



**Report on the IGI Young Geomorphologists Forum 2nd Intensive Training Program  
for The Young Geomorphologists**

**Surajit Kundu**

*Department of Geography, Triveni Devi Bhalotia College, West Bengal, India,  
[surajitkundu@tdbcollege.ac.in](mailto:surajitkundu@tdbcollege.ac.in)*



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"No vestige of a beginning, - no prospect of an end": this is probably the best way to summarise in a sentence of the participation in the **2nd Intensive Training Program for Young Geomorphologists of India**. As the participation in the 2nd IGI YGF program was a nice experience for me, both scientifically and socially.

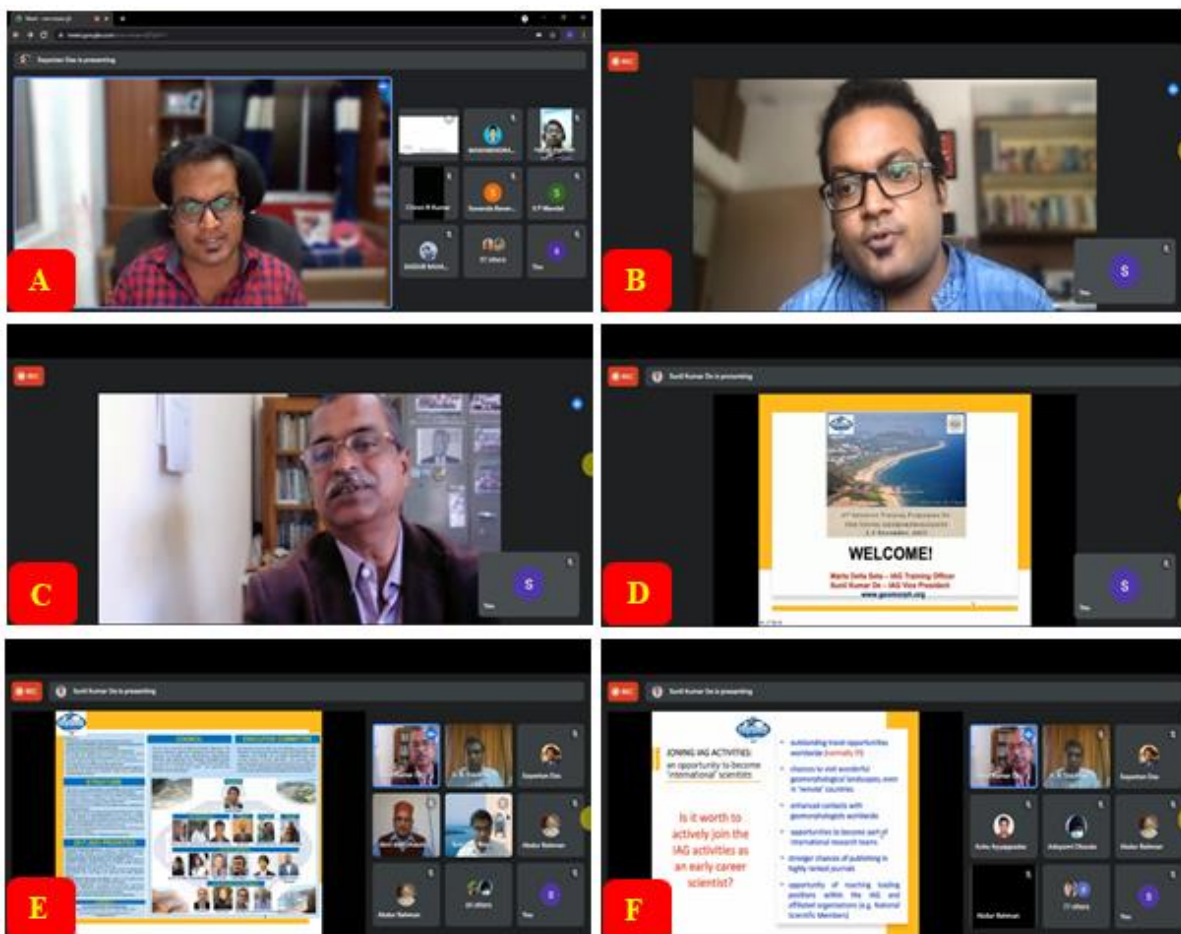
### **2nd Intensive Training Program of YGF**

