AGRONOMY SEMINAR SERIES
SPRING 2025

Understanding Drivers of Spatial and Temporal Variability of the Soil-Plant-Atmosphere System

Monday, January 27, 2025
2:30 p.m. Virtual Only

Attend virtually via Zoom
Seminar links will be posted at: purdue.ag/agryseminars

DR. BRUNO BASSO

MICHIGAN STATE UNIVERSITY
RESEARCH FOUNDATION PROFESSOR OF EARTH & ENVIRONMENTAL SCIENCES

Agriculture accounts for over 10% of direct greenhouse gas emissions, with synthetic fertilizers in the US being a significant contributor. Low nitrogen use efficiency (NUE) amplifies these impacts through increased nitrous oxide emissions and water pollution. Digital agriculture—leveraging advanced modeling, GIS, remote sensing, and agricultural machinery—offers promising solutions to enhance resource efficiency and mitigate the environmental impacts of production agriculture. This presentation will explore how the Basso Lab's Digital Twin technology is being applied to scale variable rate prescription maps and quantify the carbon footprint of agricultural management practices at scale.

PURDUE UNIVERSITY

Agronomy

Bruno Basso is John A. Hannah Distinguished Professor and MSU Research Foundation Professor of Earth and Environmental Sciences at Michigan State University. He is an internationally renowned scientist. He holds global patents on remote sensing and crop modeling systems to evaluate cropland productivity and environmental sustainability.

He is a Fellow of the American Association for the Advancement of Science (AAAS), a Fellow of the American Society of Agronomy, and a Fellow of the Soil Science Society of America.

He is a member of the Board of Agriculture and Natural Resources of the US National Academies of Sciences, Engineering, and Medicine (NASEM) and the Biological and Environmental Research Advisory Committee (BERAC) of the Department of Energy, Office of Science.

He has published more than 250 peer-reviewed. (H-index 74). He received his PhD from Michigan State University.