ICIMOD HUC Himalayan University Consortium universität innsbruck Universität Bremen LUMS Centre for Water Informatics and Technology OGGM Open Global Glacier Model

CALL FOR APPLICATIONS

TRAINING ON

Glacier modelling: Practical applications with the Open Global Glacier Model

10–16 March 2023 | LUMS, Lahore, Pakistan

Application deadline: 07 February 2023

This call is for Pakistan-based applicants only.

About the training

University of Innsbruck, University of Bremen, and Lahore University of Management Sciences (LUMS) are co-organising a week-long training on glacier modelling and scientific programming using the Open Global Glacier Model (OGGM). The training will focus on glaciers in High Mountain Asia and their roles in the hydrological system. The training has been organised by local and international experts in the fields of mountain glaciology and hydrology.

The Open Global Glacier Model (OGGM) is an open-source glacier modelling framework with the ability to simulate past and future mass balance, volume, and geometry of any glacier in the world. Applicable at the regional and global scales, it is used by several research groups around the world to better quantify and understand past and future glacier change. Its modular framework allows anyone to extend it with their own methods and ideas. By offering materials to teachers, its educational branch, OGGM-Edu, helps bring glacier science and glacier modelling closer to schools and universities.

Topics

The training will offer a balanced mix of lectures on the theory of glaciers and their modelling and practical sessions with the OGGM model. It will cover the following topics:

- General introduction to glaciers
- Climatic mass-balance: Processes and modelling
- Practicals: Temperature index modelling with OGGM
- Ice flow: Processes and modelling
- Practicals: Numerics of simple differential equations, flowline modelling with OGGM
- Glacier system modelling: Glacier-climate interactions, coupling, uncertainties
- Practicals: real glacier experiments with OGGM
- Regional hydrology with a focus on the Upper Indus Basin
- Glaciers in the hydrosphere: Glacier runoff
- Practicals: peak-water and runoff partitioning with OGGM
- Scientific programming with the Python programming language and practising open-source software development on github
- Excursion: Visit the LUMS campus and research facilities, outdoor field visit to relevant sites

Resource persons

Fabien Maussion (University of Innsbruck); Fahad Saeed (Climate Analytics Islamabad); Muhammad Abubakr (LUMS); Jakob Steiner (University of Graz); Anouk Vlug (University of Bremen); Jawairia Ashfaq (LUMS); Patrick Schmitt (University of Innsbruck); Muhammad Adnan Siddique (ITU Punjab); and Muhammad Shafeeque (University of Bremen)

Application procedure

Interested applicants should have (or be close to obtaining) a master's degree in earth science, physics, mathematics, or equivalent. Previous knowledge of glaciers or programming is an advantage but is not required. However, we encourage you to have a basic knowledge of python programming before the training, if possible. Female researchers and practitioners and members of underrepresented communities are strongly encouraged to apply.

Please submit your application form online here.

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Important dates

Application deadline: **07 February 2023**

Announcement of selected participants: **10 February 2023**

Workshop schedule

10 March 2023:	Arrival of participants
11–15 March 2023:	Classes, including a half day field visit excursion
16 March 2023:	Departure

Costs

The programme is free of charge. For selected participants from organisations in Pakistan, the costs for domestic travel and lodging will be covered. Selected participants from international organisations based in Pakistan will need to request resources from their organisations.

Accommodation: LUMS guest houses on campus

For more detailed information on the workshop, please visit **this** page.

For further information

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