The 2nd edition of the Intensive Training Program for Young Geomorphologists, organised by the Young Geomorphologists Forum (YGF) of Indian Institute of Geomorphologists (IGI) was held in online platform from 1 to 2 November, 2021 to promote and popularise geomorphological research among the young researchers. This programme was a good opportunity for me as a young researcher of Geomorphology to learn about various aspects of Geomorphology from eminent researcher. This is a perfect blend for my research career. It is my second time participation after the first edition in March, 2020. This training programme emphasised on the opportunity for the young researchers to learn about recent trends in geomorphology related research, innovative techniques, usage of modern equipments and multidisciplinary approaches in geomorphology. More specifically, six unique themes were there. Those are as follows: Career in Geomorphology, Paleoclimate and fluvial response, Geochronology, Process-based studies in glacial landscapes, UAV-based mapping, and Field experiences in extreme environment. 240 young researchers of geomorphology, in which 177 from Indian subcontinent and 63 from abroad covering 33 different countries participated in this program.

The online training programme initiated with a thirty-minute healthy interaction platform organised by the convener and president Dr. Sayantan Das and his team at 18:30 IST to 19:00 IST on 31st October, 2021. He addressed the importance of the program during the pandemic situation, salient information regarding the 1st IGI-YGF Training program. He conveyed to all of the participant about the active Young Geomorphologists groups of different countries supported by the International Association of Geomorphologists (IAG). Dr. Das spoke about

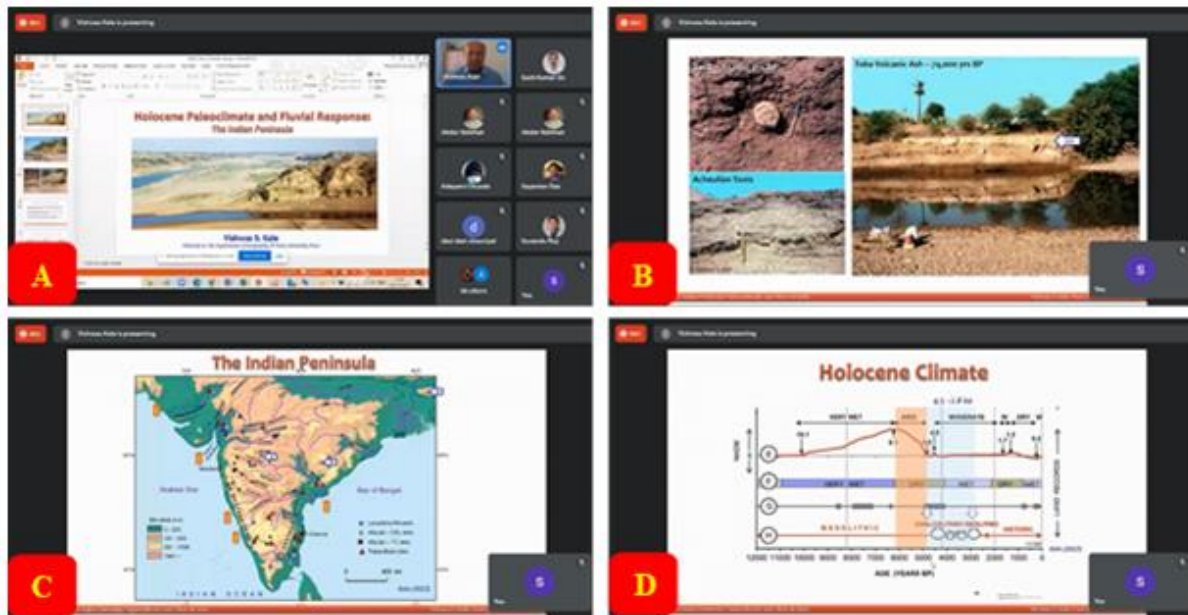
the sudden increase in the number of participants due to overwhelming response from different corner of the world as well as from Indian subcontinent applied for participation in this program. At last, Dr. Das asked for any kind of suggestion and query from the participants.

