



DEPARTMENT OF MATHEMATICS
Fall 2024 MATH Colloquium Series

GEO AI for Food Security: Remote Sensing of Central Valley Crop Water Stress

Dr. Kamila Dilmurat, UC Merced

Abstract:

Remote sensing is a highly interdisciplinary field combining mathematics, physics, geospatial analytics, and Geographic Information Systems (GIS) to solve complex environmental problems. In agriculture, remote sensing is critical in detecting and managing crop water stress in California's Central Valley. Researchers can analyze spatial and temporal patterns in crop health by applying mathematical models and physical principles to data collected from satellites and Unmanned Aerial Vehicles (UAV). Integrating diverse scientific disciplines allows for the development of advanced tools and techniques that optimize irrigation practices and improve water management, ultimately enhancing agricultural sustainability. The interplay between these fields underscores the vital role of quantitative analysis and interdisciplinary collaboration in advancing our understanding of the Earth's systems and addressing real-world challenges.

Bio:

Dr. Kamila Dilmurat is a Postdoctoral Researcher at the Earth Observation and Remote Sensing Lab led by Dr. Erin Hestir at UC Merced, affiliated with CITRIS and the NSF-funded IoT4Ag research center. Leveraging her expertise in Geoinformatics and Geospatial Analytics, Dr. Dilmurat tackles critical challenges at the intersection of climate, water, and agriculture. Her current research centers on remote sensing and GIS science, focusing on utilizing geospatial data to detect crop water stress in California's Central Valley, aiming to improve agricultural sustainability and water management.

Aug. 29, 2024
THURSDAY

4:00PM
BSS#166

WE CORDIALLY INVITE YOU TO THE PRE-COLLOQUIUM TEA
outside of BSS 166 AT 3:30 PM

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