

The 15th Asian Regional Conference of IAEG

Geological Engineering for Societal and Sustainable Development



Jointly organized by Nepal and Bangladesh

First Circular

27-29 November, 2025 Kathmandu, Nepal

https://arc15.nseg.org.np/



Co-organizers:

Sponsors:





BRUGG Geobrugg



Nepal Society of Engineering Geology (NSEG)





The 15th Asian Regional Conference of IAEG

Geological Engineering for Societal and Sustainable Development



Jointly organized by Nepal and Bangladesh



27-29 November, 2025 Kathmandu, Nepal

The ARC-15 of IAEG

The IAEG Bangladesh National Group (IBNG) and the Nepal Society of Engineering Geology (NSEG), along with partner organizations in Bangladesh, Japan, and Nepal, are organizing the 15th IAEG Asian Regional Conference (ARC-15) in Kathmandu, Nepal from November 27-29, 2025. This prestigious international conference series has been a crucial platform for advancing Engineering Geology in Asia. Over the years, geoscientists and engineers from around the world have contributed to and greatly benefited from the discussions at past IAEG Asian Regional Conferences. The upcoming event will be another key milestone in enhancing geoengineering knowledge and furthering the understanding of Engineering Geology in this region.

This will mark the third time Nepal is hosting an IAEG Asian Regional Conference, reaffirming its status as a favored destination for geoscientists and tourists alike. While ARC-15 was initially planned to be held in Dhaka, Bangladesh, the venue has now been shifted to Kathmandu, Nepal. The conference serves as a forum for geoscientists and engineers to engage in collegial discussions and share the latest research findings in the fields of Engineering Geology and related subjects. Both IBNG and NSEG have received an overwhelming response from the global geoscience community, and this event is poised to be another milestone in the history of ARC.

This first circular is being issued to provide important information about the conference. Preregistration is now open through the official conference website (<u>https://arc15.nseg.org.np/</u>). Geoscientists and engineers working in geoengineering, geotechnics, geology, disaster risk management and engineering geology are kindly encouraged to submit their pre-registration forms along with their details before the stated deadline. Your cooperation will greatly assist the organizers in planning and executing this significant event successfully.



Conference Venue

The ARC-15 will take place at Hyatt Regency Hotel in Nepal's capital, Kathmandu, the largest city in the country, with an estimated population of around five million. Kathmandu, together with its neighboring cities Lalitpur and Bhaktapur, forms the Kathmandu Valley. This valley, known for its historically significant cultural monuments and ethnic delicious cuisines draws millions of international and domestic tourists each year. It includes three major and two minor urban areas, along with several rural communities, housing nearly 20% of Nepal's population. Situated at an average altitude of 1,350 meters, the valley floor consists of ancient lake sediments, reaching depths of approximately 600 meters in certain areas. All key events for the ARC-15 will be hosted at Hyatt Regency Hotel, Bouddha, Kathmandu, with field excursions planned at various locations across Nepal.



World Heritage at Bhaktapur



Hyatt Regency, Bouddha, Kathmandu-The ARC-15 Venue, <u>https://www.hyatt.com/hyatt-regency/en-US/kathm-hyatt-regency-kathmandu</u>

Conference Format

Following the international conference formats, thematic oral and poster sessions have been planned within a single venue. Parallel sessions will be provided for various themes in order to provide all participants an opportunity to present their presentations. Besides, booths for exhibiting advanced technologies and R&D methodologies are highly encouraged inside the premises of the conference venue.

Important Dates

Conference 1st circular and pre-registration open
Conference 2nd circular and registration open with Extended Abstract (two pages) submission and payment of early bird registration fee
Conference early bird registration fee payment deadline
Conference 3rd circular and submission of full paper for peer review
Final Extended Abstract (two pages) submission
Conference 4th circular, deadline of conference regular fee
Conference final circular
Conference on site registration and full payment of registration fee
Deadline of submission of Full Paper
Publication of Proceeding Volume as Vol. 3 (No. 1) of Asian Journal of Engineering Geology (ajeg.nseg.org.np)
Publication of Proceeding Volume as Vol. 3 (No. 2) of Asian Journal of Engineering Geology

