AGRONOMY SEMINAR SERIES
SPRING 2025

Soil Explorer - Visualizing and Understanding Soil Landscapes

Monday, February 3, 2025
2:30 p.m. LILY 2-425

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

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For most of the 125-year history of the U.S. National Cooperative Soil Survey, soil surveys were published as paper-based maps and reports that met the needs for localized conservation and land use planning. Web Soil Survey has now replaced paper maps but still provides maps and data for only small areas at a time. The SoilExplorer.net website and mobile app for iPhone/iPad, was developed to visualize soil properties so one can see both the overview and the details of soil landscapes, enabling understanding of connections and relationships that are not apparent when viewing only small areas. Soil Explorer is used extensively in our soils teaching and extensions programs here at Purdue, as well as by educators, researchers, and the public. The website averages 20.5 users per day and the mobile app averages 4 downloads per day. I will give an overview of how Soil Explorer evolved into its current implementation and then show a few of the fascinating soil landscape features right here around campus, in various parts of Indiana, and if time permits, Kenya and Peru.

Darrell Schulze grew up on a small farm on the Texas Blackland Prairies midway between Houston and Austin. Participation in Land Judging in high school lead to a lifelong interest in soil science. While a student at Texas A&M, he worked summers for the USDA Soil Conservation Service (now the Natural Resources Conservation Service), first as a student trainee and, after graduation with his B.S. in Agronomy, as a field soil scientist mapping soils. After completing his M.S. in Soil Science from Texas A&M, he studied abroad in Germany, completing his Ph.D. in Soil Mineralogy at the Technical University of Munich in Freising-Weihenstephan in 1982. His work has spanned scales from the molecular level details of soil clay minerals, particularly iron and manganese oxide minerals, to his current focus on the spatial aspects of soil properties at landscape scales. He is a past president of the Clay Minerals Society, a Fellow of the Soil Science Society of America and a Fellow of the Indiana Academy of Science.

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