First day of the training program started with the introductory speech by Dr. Sayantan Das (President, Convener, IGI-YGF 2021) at the scheduled time at 10:30 IST on 1st November, 2021. Dr. Das stated the importance of the training program following the recapitulation of the 1st IGI-YGF training programme organised in 2020 to celebrate the ‘International Geomorphology Week’ proposed by the International Association of Geomorphologists. This was followed by encouraging inaugural speech covering the salient features of IAG, IGI and YGF by Prof. Sunil Kumar De (Vice President of IAG, Secretary of Foreign Matters of IGI) at 10:50 IST. Prof. De welcome each participant on the behalf of IAG vice president and he gave a short introduction covering the activities of IAG, IAG council, IAG executive committee, and brief description about different IAG working groups. Another inaugural speech given by Prof. A. R. Siddiqui (Secretary General, Indian Institute of Geomorphologists) at 11:10 IST. Last inaugural address given by Prof. D. D. Chauniyal (President, Indian Institute of Geomorphologists) at 11:20 IST focusing on Water Crisis and Mountain Geohydrology in recent era. After that, vote of thanks given by Dr. Suvendu Roy (Co-convener, IGI-YGF 2021) at 11:25 IST.



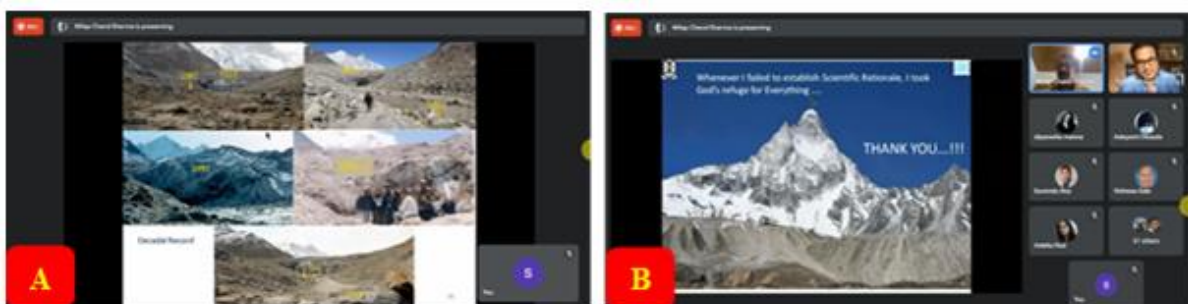
**Figure 1.** Screen Shots during inaugural session. (A) Dr. Sayantan Das during instruction session, (B) Dr. Sayantan Das, (C) Prof. Sunil Kumar De, (D) Welcome speech by Prof. Sunil Kumar De, (E) Speech on the IAG, and (F) Speech on Young IAG Activities.

The first day training session took place with a remarkable lecture on Holocene paleoclimate and fluvial response in the Indian Peninsular rivers by Prof. Viswas Kale (Savitribai Phule Pune University, India) at 11:40 IST. Prof. Kale discussed about the glimpses of climate change during Holocene period with special emphasis on Indian scenario.



**Figure 2.** Screen Shots during 1st day 1st lecture session by Prof. Viswas Kale. (A) Holocene Paleoclimate and Fluvial Response, (B) Different kind of geomorphic markers, (C) Different Geomorphological investigation sites, and (D) Different record dependent dynamics of Holocene Climate.