-han

Conference Program Plan					
24-26 Nov. 2025	Pre-conference excursions, Trainings and Workshops both in Nepal and Bangladesh				
27 Nov. 2025 (Thu.)	Inaugural program followed by technical sessions and Welcome Reception Dinner				
28 Nov. 2025 (Fri.)	Technical sessions, Evening IAEG YEG Party sponsored by NSEG for Young Engineering Geologists (YEG) members of IAEG				
29 Nov. 2025 (Sat.)	Technical sessions and closing ceremony				
30 Nov 2 Dec. 2025	Post-conference excursions both in Nepal and Bangladesh				

Conference Excursions

To provide an opportunity particularly to all international participants, the conference has been planned to include pre and post field excursion programs in both Nepal and Bangladesh as follows. **Details of all excursions will be provided in second circular.**

In Nepal

2025.11.24-25: Pre-conference tour

Ex-1: Everest Base Camp (Kalapatthar) Aerial Tour: Unveiling the Engineering Geology of the Higher Elevation by Airplane and Helicopter.





Everest Base camp area, Kalapatthar and Khumbu Glacier

Namche Bazar in Cirque

2025.11.26: Pre-conference tour

Ex-2: A full day Kathmandu Valley tour to explore ground response and related reconstruction after the 2015 Gorkha Earthquake, Nepal



Kathmandu Darbar Square – Reconstructed after the 2015 Gorkha Earthquake



Bhaktapur Durbar Square – A Traditional Heritage Site of Nepal



2025.11.26: Pre-conference tour

Ex-3: A full day tour to explore Engineering Geological setting of the Kathmandu Valley



Ex-4: Engineering Geological Excursion of Thankot—Markhu—Kulekhani Dam route, south of Kathmandu.



2025.11.30-2025.12.02: Post-conference tours

Ex-5: Engineering Geology and Geotechnical Characteristics of Kathmandu-Pokhara area



Mugling to Pokhara Road Project – under construction with slope failures occurring during the 2024 monsoon season



Pokhara International Airport

Ex-6: Engineering Geology Insights: Exploring the Tea Farming Landscapes of Far Eastern Nepal from Jhapa to Ilam (three days- 1h fly from Kathmandu in Airplane and Bus trip in Jhapa and Ilam)



Map of Eastern Nepal highlighting key excursion locations



Kanyam Tea State, Ilam



In Bangladesh

Ex-6: Padma Bridge en route to UN World Heritage site Sunderbans.



The Padma Multipurpose Bridge stands as a landmark engineering structure in Bangladesh

Ex-7: Bangabandhu Tunnel—en route to the world's largest sea beach Cox's Bazar.



Details of all excursions will be provided in second circular.

YYY

Conference Themes

The IAEG Bangladesh National Group (IBNG) and the Nepal Society of Engineering Geology (NSEG), have planned for the main theme of the congress as "*Geological Engineering for Societal and Sustainable Development*". Subthemes of the congress include:

1. Engineering Geology and Geological Engineering for sustainable development

- 1.1. Geological Engineering from theory to practice
- **1.2.** Engineering Geological Modeling
- 1.3. Geoethics in Engineering Geological Investigation
- 1.4. Case Studies for Engineering Geological Investigation
- **1.5. New Technology and Equipment for Engineering Geology**
- 1.6. Geoparks and Disaster Museums for Sustainable Development

2. Neotectonics

- 2.1. Active Fault and associated earthquakes
- 2.2. Himalayan Tectonics
- 2.3. Crustal Dynamics and Recent Earthquake Sources

3. Landslides

- 3.1. Landslides, Debris Flows, and Rock Fall
- 3.2. Landslide Hazard and Risk Evaluation
- 3.3. Landslide Risk Reduction
- 3.4. Slope Stability
- 3.5. Urbanization on Mountain Slopes
- 3.6. Rock Slope Failure
- 3.7. Snow and Debris Avalanche
- 3.8. Cut slope failures

4. Hydro-climatic and Geological hazards in Developing Countries

- 4.1. Flood Hazards
- 4.2. Volcanic Hazards
- 4.3. Tsunami Hazards
- 4.4. Glacial Lake Outburst Floods (GLOFs)

