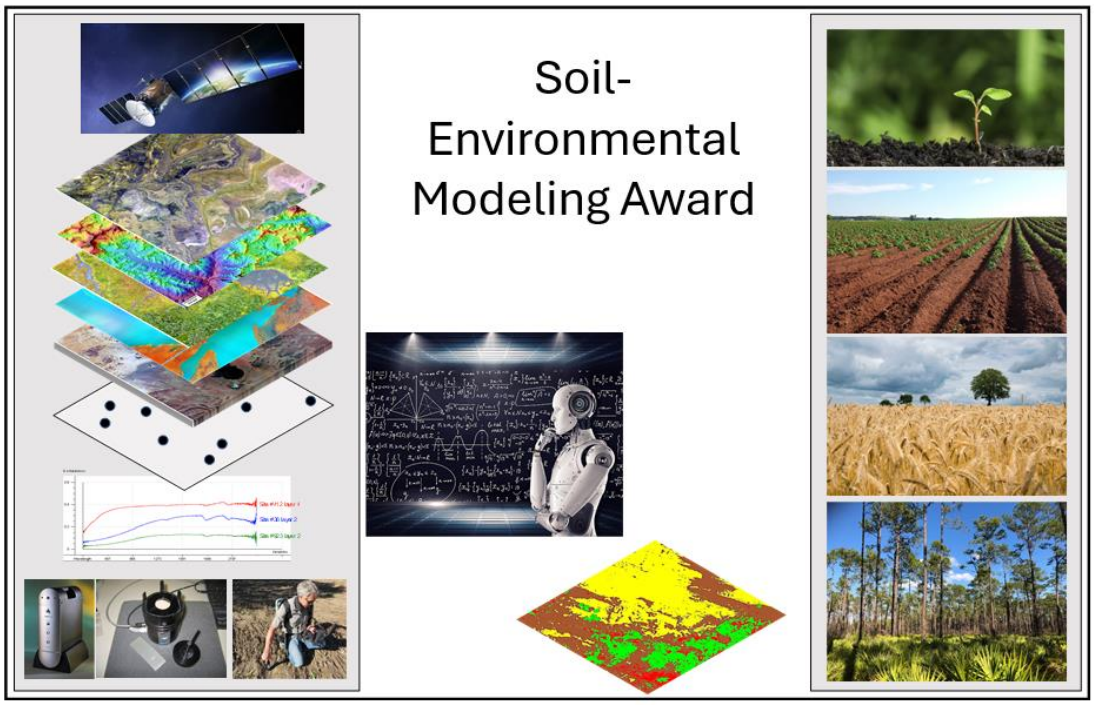
UF | UNIVERSITY of FLORIDA

SOIL, WATER, AND ECOSYSTEM SCIENCES

2025

Soil, Water, and Ecosystem Sciences Department (SWESD)
University of Florida (UF)

Soil-Environmental Modeling Award



This award is given annually to an outstanding candidate, a graduate student in the Soil, Water, and Ecosystem Sciences Department (SWESD) UF; or student enrolled in the graduate program in the School of Natural Resources and Environment (SNRE) w/ Major Advisor or Co-Advisor in SWESD) in recognition of cutting-edge research in modeling of soil-environmental systems and pedometrics. The awardee will be recognized with an award certificate and $500 award.

We invite research applications in soil and environmental sciences focused on:

- Artificial Intelligence, AI (machine learning, ML, and deep learning, DL algorithms), GeoAI, and physics-informed AI

- Development of new modeling approaches
- Digital soil mapping and modeling
- Digital twins
- Pedometrics-econometrics approaches (e.g., Stochastic Frontiers Analysis, Data Envelopment Analysis)
- Ensemble modeling
- Mechanistic, process-based simulation modeling
- Hybrid modeling (Bayesian, geostatistics, statistics, AI, and other methods)
- Meta-analysis
- BIGDATA analysis using massive geospatial environmental datasets
- Proximal soil sensing (visible, near-infrared or mid-infrared spectroscopy), remote sensing, UAV and other sensing systems applied in soil and environmental sciences.

The award is open to graduate students in SWESD or SNRE, UF. Self-nominations and nominations by faculty members are invited. To be considered for the award please submit the following:

- Contact address of candidate (incl. email and phone)
- Curriculum vitae of candidate (report the GPA)
- Essay of the candidate describing the implemented and completed (published) research in soil and environmental modeling / pedometrics (maximum of 1 page)
- Two letters of nomination/reference from the Major Advisor and/or Co-Advisor; and faculty members. Submit letters directly to Mike Sisk
- Provide pdfs of published journal articles that demonstrate the completion of the research; and or pdf of completed dissertation.

Each candidate will be evaluated on the following criteria:

- *Innovation* to apply quantitative methods (AI, statistical, geostatistical, geospatial, temporal, or spatio-temporal modeling techniques) in soil-environmental sciences
- *Novelty* of research to investigate a soil-environmental problem of high significance
- *Cutting edge modeling* using Artificial Intelligence (machine learning and deep learning algorithms)
- *Application* of digital methods including GeoAI, GIS, remote sensing, proximal soil sensing, remote sensing; and/or development of new quantitative methods
- *Complexity and difficulty level* of applied methods
- *Clarity* of documentation of research
- *Quantification of* uncertainty and quality to assess/predict soil-environmental properties; ecosystem processes, functions, and/or services
- *Interpretation* of results and novel conclusions.

Sponsor: Pedometrics, GeoAI and Landscape Analysis Laboratory, SWED, UF; Dr. Sabine Grunwald

Nomination submission deadline: Thursday, October 2, 2025.

Award funds: $500 award.