1st International Workshop on Multi-modal Spatio-temporal Big Data for Natural Disaster Monitoring, Assessment and Decision-Making (NDMAD 2025)

In conjunction with

HPCC (The 27th IEEE International Congress on High Performance Computing and Communications)

Exeter, UK. 13-15, August 2025, site: https://hpcn.exeter.ac.uk/hpcc2025/

Call For Papers

In recent years, the frequency and intensity of natural disasters—such as landslides, collapses, floods, ground subsidence, debris flows, and typhoons—have increased significantly due to climate change and human activities. These events pose serious threats to lives, infrastructure, and sustainable development. At the same time, the explosion of spatio-temporal big data, including remote sensing imagery, IoT sensor networks, and multi-source geospatial data, has opened new opportunities for disaster monitoring, assessment, and decision-making.

This workshop aims to advance the integration of cutting-edge technologies—such as multi-modal large models, knowledge graphs, and cloud-edge-end collaboration—with disaster science. The workshop will explore key topics including natural disaster identification, susceptibility and risk assessment, long-term disaster mapping, and multi-criteria decision-making. By bridging spatio-temporal big data with intelligent systems, NDMAD 2025 seeks to support more accurate, timely, and actionable responses to natural disasters.

Topics of interest include, but are not limited to:

➢ Natural Disaster Knowledge Graph Construction
➢ Advanced Multi-modal Large Models for Natural Disaster Identification
➢ Long-term Remote Sensing Mapping of Typical Natural Disaster
➢ Multi-modal Data Fusion under Missing or Noisy Conditions
➢ Susceptibility Assessment and Potential Risk Site Identification of Typical Disasters
➢ Mechanisms and Risk Assessment of Typical Natural Disaster
➢ Multi-criteria Disaster Decision-making
➢ Efficient Management of Spatiotemporal Big Data
➢ Cloud-Edge-End Collaboration for Spatio-temporal Disaster Big Data
➢ High-performance Platform for Spatio-temporal Disaster Big Data

Submission Guide:

Papers should be written in English. Submitted papers must be original work, and may not be under consideration for another publication. The length of the paper is up to 6 pages (or 10 pages with over length charge). Submitted papers need to abide by IEEE Computer Society formats, and must be formatted accordingly. Please send your submission draft via email link: w.han2@exeter.ac.uk or xhhuang@cug.edu.cn or yuewei.w@cug.edu.cn with PDF format. Each paper will be peer-to-peer reviewed by NDMAD TPC. Papers, which are accepted and presented at NDMAD 2025 Workshop, will be published in IEEE HPCC2025 proceedings and submitted for inclusion into EI indexing.

Organising Committee:

Workshop Co-Chairs:

Wei Han, University of Exeter, UK

Xiaohui Huang, China University of Geosciences, China

Yuewei Wang, China University of Geosciences, China

Xiaodao Chen, China University of Geosciences, China

Yunliang Chen, China University of Geosciences, China

Program Committee Members:

Jia Chen, Wuhan University of Science and Technology

Xiaohan Zhang, China University of Geosciences, China

Li Cao, Key Laboratory of Natural Resources Monitoring and Supervision in Southern Hilly Region, Ministry of Natural Resources, China

Kaijun Yang, Key Laboratory of Natural Resources Monitoring and Supervision in Southern Hilly Region, Ministry of Natural Resources, China

Sipeng Han, Research Center of Applied Geology of China Geological Survey, China

Sheng Wang, China University of Geosciences, China

Xinyu Zhang, China University of Geosciences, China

Zhipeng Wan, China University of Geosciences, China

Important Date: Submission deadline: June 10, Notification: 30 June, Registration: 15 July 2025

More Contact: For more questions of NDMAD 2025 Workshop, please contact: Dr. Wei Han w.han2@exeter.ac.uk or Dr. Xiaohui Huang xhhuang@cug.edu.cn or Dr. Yuewei Wang yuewei.w@cug.edu.cn