5. Geotechnical and Geo-Environmental Engineering

- 5.1. Foundation Engineering
- 5.2. Ground Improvement Techniques
- 5.3. Unsaturated Soil Mechanics
- 5.4. Soft Ground Treatments
- 5.5. Transportation Geotechniques
- 5.6. Earth Retaining Structures
- 5.7. Stability Analyses
- 5.8. Physical Properties of Soils
- 5.9. Physico-chemical Environment of Soils
- 5.10. Geotechnical Modeling
- 5.11. Uses of Geopolymers in Geotech and Geo-Environment
- 5.12. Geo-Environmental Issues

6. Water and Environmental Engineering

- 6.1. Water Resources and Watershed Management
- 6.2. Wastewater Treatment and Water Purification
- 6.3. Water Pollution in River, Lake and Coastal Area

7. Urban Geology, Urban Planning and Management – Engineering geological perspective

- 7.1. Environmental Assessment for Urban Development
- 7.2. Urban Design and Development Planning
- 7.3. Transportation Planning for Sustainable Development













8. Engineering Hydrogeology and Management

- 8.1. Groundwater Management
- 8.2. Groundwater and Land Subsidence
- 8.3. Groundwater Monitoring and Restoration
- 8.4. Fractured Rock Hydrology

9. Tunneling and Role of Rock Mechanics in Developing Countries

- 9.1. Hard rock tunneling Issues and Development
- 9.2. Soft ground Tunneling Issues and Development
- 9.3. Rock Mechanics and Behaviours of Discontinuities in Hard Terrain

10. Remote Sensing and Geodesy

- 10.1. Remote Sensing and Geodesy in Geological Applications
- **10.2.** Remote Sensing and Geodesy in Geotech/Geo-Environment
- 10.3. Remote Sensing and Geodesy in Water/Coastal Management
- 10.4. Remote Sensing and Geodesy in Urban Planning and Waste Management

11. Seismic Hazards, Earthquake Engineering and Structural Analysis

- **11.1. Engineering Geological and Geotechnical Consequences**
- 11.2. Earthquake Engineering and Ground Response
- 11.3. Geotechnical Earthquake Engineering and Soil Dynamics
- 11.4. Retrofitting Structures
- **11.5. Structural Damages and Fatigues in Structures**
- 11.6. Future of Himalayan Earthquake
- 11.7. Earthquake-Induced Landslide
- 11.8. Seismic hazard analysis
- 11.9. Earthquake Safe Buildings in Developing Countries

12. Consequences of Geo-Disasters and Disaster Risk Management

- 12.1. Seismic consequences in infrastructure
- 12.2. Seismic consequences in Social Welfare and Mental Trauma
- 12.3. Effects of Flooding/Tsunami/Storm in Infrastructures
- 12.4. Effects of Flooding/Tsunami/Storm in Social Welfare and Mental Trauma
- 12.5. Volcanic Disasters and Management
- 12.6. Landslide Risk Management
- 12.7. Disaster Risk Reduction
- 12.8. Disaster Risk Resilience and Disaster Management
- 12.9. Engineering Geologists in Risk Communication

13. Dimension Stones and Quarry Sites

- 13.1. Reserves and Utilization of Dimension Stones
- 13.2. Construction materials and aggregates for developing countries
- 13.3. Disposal of Mine Wastes and Mine Tail

14. The role of women in development of engineering geology

- **15. Climate change and related geopolitics**
- 16. Landfill engineering and solid waste management

17. The Training and Education in Engineering Geology

17.1. Communication and education based on the knowledge of engineering geology *Session Convener*: Prof. Dr. Atsuko Nonomura and Prof. Dr. Shuichi Hasegawa, Kagawa University, Japan 17.2. Global Engineering Geology Education - present and future directions

- 18. Asian Monsoon, Climate & Climate-Induced Hazards in the Asia & Pacific Region Session Convener: Prof. Dr. Toru Terao, Kagawa University, Japan
- 19. Engineering Geology for Renewable Energy and Sustainable Development
- 20. AI in Engineering Geology









Registration

All interested participants are requested to fill pre-registration form available in the conference website (https:// arc15.nseg.org.np). Details on registration fee will be provided in the second circular, and it will be decided on a basis of number of pre-registered participants and their suggestions. Registration fee will cover access to all presentation sessions, a copy of abstract volume, one reception dinner, conference lunches, and tea/coffee during the breaks. It does not cover the cost of other dinners and hotel accommodations.

