CALL FOR PARTICIPATION
In
A short course
Under
GLOBAL INITIATIVE OF ACADEMIC NETWORK (GIAN)
(www.gian.iitkgp.ac.in)
Ministry of Human Resource Development, Government of India

The GIAN programme of MHRD, Govt. of India aims at tapping the talent pool of scientists and entrepreneur internationally to encourage their engagement with the institutes of higher education in India so as to augment the country's existing academic resources, accelerate the pace of quality reforms and elevate India's scientific and technological capacity to global excellence. Under GIAN, the Department of Geology is going to organize a short course (March 07-11, 2017) at Kohima Campus, Meriema, Nagaland University where in an internationally acclaimed expert with proven knowledge, experience and skills in research, teaching as well as in training will deliver lectures and discuss about the issues related to his areas of research with the participants.

Aims of GIAN, Nagaland University

- Provide opportunity to our Faculty to learn and share knowledge and teaching skills in cutting edge areas.
- To provide opportunity to our students to seek knowledge and experience from reputed international faculty.
- To create avenue for possible collaborative research with the international faculty.
- To increase participation and presence of international students in our University.
- Develop high quality course material in niche areas, both through video and print that can be used by a larger body of students and teachers.
- To document and develop new pedagogic methods in emerging topics of national and international interest.

Course Title: "Landslide and Debris Flow Systems: Prediction, Control and Reclamation"

Overview

A landslide disaster occurs somewhere in the world almost every day. Landslides are ubiquitous in mountainous regions, where they are both major hazards and commonplace landforms. Learning to live with landslides and debris flows is, therefore, an important skill for all those involved in environmental management in mountains. Landslide prediction and management is tackled by many branches of the applied sciences including geography, geology, geotechnics, geophysics, as well as by the insurance and construction industries and those concerned with development and planning at every level of state and local government. However, much of this work conceives landslides as single, discrete, predictable events. Such 'lowland thinking' is ill equipped to deal with steep, unstable, mountainous environments like those of the Himalaya, where many landslides and debris flows are recurrent, chronic events that occur less as discrete units than as swarms numbering in the hundreds. Exploring the less predictable 'crowd behaviour' of landslides requires new approaches that share much with the prediction of earthquakes and volcanic eruptions and that involve geostatistics, geoinformatics and geosystems thinking. Approaching landslide research through systems thinking introduces a more holistic vision and a different agenda from that of conventional practice in engineering, geology and geography. Landslides, debris flows and the hill slopes where they form are open systems that exchange mass and entropy with their environment. Relatively few are the single events conceived by textbooks. Most evolve and fade away across an extended period. Initially, all self-create as (entropy dissipating) evolving systems in response to particular triggers. "Chronic" landslides and debris flows self-sustain and evolve through several seasons becoming better integrated and more independent of environmental control, while most others accumulate entropy and so devolve to extinction. Ultimately, whatever event is their trigger, landslides exist because of the energy inputs from tectonic uplift and undercutting by erosion or engineering and all hill slope systems, including landslides, operate to eliminate this "relief energy" (as it is conventionally called).

Nagaland is vulnerable to landslides due to the geological fragility and steep terrain, unsustainable development practices, and extreme rainfall events. This course explores the different characteristics of the trigger events that initiate landslide and debris flow activity and the systems processes that determine their size and longevity. It considers the means for the prediction and control of landslide-prone zones, such as new mountain highways. It looks at the role of natural (landslide ecology) processes and, remembering that in mountain areas like the Himalaya most agriculture is conducted on former landslide deposits, it explores the applied sciences of landslide stabilization and reclamation. Finally, it considers methods of hazard mitigation and avoidance, including the management of recurrent long-runout landslides and debris flows.

Objectives of the Course

- To identify and reflect on the nature of landslide and debris flow dynamics in the contexts of environmental change and from the perspectives of dynamic systems and complexity theory.
- To explore the physical character, processes, controls, triggers and modes of evolution on common landslide and debris flow types using, especially, the research literature of Italy, Japan and India.
- To consider the problems and potentials of landslide prediction and control methodologies.
- To consider the role of community education and CERC (Crisis and Emergency Risk Communication) technologies in the mitigation and management of landslide prone areas.
- To explore landslide ecology and both the bio-technical options for landslide stabilization, reclamation and land re-use
- To initiate collaborative research between Nagaland University, India and Oxford Brookes University, U.K.

The Faculty

Prof. Martin Haigh is the Emeritus Professor of Geography, Oxford Brookes University, United Kingdom. Formerly he was (Vice) President of the World Association for Soil and water Conservation. Prof. Martin Haigh is Co-Founder of the UNESCO recognized "International Association for Headwater Control and co-organiser of 7 of its international conferences. He is a UK National teaching Fellow and a senior Fellow of the Higher Education Academy, UK. Martin's current work includes technical research in landslide prediction and control, Environmental Education for a Sustainable Future, and landscape reconstruction and hazard management in mining and mountain areas.

Prof. G.T. Thong is presently Head of the Department of Geology, Nagaland University, Kohima Campus, Meriema. His areas of interest include sedimentology and landslides. He has completed some major research projects funded by the Space Applications Center (ISRO) and Department of Science & Technology, Govt. of India. He was formerly the Dean (Research, Development and Consultancy), Nagaland University.

Prof. M.S. Rawat is a geomorphologist and has been working in the Himalaya for more than 30 years. His expertise is in the geomorphological and hydrological processes. He has completed some R&D projects sponsored by the DST, CSIR and G.B. Pant Institute of Himalayan Environment & Development, Govt. of India. Presently, he is Professor and Head of the Department of Geography under School of Sciences, Nagaland University, Lumami - 798627, Zunheboto, Nagaland.

Modules	A	: 5 lectures, field study, tutorials & workshop, assignments March 07 - March 08, 2017
	B	**: 5 lectures, field study, tutorials & workshop, assignments** **March 09 - March 10, 2017**
	C	**: Group discussion, final session & examination** **March 11, 2017** Number of participants for the course will be limited to fifty
You Should Attend If…	- you are a UG/PG Student or Research Scholar or Faculty of Geology, Geography, Botany, Environmental Sciences, Forestry Sciences, Social Sciences, Geoinformatics, etc. of a University, IIT, NIT, College, etc. - you are a scientist, government official, community leader, from NGO's, etc. - you are a government official from PWD, Disaster Management, Geology & Mining, Planning & Coordination, Soil & Water Conservation, Meteorology, Urban Planning, etc.	
Fees	The participation fees for the course is as follows: **Participants from abroad: US $ 300** **Industry / Research Organization / Government Department: Rs. 10,000/-** **Academic Institutions:** **Students - Rs. 2,000; Research Scholars - Rs. 5,000; Faculty - Rs 8,000/-** The above fee includes all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free internet facility. Travel and accommodation charges will be borne by the participants.	

Preliminary Registration is Open

The Faculty Members, Research Scholars and PG/UG students of Nagaland University and the Universities of North East India are invited to attend the course. Interested participants are advised to send their request for Preliminary Registration to *msrckr@rediffmail.com*. The further details for the Final Registration will be circulated in due course of time.