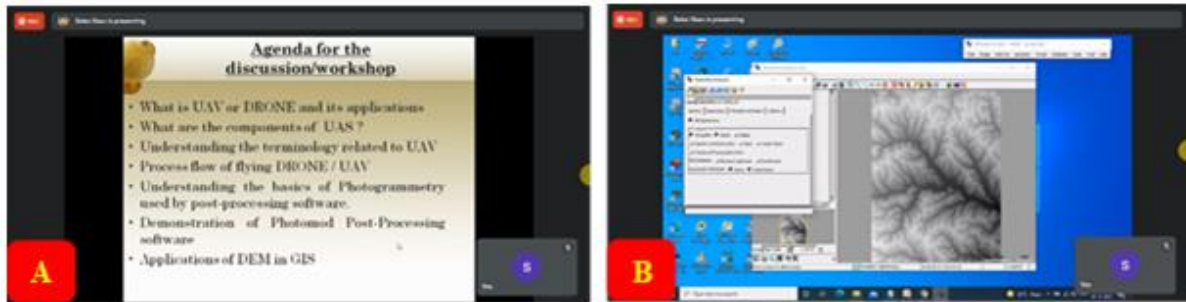
After the fruitful discussion session with Prof. Viswas Kale, second lecture delivered by Prof. Milap Chand Sharma (Jawaharlal Nehru University, India) at 12:40 IST. Prof. Sharma fantastically explained the climatic reconstruction using the fossil records in the Himalayan region. He discussed about the lacustrine records, preservation of records and glacio-lacustrine relationship. He spoke us about the Geomorphologist’s essential tools to identify and associate numerous facts exist in the cold-high mountainous terrain.



**Figure 3.** Screen Shots during 1st day 2nd lecture session by Prof. Milap Chand Sharma. (A) Decadal records and working processes, and (B) During the discussion with the participants.

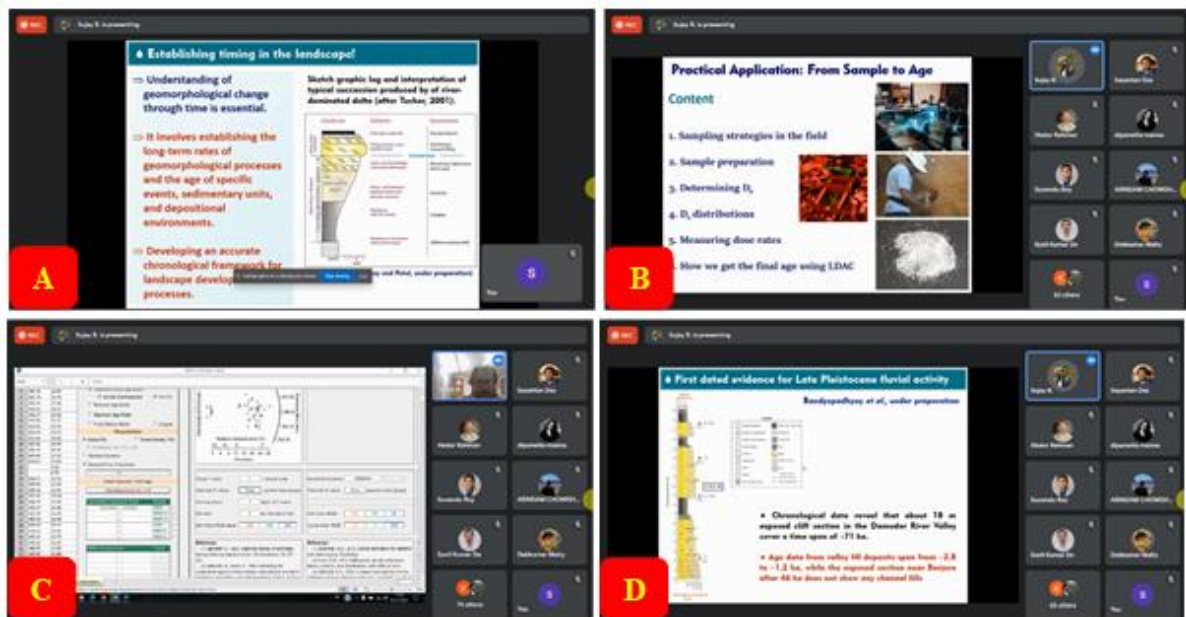
Both of the lecture of the second half were very insightful. Very first one on Use of UAV in Surface Model Generation by Dr. Balen Basu (Opsis System Pvt Ltd, India) at 14:30 IST. Dr. Basu discussed about the use of UAV in geomorphology, data handling processes and use of photogrammetry in geomorphology. He informed us about the process flow of flying UAV,

application of DEM in GIS and also demonstrated the Photomod post processing software. An online hand on training also performed by the participants following the instruction of Dr. Basu.



