

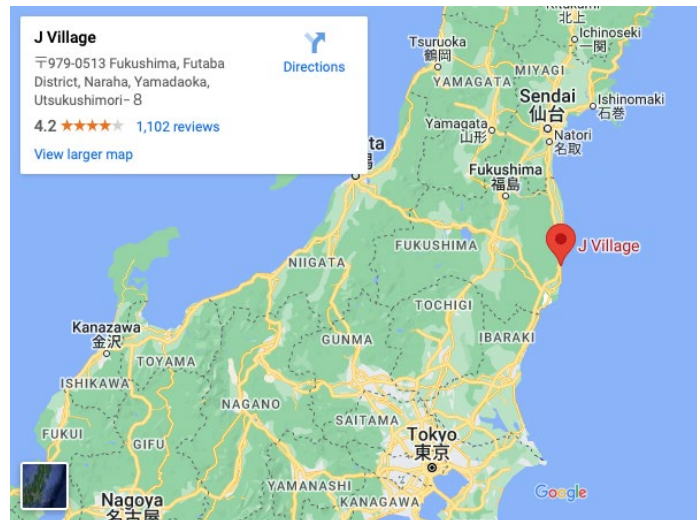
2025

Fukushima, Japan
August 19-22

Kirkham Conference



The SSSA Kirkham Conferences Committee has selected Fukushima, Japan as the site of the 2025 Kirkham Conference to be held August 19-22, 2025. The Conference will take place in J-Village near the damaged nuclear reactor site in the middle of Fukushima Prefecture. The conference will include keynote speakers, presentations, posters, student events, social activities, and tours. The conference is designed to encourage scientists to make organized, in-depth explorations of disciplinary and interdisciplinary subjects of soil physics in ways seldom possible at large meetings.



Abstracts and registration will open in early 2025.

Conference Title:

Advancing Soil Physics: From Digital Innovation to Environmental Solutions



Draft Scientific Program

Theme 1: Cutting-edge Technologies for Soil Management and Digitized Agriculture.

Exploring cutting-edge technology and methods for soil management and restoration through real-time sensing, digital twins and advanced modeling. This theme encompasses smart farming solutions, IoT sensor networks, artificial intelligence applications, and innovative soil information systems. We welcome contributions on sensor development, data integration frameworks, machine learning applications, remote sensing, precision agriculture implementations, and digital solutions for soil health monitoring and restoration. Special focus on novel approaches combining multiple data streams, cloud computing applications, and practical implementations of digital soil mapping for sustainable agriculture.

Theme 2: Soil Structure as a Nexus of Biogeochemical and Hydrological Processes

Investigating the critical role of soil architecture in governing water movement, nutrient cycling, and biochemical processes across scales. We seek contributions examining pore-scale dynamics, aggregate stability impacts, root-soil interactions, and their influence on ecosystem services. Topics include advanced imaging techniques, structure-function relationships, scaling methods, modeling approaches linking physical and biological processes, and innovative methodologies for characterizing soil structural properties. Emphasis on multiscale analysis, from micropores to field-scale applications, and their implications for agricultural productivity and environmental quality.

Theme 3: Landscape-Scale Soil Hydrology: Bridging Scales and Systems

Examining the complex interplay between local and regional hydrological processes, from pedon to watershed scale. This theme explores the integration of vertical and lateral water fluxes, including surface-groundwater interactions, flood impacts on soil processes, and coastal soil dynamics. We welcome contributions on watershed modeling, terrestrial-aquatic linkages, climate change impacts on soil hydrology, and innovative approaches to scaling hydrological processes. Special interest in contributions addressing urban-rural interfaces, coastal soil systems, and advanced monitoring technologies for landscape-scale processes.

Theme 4: Environmental Fate and Transport of Soil Contaminants

Investigating the movement and transformation of contaminants in soil-water systems, including both surface and subsurface transport processes. We seek contributions on laboratory- and field-scale studies in various environmental compartments (e.g., surface runoff, vadose zone and saturated zone), innovative monitoring techniques and modeling approaches, and remediation strategies. Special focus on the fate and transport of radionuclides and emerging contaminants, and the development of sustainable remediation solutions.

Conference Format

The conference will kick off with an informal ‘get-to-know-you’ session for students and early-career scientists from 4:00-7:00 PM on August 18th with refreshments.

The 2-day scientific program will cover the 4 themes described above. Each theme will include one keynote (40 minutes) and one invited (25 minutes) oral presentation and discussion (25 minutes), followed by poster introductions (90 seconds for each poster presenter) and poster presentations. In addition, there will be a presentation by the Kirkham Medalist (awarded every 8 years).

There will be two field trips organized by the local organizing committee to show the disaster-influenced areas and demonstrate remediation efforts with an additional invited presentation. Cultural events are also being planned.

Details

Abstract submissions will be open for poster presentations in early 2025 – watch for announcements. Registration will open in spring 2025 and will include hotel room reservations for J-Village. Registration rates are being finalized. In addition, the Kirkham Conference Committee is working on local transportation options to Fukushima for those flying into Tokyo.

About Kirkham Conferences

Kirkham Conferences should be devoted to soil physics topics in which experiment, theory and application are of major importance, and they should not only educate but also stimulate further discussion and innovation.

The Kirkham Conference brings together soil physics researchers, and those in closely related disciplines, to share ideas and discuss their research. The future of soil physics, as well as challenges, opportunities, and applications, are all considered on a global scale. These conferences usually take place every four years. Previous Kirkham Conferences were held in the U.S. (2000, 2004, 2008), New Zealand (2012), Israel (2016), and South Africa (2022). Unlike many conferences, the Kirkham Conference is designed to be small, allowing intense discussion and interaction. The more intimate conference setting allows students and early-career researchers to interact with world-renowned scholars. Holding the conference in selected international locations allow conference attendees to gain an appreciation for the global applications of soil physics research. The Kirkham Conference has evolved to be a unique gathering that provides participants an immersive experience both intellectually and culturally.