Climate

Climate in Kathmandu in the end of November is pleasant but slightly cold. Mornings and evenings are often minimum 5 degrees and maximum 25 degrees, but the daytime is pleasantly warm. It is advised that the participants bring warm clothes.

Passport and Visa Requirement

All the foreign participants are advised to contact the Nepalese Embassy or Consulate in their respective countries to get visa for entering into Nepal. They must have valid passport and visa to enter into Nepal. Visa can also be obtained in the Tribhuvan International Airport (Kathmandu) on arrival. For those of you planning to acquire a visa upon arrival at the airport, please bring with you two passport-sized photographs and US\$30 cash for the visa fee. Gratis Visa is available for SAARC nationals visiting Nepal since 2014. We request you to claim Gratis Visa if it is applicable to you. To apply for a Nepal visa, you need to submit an online application through the portal of the Department of Nepal Immigration. Detail about Nepal Visa is available in conference web site (https://arc15.nseg.org.np/) also.

Currency

US Dollar, Euro, Canadian Dollar, British Pound, Australian Dollar, Japanese Yen, Indian Rupee and Chinese Yuan can be exchanged in the banks, Star Hotels, and authorized Money Changer. As of October 30, 2024, US\$ 1 is equivalent to NRs 135.00 and, it may subject to change.



......

Organizing Committee

Conveners:	Dr. Ranjan Kumar Dahal , President NSEG, Nepal National Group IAEG Vice President Asia Prof. Dr. ATM Shakhawat Hossain, President IAEG Bangladesh National Group			
Advisory Convener:	Dr. Gangalal Tuladhar , Expert Member National Disaster Risk Reduction and Management Council, Government of Nepal			
International Convener:	Prof. Dr. Shengwen Qi , IAEG Vice President Asia Institute of Geology and Geophysics, Chinese Academy of Sciences (IGGCAS)			
Scientific Convener: Scientific Committee:	Prof. Dr. Kumud Raj Kafle, Vice President, NSEG Kathmandu University, Dhulikhel, Nepal Prof. Dr. Christian Zangrel, Austrian National Group of IAEG Dr. Upendra Baral, Member, NSEG Dr. Badal Pokharel, Exe. Member, NSEG			
Funding Conveners: Funding Committee:	Mr. Ujjwal Raghubansha, Exe. Member, NSEG Mr. Sujan Chandra Pokharel, Exe. Member, NSEG Mr. Sanjeev Regmi, Member, NSEG			
IT/Technology Convener: IT/Technology Committee:	Dr. Sunam Kumar Sharma, Member, NSEG Mr. Sudhan Regmi, Member, NSEG Mr. Prawjal Adhikari, IT Expert			
Co-conveners:	Mr. Kanchan Chaulagain, Secretary, NSEG Mr. Md. Feruj Alam, Secretary, IBNG			
Conference Secretariat:	Dr. Manita Timilsina, Member, NSEG (Founding Treasurer of NSEG)			
Secretariat Officials:	Mr. Praveen Upadhyaya Mr. Brabin Sapkota Mr. Rajan Mahat	Kandel Ms. Chandani Bha Ms. Neha Gautam	ndari Mr. Dhruba Tiwari Ms. Kabita Maharjan	
Secretariat Team:	Ms. Samina Khatun	Mr. Bishal Poudel	Mr. Himanshu Shukla	
	Ms. Junu Adhikari	Ms. Manika Bade	Ms. Shiksha Khatiwada	
	Mr. Samir Ghimire	Mr. Mohan Raj Shrestha	Mr. Madhu Sudhan Adhikari	
	Mr. Samyog Khanal	Ms. Saru Paudel	Mr. Ramesh Lama	
	Mr. Dinesh Raj Regmi	Ms. Shanti Pandey	Mr. Bhishma Joshi	
	Ms. Aastha Poudel	Mr. Sagar Bhattarai	Mr. Mohammad Faisal Rain	
	Mr. Ashim Dhakal	Mr. Bibek Dhakal	Ms. Alka Gyawali	
	Mr. Sagar Subedi	Mr. Sishir Chaulagain	Ms. Susma Poudel	
	Mr. Balaram Bhujel	Mr. Jitendra Adhikari	Ms. Shristi Mishra	
WEG Coordinator:	Ms. Anjila Babu Malla, IAEG WEG Committee Member/NSEG WEG Chair, Nepal Dr. Mahmuda Khatun, IBNG WEG Chair, Bangladesh			
YEG National Coordinator:	Mr. Shankar Pantha, NSEG YEG Chair, Nepal Mr. Md. Shafiqul Islam Sany, IBNG YEG Secretary General, Bangladesh			