**Figure 4.** Screen Shots of 3rd lecture session by Dr. Balen Basu. (A) Contents of the talk, (B) UAV handling, (C) Watershed analysis in TNTmips, and (D) Data processing in photomod.

Next lecture on Dating the Quaternary sediments and landforms by Dr. Sujay Bandyopadhyay (Kazi Nazrul University, India) was fully energetic for my research ideas. Dr. Bandyopadhyay gave a great insight about the Optically stimulated luminescence (OSL) dating and its application in quaternary sediments. He spoke about the dating issues, OSL method, OSL sample handling, and instructed the application of LDAC. Apart from this, Dr. Bandyopadhyay also discussed about the sedimentary records from Ajay river and first dated evidence of Late Pleistocene fluvial activity in lower Ganga plain.



**Figure 5.** Screen Shots during 1st day 4th lecture session by Dr. Sujay Bandyopadhyay. (A) Sedimentary succession and timing in the landscape, (B) Practical application of OSL dating technique, (C) Hand on training in LDAC software, and (D) Late Pleistocene fluvial activity in Damodar river valley.

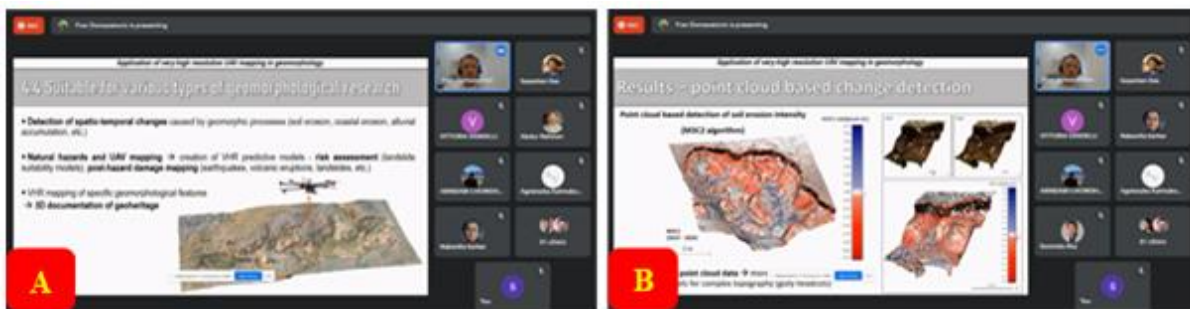
Last day of the program was very interesting to me. All four lecture were concentrated on different field-work based application from different region of the earth outside Indian subcontinent. First lecture commenced at 14:30 IST by Dr. Vittoria Vandelli (University of Modena and Reggio Emilia, Italy) on Geomorphological investigations along the Mediterranean Coasts: A case study from the Maltese Archipelago. This one helped me to get

a detail knowledge on Geomorphology of Mediterranean Coast, the Maltese Archipelago and the concern about sea level rise (SLR) due to ongoing climate change in coastal areas. Dr. Vittoria provided a nice insight on identification of coastal hazard, vulnerability assessment, SLR susceptibility assessment, SLR risk assessment and susceptibility mapping.



