR project held at TB board, Hosapete, Karnataka.

April 2024

Hospet, India

Research Interests

Nature Resource Management, Land and Water Management, Soil Science, Ground Water studies, Remote sensing & GIS, Environmental science, Climate Change, Nutrient Analysis, Nutrient Cycling, Soil Organic Matter, Carbon Sequestration, Agroecology

Publications

Vinay, Thomas, T., Sehra, V., & **Mutyalu S.** (2025). Influence of phosphorus fertilization on mung bean growth, yield, and soil physico-chemical attributes in inceptisols. *Environment Conservation Journal*. <https://doi.org/10.36953/ECJ.29352945>

Mutyalu sheshu, Amreen hasan, Tarence thomas, Arun Alfred David, Akshita Barthwal and Raghu Nandan Singh Khatana. 2022. "Nutrient Indexing of Olsen's Phosphorous with Relationship between Inorganic forms." *Asian Jr. of Microbiol. Biotech. Env. Sc.* 26 (3): 54-57. [<http://dx.doi.org/10.53550/AJMBES.2022.v24i03.010>]

Raghu Nandan Singh Khatana, Akshita Barthwal, **Mutyalu Sheshu** and Tarun Kumar. 2022. "Soil compaction and strategies for its avoidance." In *Managing Soil Health for Sustainable Agriculture (ISBN: 978-93-91768-99-7)*, by Dr. Prem Kumar Bharteey Mr. Ayush Bahuguna Ms. Nidhi Luthra Dr. Shakti Om Pathak, 46-54. Kolhapur: Bhumi Publishing.

Jadhav Ravindra, Kohire-Patil Vishal, **Mutyalu Sheshu**. 2022. "Soil Health and Nutrient Management." In *Advances in Agricultural and Horticultural Sciences ISBN: 978-93-5607-484-2*, by Dr. Yuvraj A. Shinde, 299-312. Indore.

Raghu Nandan Singh Khatana, Tarence Thomas, Jayasree Midde, **Mutyalu sheshu**. 2022. "Nutrient uptake by the Summer Black Gram (*Vigna mungo L.*) var SHEKHAR-2Enhanced after Application of different Levels of NPK and Rhizobium as Biofertilizer." *Biological forum- An International Journal* 14 (1): 998-1002.

Mutyalu Sheshu, Akshita Barthwal, Raghunandan Singh Khatana and Amreen Hasan. 2022. "Soil Carbon Sequestration: Future Strategies, Opportunities & Challenges." In Recent Advances in Agricultural Science and Technology for Sustainable India, (ISBN: 978-81-953029-5-6), by Ratnesh Kumar Rao, 250-259. Varanasi: Mahima Research Foundation and Social Welfare.

Sheshu Mutyalu. 2020. "Design, Analysis and Evaluation of Cycle Seeder Cum weeder in Farmers Field." *International e-Symposium on: Diversification of Indian Agriculture: Ancient to Modern*. Jaipur. 68

Under Review

Mutyalu Sheshu, Amreen Hasan, Tarence Thomas et al. Phosphorus fractions distribution and their relationship with physiochemical properties in the Agricultural soils of Yamuna River Region., 24 January 2024, PREPRINT
[<https://doi.org/10.21203/rs.3.rs-3195190/v1>]