

### **INTERNATIONAL CENTRE FOR HYDROPOWER**

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**NEPAL TUNNELLING ASSOCIATION (NTA)** 

# PLANNING AND DESIGN OF HYDROPOWER TUNNELS IN HIMALAYAN GEOLOGY

Date: 28 November to 4 December 2023, Kathmandu, Nepal



### BACKGROUND

The International Centre for Hydropower (ICH), Norway and Hydro lab, Nepal in association with Nepal Tunnelling Association (NTA) proudly invite you to a national workshop titled "Planning and Design of Hydropower Tunnels in Himalayan Geology" to be held in Kathmandu, Nepal. This workshop offers you, within the framework of lectures, laboratory experiments and field excursions, better insight in planning and design of tunnels and other underground structures for hydropower projects and it also oversees mitigation of underground works related problems. Senior professionals involved with hydropower tunnel design will share their experiences through lectures, field visits and laboratory test demonstrations. The knowledge gained from the workshop is expected to be beneficial for the planning and design of tunnels in fragile Himalayan geological terrain.

### **TARGET GROUP**

The main target group is experienced professionals engaged in hydropower tunnel planning, design and operation in the Himalayan region. Candidates should hold at least B.Sc. degree in civil, geotechnical, hydropower or water resources engineering, and engineering geology or have an equivalent background in the fundamental engineering aspects of a hydropower systems. The target group includes former participants on ICH training courses, seminars and conferences, former students of NTNU M.Sc. Programme in Hydropower Development, other personnel from power companies, utilities and government departments. The total number of participants will be about 20.





## TIME AND VENUE

The workshop will start on Tuesday, 28th November and end on Friday 01st December 2023 in Kathmandu. The participants will be given training in Kathmandu for the first two days through lectures and laboratory tests demonstration and then given the opportunity to experience the nature of the problems to be investigated, preferably in the field at a hydropower project (under construction) site during an excursion, the participants will then be taken back to Kathmandu.

# **ADMISSION CONDITIONS**

The major portion of the workshop expenses is sponsored by the Norwegian Agency for Development Cooperation (NORAD). Therefore, the participant or their institution shall have to bear only a nominal registration fee of NPR 15,000 per participant. Selected participants shall pay the corresponding registration fee before 10 November 2023.





### **PRELIMINARY PROGRAMME**

Tentative Program		
Day and time	Activities	Thematic areas
Tuesday, 28 November 2023	Programme opening and lectures	Introduction, utilization of rock mass, geology and tunnel layout
		Site investigation and laboratory testing
Wednesday, 29 November 2023	Lectures and laboratory tests demonstration	Rock mass classification, tunnel and underground structures design
		Case study and others
Thursday, 30 November 2023	Visit to nearby hydropower Project (under construction)	-
Friday, 01 December 2023	Programme closing and travelling back to Kathmandu	-

# **APPLICATION**

The number of workshop participants will be limited to 20. Application deadline is set to 30 October, 2023. Interested participants are requested to visit the website of International Centre for Hydropower (ICH), Norway. The online application is available at www.ich.no. In case if there is a problem with the online application, please contact Mr. Durga Prasad Bashyal, Senior Researcher, Hydro Lab, at the address given below. Selected participants will be notified within 3rd November, 2023.



Contact details:

#### Mr. Durga Prasad Bashyal

Senior Researcher Hydro Lab Institute of Engineering Premises Krishna Galli, Pulchowk, Lalitpur GPO Box 21093, Kathmandu, Nepal Phone: +977 1 5439185, 5439186 E-mail : info@hydrolab.org; dpb@hydrolab.org



# **ABOUT THE ORGANISERS**

**The International Centre for Hydropower (ICH),** Norway is an international capacity building organisation focused on providing the transfer of knowledge through organizing trainings, workshops and seminars designed to develop competencies for the energy sector and promote the sustainable development of hydropower resources. ICH is a non-profit organisation based on institutional membership. ICH develops and effectuates its programs independently and in partnership with other organisations.

**Hydro Lab** is a well-equipped independent hydraulic research laboratory, established in 1998 with the objective to assist in the achievement of national development goals by providing an effective base for research and development, training and consultancy services in the field of hydraulics and sedimentation related to water resources development in Nepal and internationally. Hydro Lab has gradually expanded its activities including prototype turbine efficiency testing, settling basin performance tests, reservoir sedimentation study, hydraulic design, design review of headworks and has also established geotechnical laboratory to provide geotechnical and geological testing and investigation services. Knowledge sharing through training/workshops and providing research opportunity to MSc and PhD students from different universities from Nepal and abroad are also some of the important activities of Hydro Lab.

**NTA** is a professional organization with 150 life members and 12 corporate members. It was established in 2011 for sharing knowledge and experiences in the area of tunnel and other underground structures. It is a non-profit making voluntary organization.



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#### **CONTACT PERSON**

Mr. Tom Solberg, Project Director



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#### **CONTACT PERSON**

Dr. Ing. Meg B. Bishwakarma, General Manager



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CONTACT PERSON

Dr. Ing. Gyanendra L. Shrestha, President, NTA