

Agenda

Date: 23 - 26 September 2024

Venue: ICIMOD, Kathmandu, Nepal

Day 1: Foundations and Current Research Open to all at ICIMOD 23 September 2024		
Time (NPT)	Agenda	Remarks
09:00 – 09:20	Registration	
09:20 – 09:30	Plenary: Welcome remarks	Arun Bhakta Shrestha , Strategic Group Lead, SG-1: Reducing Climate and Environmental Risks, ICIMOD
09:30 – 10:10	Inventorying rock glaciers: Insights from the IPA action group	Benjamin Aubrey Robson , University of Bergen
09:10 – 10:50	Automating rock glacier inventories with machine learning	Benjamin Aubrey Robson , University of Bergen
10:50 – 11:10	Tea/Coffee Break	
11:10 – 11:50	Mapping mountain permafrost using satellite and near-surface ground temperature measurements	Sonam Wangchuk , ICIMOD
11:50 – 12:30	Monitoring permafrost in the Ladakh Himalaya	Ashok Priyadarshan Dimri , DST-Indian Institute of Geomagnetism
12:30 – 13:30	Lunch Break	
13:30 – 14:10	Using satellite and UAV data for glaciers and rock glacier characterisation	Benjamin Aubrey Robson , University of Bergen
14:10 – 14:50	Role of GMRC-WAPDA in monitoring glaciers in Karakoram Region, Pakistan	Syed Hammad Ali , Water and Power Development Authority (WAPDA)
14:50 – 15:10	Tea/Coffee Break	
15:10 – 15:50	Permafrost research activities at ICIMOD	Prashant Baral , ICIMOD
15:50 – 16:30	GLOF and permafrost association	Sonam Rinzin , Newcastle University
16:30 – 17:00	Overall discussion	All
Day 2: Collaborative Opportunities and Field Insights 24 September 2024		
09:00 – 10:00	Discussion topic	All

	1. How can we better link various remote sensing observations of permafrost landforms to understand permafrost processes and permafrost degradation?	
10:00 – 11:00	Discussion topic 1. What level of accuracy or precision is necessary for the machine learning based inventories of permafrost landforms such as rock glaciers for understanding the state of permafrost? 2. How do issues of AI trustworthiness and reliability impact a wider understanding of the state of permafrost?	All
11:00 – 11:20	Coffee/Tea Break	
11:20 – 12:30	Discussion topic 1. How can the field and remote sensing-based observations on permafrost used to understanding the changing risk of geohazards related to permafrost degradation?	All
12:30 – 13:30	Lunch Break	
13:30 – 14:30	Discussion topic Extending the scope of machine learning studies	All
14:30 – 15:30	Discussion topic 1. How applicable are the RGIK guidelines and methods for High Mountain Asia?	All
15:30 – 15:50	Tea/Coffee Break	
15:50 – 16:30	Discussion topic 1. What are the needs of permafrost/rock glacier inventories in High Mountain Asia compared to other world regions? 2. What possibilities are there for future funding for collaborative projects?	All
16:30 – 17:00	Discussion topic 1. Exploring possibility of joint field visits or exchanges of students 2. Researchers/scientists perspective on kind of awareness required to educate general audience about permafrost science	All
Day 3: SAR and InSAR Applications - Part 1 Open to all at ICIMOD 25 September 2024		
09:00 – 10:00	Principles of radar imaging	Benjamin Aubrey Robson and Sonam Wangchuk

10:00 – 11:00	Introduction to SAR and InSAR techniques	Benjamin Aubrey Robson and Sonam Wangchuk
11:00 – 11:20	Tea/Coffee Break	
11:20 – 12:30	Applications of SAR and InSAR in observing permafrost dynamics	Benjamin Aubrey Robson and Sonam Wangchuk
12:30 – 13:30	Lunch Break	
13:30 – 14:30	Hands-on exercises to manipulate SAR data	Benjamin Aubrey Robson and Sonam Wangchuk
14:30 – 15:30	Techniques to assess terrain effects on radar signals	Benjamin Aubrey Robson and Sonam Wangchuk
15:30 – 15:50	Tea/Coffee Break	
15:50 – 17:00	Strategies for automating data processing workflows within SNAP	Benjamin Aubrey Robson and Sonam Wangchuk
Day 4: SAR and InSAR Applications - Part 2 Open to all at ICIMOD 26 September 2024		
09:00 – 10:00	Step-by-step guidance on interferogram creation	Benjamin Aubrey Robson and Sonam Wangchuk
10:00 – 11:00	Techniques for topographic phase removal	Benjamin Aubrey Robson and Sonam Wangchuk
11:00 – 11:20	Tea/Coffee Break	
11:20 – 12:30	Integration of SAR data with geographic visualization tools	Benjamin Aubrey Robson and Sonam Wangchuk
12:30 – 13:30	Luch Break	
13:30 – 14:30	Introduction to time-series analysis in permafrost research	Benjamin Aubrey Robson and Sonam Wangchuk
14:30 – 15:30	Practical exercises on velocity mapping	Benjamin Aubrey Robson and Sonam Wangchuk
15:30 – 15:50	Tea/Coffee Break	
15:50 – 17:00	Discussions on interpreting and applying the results to permafrost monitoring	Benjamin Aubrey Robson and Sonam Wangchuk