Divecha Centre for Climate Change,
Indian Institute of Science,
Bengaluru

*Organising*

Training on
Glacier studies and Remote sensing
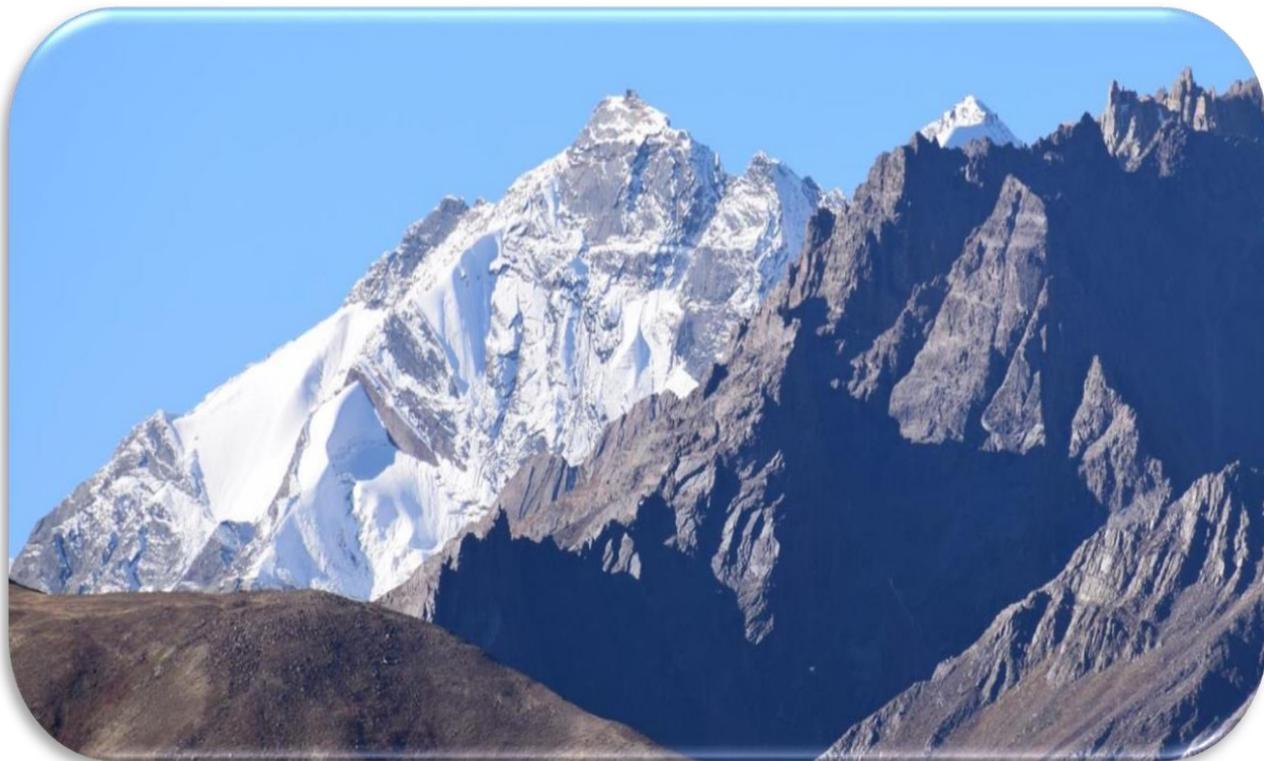


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Department of Science and Technology

The Himalayan region has a large concentration of glaciers and seasonal snow. Recent advances in remote sensing technologies have made it possible to study previously unexplored Himalayan cryosphere. These studies are essential to understanding the water security of a large population living in Indo-Gangetic plains. India's lack of trained human resources makes it difficult to generate reliable information on glaciers using remote sensing techniques. Therefore, proper training in extracting glaciology information from remote sensing data is necessary, and we also need to attract talented young people in this field.

Therefore, Divecha Centre for climate change organizes training for young students who wish to work in glaciology. Faculty members of the Divecha Centre for Climate Change will deliver lectures. In addition, well-known faculties will be invited as guest faculty. A Series of tutorials and practical sessions will be enriched the training.

Date : 18 – 29, April 2022

Venue : MS Teams Online platform

Time: 2.30 PM to 5.30 PM

## Syllabus:

### 1. Distribution of Glaciers and snow cover

Overview of Cryosphere, Importance of glaciers, precipitation and formation of snow, distribution of glaciers/snow

### 2. Application of remote sensing in glaciology

Fundamentals of Remote Sensing, Glacier inventory, Estimation of glacier mass balance, glacier depth, moraine-dammed lakes, snow cover and snow albedo

### 3. Climate and climate change

Climate change and climate variability, General circulation of atmosphere and oceans, impacts of aerosols

### 4. Monitoring of glaciers

Physical and morphological properties of snow and glaciers, Development of algorithms and glacier modelling, Glacier Lake Outburst Flood

### 5. Glacier Mass Balance

Concept of glacier mass balance, methods of glacier mass balance estimation-Glaciological, Geodetic and AAR methods, the concept of ELA, IAAR method

### 6. Ice and Snow ablation

Physics of snowmelt, heat budget and radiation. Snowmelt runoff model.

## Practical:

Topographic corrections of reflectance, Supra glacier debris cover, Depth estimate using different techniques, Climate Change and mass balance, Runoff Estimates in Himalayan river, Aerosol modelling, Heat transport

## Faculty :

- **Prof. S. K. Satheesh**
  Professor & Chairman, Divecha Centre for Climate Change
- **Prof. J. Srinivasan**
  Distinguished Scientist, Divecha Centre for Climate Change
- **Dr. Anil Kulkarni**
  Distinguished Scientist, Divecha Centre for Climate Change

  Guest lectures by eminent scientists.

## Eligibility :

Post Graduate M.Sc., M.Tech., M.E. and PhD students from recognized Institutes/Universities.

## Registration :

Aspirants can enrol their names through the following link.

Link: https://forms.gle/yQ2X9RKXdgX66KNL7

No registration fees for the trainees.

## Deadline :

Last date for application submission: 07 March 2022

Intimation to selected candidates: 14 March 2022

## Contact details:

Dr. Anil V Kulkarni
Distinguished Scientist
Divecha Centre for Climate Change
Indian Institute of Science, Bengaluru

E-mail: glacier.dccc@iisc.ac.in, anilkulkarni@iisc.ac.in