

IET Travel Award Report, IAHS 2025, Roorkee, India

By Shagun Garg, University of Cambridge

The International Association of Hydrological Sciences (IAHS) Scientific Assembly 2025 was held at the Indian Institute of Technology Roorkee (IIT Roorkee), India, from 5–10 October 2025. The IAHS Assembly is one of the world’s largest gatherings of hydrologists, water engineers, and Earth scientists, offering a vibrant platform to exchange knowledge and discuss advances in hydrological research. This year’s theme focused on “Hydrology in the Anthropocene: Water for All, Water Forever”, addressing global challenges around water scarcity, floods, and resilience in a changing climate. The event brought together participants from across the world, featuring parallel symposia, poster sessions, and special forums on sustainable water management, satellite hydrology, and disaster resilience.

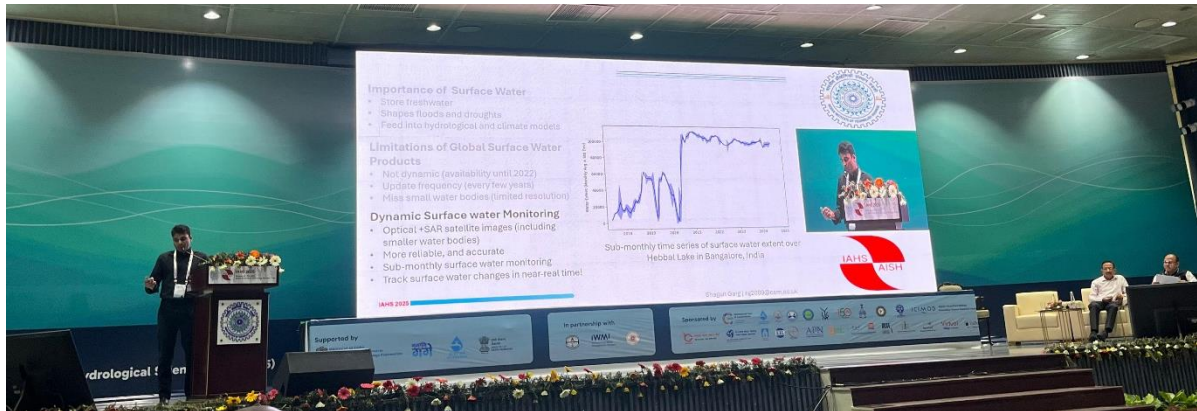
For me, attending IAHS was a great opportunity to engage directly with leading researchers in remote sensing, flood and climate resilience, and to strengthen networks with local collaborators in India and across the world.

I had the privilege to present two research works during the conference — one as a poster presentation and another as a Forum Oral presentation.

1. Forum Oral Presentation

Title: *Satellite-Based Surface Water Mapping Using Combined Optical and SAR Data*

In this pitch, I showcased my ongoing PhD research on integrating optical and radar satellite imagery to map lakes and ponds at sub-monthly frequency. The work highlights how fusing data from multiple sensors can overcome challenges such as cloud cover and vegetation, enabling more accurate and frequent surface water monitoring - a critical input for flood and drought management. The pitch drew significant interest from researchers working on hydrological modelling across Asia and Africa, leading to several follow-up discussions.



2. Poster Presentation

Title: *Satellite-based Flood detection in Arid Regions*

In this poster, I summarized key findings from my published paper in [Remote Sensing of Environment \(2024\)](#). The poster focused on overcoming the long-standing challenge of distinguishing water from dry sandy areas in arid regions. The session generated engaging questions about machine learning techniques and transferability of flood detection models.

3. Impact Pitch

Beyond presenting my research, I participated in the [South Asia Alliance of Disaster Research Institutes \(SAADRI\)](#), IAHS Pitch Competition on Water and Urban Resilience.

The competition brought together young researchers from South Asia to pitch innovative ideas for addressing urban flood and drought challenges. My pitch proposed a satellite-based early warning and monitoring framework for urban lakes, focusing on how improved lake data can support resilience planning in rapidly growing cities like Bangalore, India. Thrilled to share that our team won the pitch competition (first prize), which was a proud moment not just personally but also for representing the University of Cambridge and the IET at an international platform.



4. Impact Pitch

The IET Travel Award made it possible for me to attend this prestigious global event. It allowed me to share my research with the hydrological community, establish collaborations with institutions in India and South Asia, and gain valuable feedback that will directly inform my ongoing PhD work. More importantly, it strengthened my confidence in communicating complex Earth observation research to a broader, interdisciplinary audience - from hydrologists to policymakers.

In line with IET's commitment to sustainability, I consciously opted for rail and local public transport (bus and shared mobility) during the conference and travel in India, minimizing the carbon footprint of my participation.

I am deeply grateful to the IET for this support and for enabling early-career researchers like me to participate in international scientific forums.