YEG International Coordinator: Mr. Om Prasad Dhakal, IAEG YEG Committee Member



Members from Nepal:





Mr. Achyuta Koirala Mr. Dibya Raj Pant Dr. Akhilesh Kumar Karna Mr. Basanta Bhandari Mr. Umesh Chandra Bhusal

Mr. Govinda Sharma Pokharel

Members from Bangladesh: Prof. Dr. Hossain Md. Sayem Prof. Emdadul Haque Prof. Dr. Younus Ahmed Khan Prof. Dr. Md. Bodruddoza Mia Mrs. Nurun Nahar Faruqa Ms. Sheikh Jafia Jafrin Mr. Md. Rajon Ali Mr. Asim Kumar Halder

Dr. Dhundi Raj Pathak Dr. Sweata Sijapati Dr. Prem Prasad Paudel Mr. Nabin Sapkota Dr. Sunil Poudel Mr. Govinda Ojha

Prof. Dr. Qumrul Hasan Prof. Dr. Shafiqul Islam Mr. Ali Akbar Mr. Ashraful Kamal Mr. Aziz Patwary Ms. Nusrat Jahan Retu Ms. Sumaia Khatun Ms. Bristy Sarker Joya

Mr. Hari Ghimire Mr. Ashis Acharya Dr. Aastha Bhatta Mr. Chhabilal Pokhrel Mr. Nabaraj Dhakal

Dr. Sultana Nasrin Nury Ms. Syeda Jesmin Haque Ms. Farhana Islam Mrs. Salma Akhter Prof. Dr. Hasan Imam Mr. Md. Asmaul Islam Ms. Rafia Mafroj

National Advisory Members:

Prof. Dr. Vishnu Dangol, Nepal Landslide Society Prof. Dr. Padma Bahadur Shahi, Nepal Engineering Council Prof. Dr. Hari Krishna Shrestha, Society of Hydrologist and Meteorologist Prof. Dr. Dinesh Pathak, Central Department of Geology, Tribhuvan University Prof. Dr. Lalu Prasad Poudel, Central Department of Geology, Tribhuvan University Prof. Dr. Khum Narayan Poudayal, Central Department of Geology, Tribhuvan University Dr. Mandip Subedi, President, Nepal Geotechnical Society Dr. Rajan Suwal, President, Structural Engineers' Association Nepal Dr. Pawan Kumar Shrestha, President, Nepal Society for Rock Mechanics Dr. Som Nath Sapkota, Former Director General, Department of Mines and Geology Dr. Subodh Dhakal, Department of Geology, Tri-Chandra Campus, Tribhuvan University Er. Rajendra Sharma Kafle, Society of Transport Engineers Nepal Mr. Ram Prasad Ghimire, Department of Mines and Geology, Government of Nepal Mr. Anirudra Poudel, Nepal Electricity Authority Mr. Arun Rajauria, Nepal Hydropower Association Mr. Dinesh Nepali, Department of Mines and Geology, Government of Nepal Mr. Jay Raj Ghimire, Department of Mines and Geology, Government of Nepal Ms. Monika Jha, Department of Mines and Geology, Government of Nepal Mr. Dinesh Kumar Napit, Department of Mines and Geology, Government of Nepal Dr. Lok Bijaya Adhikari, Department of Mines and Geology, Government of Nepal Dr. Mukunda Bhattarai, Department of Mines and Geology, Government of Nepal Dr. Ananta Man Singh Pradhan, Water Resource Research and Development Center

International Advisory Members:

Dr. Vasilis Marinos, President, IAEG Prof. Dr. Scott Burns, Honorary President IAEG Prof. Dr. Rafig Azzam, Past President IAEG Prof. Dr. Faguan Wu, Secretary, IAEG Dr. Jean-Alain Fleurisson, Treasurer, IAEG Dr. Helen Reeves, IAEG Vice President Europe Dr. Janusz Wasowski, IAEG Vice President Europe Dr. Anthony Bowden, IAEG Vice President Austrasia Dr. Moshood Niyi Tijani, IAEG Vice President Africa