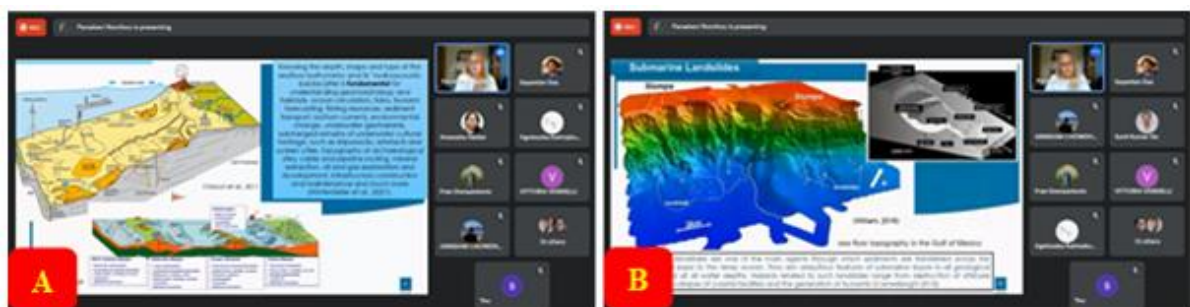
**Figure 6.** Screen Shots during 2nd day 1st lecture session by Dr. Vittoria Vandelli. (A) Ideas on Coastal Geomorphotypes mapping, and (B) Factors of vulnerability assessment.

Second lecture delivered by Dr. Fran Domazetović (University of Zadar, Croatia) at 15:40 IST on Application of very high-resolution UAV mapping in geomorphology. Dr. Fran discussed about the application of different UAV sensors, advantages of UAV mapping from Geomorphological perspective, application of UAV mapping for monitoring of soil erosion intensity.



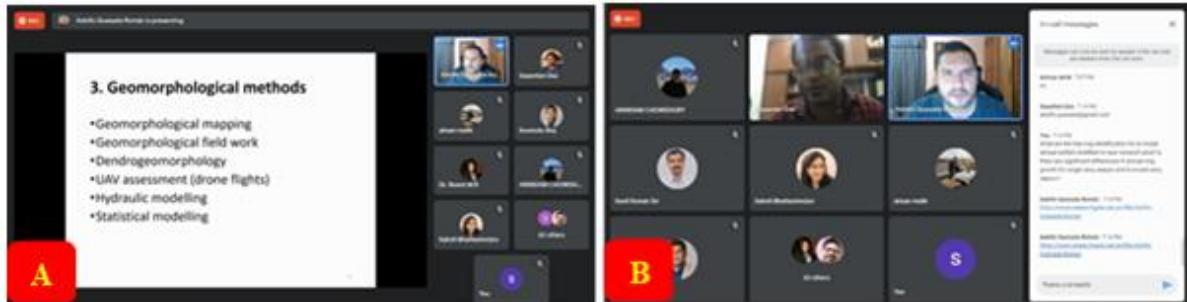
**Figure 7.** Screen Shots during 2nd day 2nd lecture session by Dr. Fran Domazetović. (A) Suitability of UAV, and (B) Result of high-resolution imagery.

After the coffee break, the Dr. Paraskevi V. Nomikou (University of Athens, Greece) delivered her lecture at 17:50 IST on Mapping the underwater geomorphological features using innovative technologies. She brilliantly spoke about seafloor exploration, seafloor mapping, collection of swath data, submarine landslide, underwater photogrammetry etc.



