

G.B. Pant National Institute of Himalayan Environment

Special Lecture Series (Lecture-5)

30 October 2023 (Monday) | 4:00 pm (Hybrid mode)

"Multifaceted Perspective of Himalayan Biodiversity from Space"



Speaker

Dr. Hitendra Padalia
Head, Forestry & Ecology
Department, IIRS

Dr. Hitendra Padalia is Scientist SG at Indian Space Research Organisation (ISRO). Currently, he is heading the Forestry and Ecology Department at the Indian Institute of Remote Sensing (IIRS), Dehradun. He has participated in Space Studies Programme (SSP) of International Space University. He specializes in application of Remote Sensing in ecological sciences. He is science team member NASA-ISRO SAR (NISAR) and HySIS satellite missions. He has published 60 research papers in peer reviewed international and national journals. He has been awarded P.R.Pisharoti National Remote Sensing Award by Indian Society of Remote Sensing and Forestry research excellence award by ICFRE, Dehradun. He is member of high level committee involved in notification of western ghats Ecosensitive zonation. He has been involved in education and training building activities of IIRS and Centre for Space Science Technology in Asia and Pacific.



Welcome

Prof. Sunil Nautiyal
Director, GBPNIE



About Speaker

Dr. K. Chandra Sekar



Moderator

Dr. Arun Jugran



Vote of Thanks

Dr. Suresh Rana

Webex link: <https://gbpniehq.my.webex.com/gbpniehq.my/j.php?MTID=ma928be2599f3fffd911a2c65ae87e576>

Meeting ID: 2644 620 8072

Password: Himalaya@2023

Multifaceted Perspective of Himalayan Biodiversity from Space

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Abstract

Himalaya has inspired scientific study on biodiversity since the time of Sir J. D. Hooker's expedition in 19th century. Its inclusion in Norman Meyer's Biodiversity Hotspot priority list gave global impetus to prioritizing its conservation. Erosion of biodiversity in Himalaya shall affect human population more than elsewhere. Syntheses and ecological generalizations of Himalayan biodiversity have come mainly from scattered field surveys. Remote sensing is a highly effective method of investigating the distribution of biodiversity and its environmental relationships. Previous studies have indicated its importance for the Himalaya. The human induced extreme events have highlighted the fragility of the Himalayas, calling for stronger scientific evidence in favor of biodiversity conservation, especially in high altitude areas. In this context, we would like to address the importance of high-altitude vegetation assemblages and their diversity patterns of the Western Himalaya through remote sensing. Starting from the fundamental aspects of high-altitude biodiversity and space-based remote sensing, to address the following scientific questions:

- (i) How are new generation remote sensing datasets useful in mapping phytogeographical patterns?
- (ii) How is a systematic and coordinated alpine field survey useful for macro-scale ecological studies?
- (iii) How can the use of remote sensing data help in predicting multifaceted aspects of high altitude plant biodiversity? And,
- (iv) How does alpine biodiversity affect ecosystem function?

New types of biodiversity information products are useful for species as well as landscape specific conservation planning and bio-resource utilization. I hope that this conversation will enlighten the special lecture attendees and inspire researchers to explore new capabilities of remote sensing in future biodiversity studies.