Dr. Daniele Giordan, IAEG Advisor Dr. Mark Eggers, IAEG Advisor Dr. Ann Williams, IAEG WEG Committee Chair Prof. Dr. Jean Hutchinson, Chair, FedIGS JTC3, Training and Education Dr. Stratis Karantanellis, IAEG Vice President YEG Dr. Yogendra Deva, Former Vice President-Asia, IAEG Dr. George Papathanassiou, IAEG IT Committee Chair Dr. Gianvito Scaringi, Czech National Group of IAEG Prof. Dr. Fawu Wang, Tonji University, China Prof. Dr. Shuichi Hasegawa, Kagawa University, Japan Prof. Dr. Nonomura Atsuko, Kagawa University, Japan Prof. Dr. Ko Fei Liu, National Taiwan University, Taipei, Taiwan Prof. Dr. Masahiko Osada, Japan Society of Engineering Geology Prof. Dr. Netra Prakash Bhandary, Ehime University, Japan Prof. Dr. Mia Sohail Akram, Association of Engineering Geology Pakistan Prof. Dr. Jia-Jyun Dong, Society of Rock Mechanics and Engi. Geol. in Taipei Prof. Dr. Koichi Hayashi, Kyoto University, Japan Prof. Dr. Tomochika Tokunaga, President JSEG, University of Tokyo Prof. Dr. Tetsuya Sakai, Shimane University, Matsue, Japan Dr. Hideki Mukoyoshi, Shimane University, Matsue, Japan Dr. Yasuto Sasaki, Japan Dam Engineering Center, Japan Dr. Raju Mandapalli, President, Indian Society of Engineering Geology Dr. Gopal Dhawan, Indian Society of Engineering Geology Dr. Mark Eggers, Member IAEG Advisory Board Committee Dr. Mridul Srivastava, Indian Society of Engineering Geology Dr. Julien Cohen-Waeber, IAEG Vice President North America Dr. Francisco Nogueira De Jorge, IAEG Vice President Latin America Dr. Abd Rasid Jaapar, Society for Engineering Geology and Rock Mechanics Malaysia Mr. Karma Tempa, Bhutan International Geological Society, Royal Bhutan University





Session Proposal

Mr. Om Pradhan, OYO Corporation, Japan

Please submit your session proposal by emailing us at arc15ktm@gmail.com or using our online form at https://arc15.nseg.org.np/session-proposal/. We will respond promptly. You are welcome to submit multiple session proposals, all free of charge. If you have specific sponsors in mind for your session, let us know, and we would be happy to reach out to them to explore sponsorship opportunities.

Introduction to Nepal Society of Engineering Geology

The Nepal Society of Engineering Geology, established in 2018, is a non-profit professional organization dedicated to advancing Engineering Geology and Geotechnical Engineering in Nepal and internationally. As the Nepal National Group of the International Association for Engineering Geology and the Environment (IAEG), it enhances IAEG membership to advance engineering geological sciences. NSEG promotes high standards through research, investigations, and knowledge exchange with experts worldwide. The society unites professionals from disciplines like Engineering Geology, Geomorphology, Civil Engineering, and Disaster Risk Management, bridging gaps among geologists, engineers, and social scientists to address geotechnical challenges and support sustainable development in Nepal. It organizes national and international symposiums, workshops, and training programs to foster expertise and encourage young professionals to adopt global standards.





15TH ASIAN REGIONAL CONFERENCE OF IAEG

JOINTLY ORGANIZE BY NEPAL AND BANGLADESH KATHMANDU, NEPAL | 27-29 NOVEMBER, 2025













Contact Information:

The 15th Asian Regional Conference of IAEG Conference Office

Nepal Society of Engineering Geology (NSEG) Dhobighat, Lalitpur, Nepal Phone: +977-9851060464, +977-9851154970 Email: arc15ktm@gmail.com, arc15ktm@nseg.org.np NSEG Email: nsegnepal@gmail.com, info@nseg,org.np



Visit us at: https://arc15.nseg.org.np/