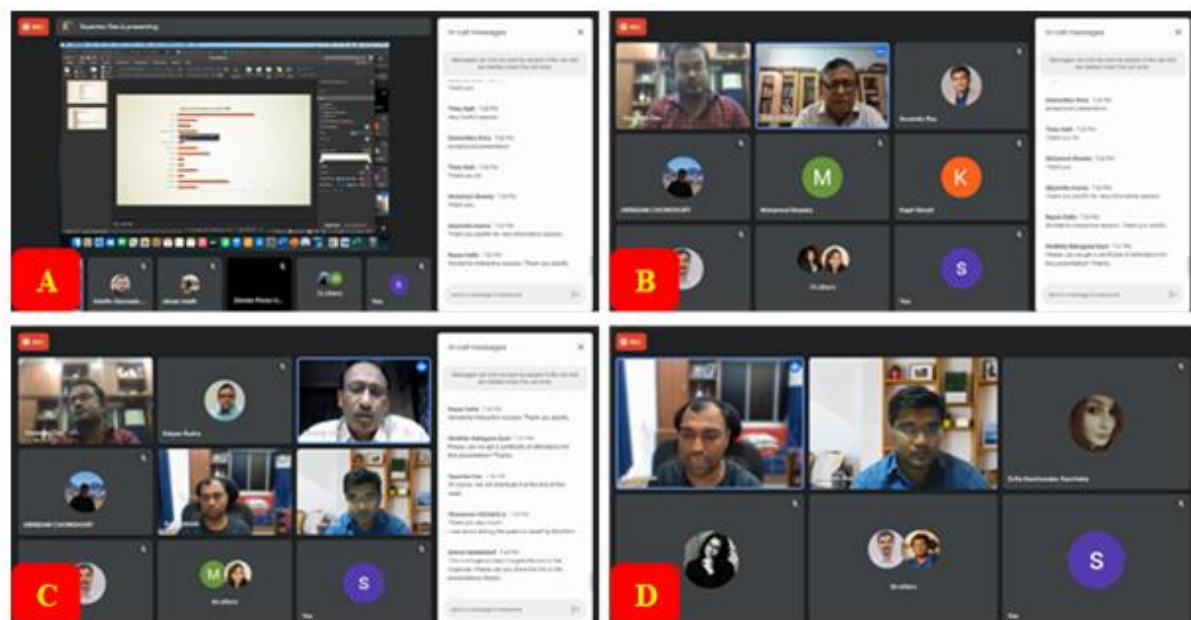
**Figure 8.** Screen Shots during 2nd day 3rd lecture session by Dr. Paraskevi V. Nomikou. (A) Seafloor exploration strategy, and (B) Identification and mapping of submarine landslide.

The final lecture of the training session delivered by Dr. Adolfo Quesada-Román (Universidad de Costa Rica, Costa Rica) at 18:30 IST on Natural Hazards' field work in tropical environments of Costa Rica. This one was very much interesting to me.



**Figure 9.** Screen Shots during 2nd day 4th lecture session by Dr. Adolfo Quesada-Román. (A) Geomorphological field methods, and (B) General discussion with me.

This two-day long training program finally comes to an end with a valedictory session. This session initiated by Dr. Sayantan Das (President and Convener, IGI-YGF 2021) at 19:30 IST. This was followed by encouraging lecture of Dr. Kalyan Rudra (Chairman, Pollution Control Board, West Bengal, India) and Prof. Lakshminarayan Satpati (Director of Human Resource Development Centre, University of Calcutta). Both Dr. Rudra and Prof. Satpati encouraged all of the participants for interdisciplinary and more natural science-based research in Physical geography to establish the cause-and-effect relationship. After that, Dr. Kapil Ghosh (Organising Secretary, IGI-YGF 2021) congratulate all of participants and all resource persons who had supported and boosted up the organising group to run the program with a grand success.



**Figure 10.** Screen Shots of valedictory session. (A) Programme summary by Dr. Sayantan Das, (B) Dr. Kalyan Rudra, (C) Professor L. N. Satpati, and (D) Dr. Kapil Ghosh.

In addition to the scientific goal, it is important during intensive training program to know each other personally in order to work in collaboration and share ideas. I had great discussion during



***IGI Young Geomorphologists Forum***  
IAG approved training programme  
Online Event (Google Meet), 1-2 November 2021



the break, after first day session and also in the second day before beginning of the training session with several young researchers, who are working in similar field in different parts of the Indian sub-continent.

With all the mesmerizing memories, I have to admit that the online intensive training program participation in many respects was a fruitful experience, both scientifically and socially. Particularly, I have been benefited greatly from the intensive exchange of views and ideas with other young research scholars being in their early stages of research and struggling with similar problems in their academic life alike me. I enjoyed, learnt and liked every moment of the program. Special thanks are due to the Dr. Sayantan Das and Dr. Suwendu Roy's team for efficiently managing this event. Lastly, based on my experience, I would like to encourage all the young geomorphology researchers to apply for such training program supported by IAG for attending future IAG programme.