

Day 1: September 22, 2025

Knowledge Symposium on Hydropower Research Gaps

Time	Content	Moderator
09:00 – 09:15	Welcome / Introduction / Motivation	Eduard DOUJAK
09:15 – 10:30	Session 1 : Focus on Flexibility and Storage Nathan VEUTHEY <i>Mode Transitions in Reversible Pump-Turbines: Experimental and Numerical Insights for Enhancing Hydropower Flexibility</i> Elie SAROUFIM <i>START-HYDRO: Multifactorial Analysis of the Impact of Start-up Sequences on the Lifetime of Hydroelectric Units through Digital Twins</i> Eduard DOUJAK <i>Lifetime Assessment in Hydropower Units: A critical review and possible improvements</i>	Sebastian MUNTEAN (Romanian Academy – ROMANIA)
10:30 – 11:00	Coffee Break	
11:00 – 12:30	Session 2 : Focus on Environmental / Biodiversity Ludwig KUHN <i>Mitigation of Total Dissolved Gas Supersaturation downstream Hydropower Plants using Ultrasonic Degassing: Laboratory Experiments and Field Tests</i> Serhat KUCUKALI <i>Optimum Bypass Passage for Downstream Fish Migration at Run-of-River Hydropower Plants: Win-Win Solution</i> Frida NIEMI <i>Evaluating Locations for Fish Habitat Restoration with Hydraulic Modelling and Bedload Transport in a Hydropeaking River</i>	Liv Randi HULTGREEN (Executive Director at RenewHydro - NORWAY)
12:30 – 13:30	Lunch break	

13:30 – 15:00	Session 3 : Focus on Climate Change and Mitigation Maria UBIERNA <i>Bridging the GHG Knowledge Gap in Hydropower: Priorities for Scalable, Integrated and Transparent Emission Accounting</i> Epari Ritesh PATRO <i>Reimagining Hydropower: Navigating Socio-Environmental Tradeoffs Amid Intensifying Climates</i> Jignesh SHAH <i>Impact of Droughts on Hydropower Generation using a new Global Hydropower Plant and Reservoir dataset (GloHydroRes) and Hybrid Modelling</i>	Benjamin GRAFF (CNR – FRANCE)
15:00 – 15:30	Coffee Break	
15:30 – 17:00	Session 4 : Focus on Critical Infrastructure and Resilience Tasniem JAWAID <i>Hydropower&Resilience: Food for thought</i> Daniel PATAUNER <i>Decentralized energy storage to increase the power grid resilience</i> Marko HOČEVAR <i>Development of axial turbine for hidden energy harvesting in water supply networks</i>	Jochen ABERLE (TU Braunschweig – GERMANY)
17:00	End of Day 1	
19:00	Common Dinner	All

Day 2: September 23, 2025

Joint Strategic Workshop – PEN@Hydropower x EERA JP Hydropower Targeted audience: Expert Community and Strategic Stakeholders

Time	Content	Speakers/Moderators
09:00 – 09:15	Welcome	Eduard DOUJAK
09:15 – 10:30	Round Table: Insights from Ongoing Research Projects and Exploration of Future Topics <i>Including contributions from today's HEU project coordinators and discussion of emerging areas of interest.</i> <i>Discussions should contribute to the 4 focus points of the first day.</i>	M: Dogan GEZER Atle HARBY (ReHydro) Alex PRESAS (STOR-HY) Marko HOČEVAR (H-HOPE) Diego CASTEJÓN CONTRERAS (SHERPA) Staffan LUNDSTRÖM (Store2Hydro)
10:30 – 11:00	Coffee break	
11:00 – 12:30	Round Table: Research Topics in the Context of European Policy files and Strategic Roadmaps <i>What is the impact of today's policies and roadmaps onto the future hydropower research?</i> <i>How has hydropower to be developed to meet the future needs?</i> <i>Discussions should contribute to the 4 focus points of the first day.</i>	M: Michael BELSNES Eva KREMERE (UNIDO) Tasniem JAWAID (EREF) Martina CAMPAJOLA (EERA) Petter STOA (SINTEF) (tbc)

12:30 – 13:30	Lunch break	
13:30 – 15:00	Round Table: What Matters to Society? <i>What is the societal expectation on Hydropower in the Future? Hydropower and societal needs, how can technical – environmental – social research contribute to this and which topics are then interesting?</i> <i>Discussions should contribute to the 4 focus points of the first day.</i>	M: Jochen Aberle Tri Ratna BAJRACHARYA (NEPAL) Benjamin GRAFF (CNR) Serdar KADAM (ANDRITZ)
15:00 – 15:30	Coffee Break	
15:30 – 17:00	Consensus session <i>At this session the outputs from previous sessions will be harmonized to a list of research topics. The final result should be a short list of research topics based on several views of these 2 days.</i> <i>Research topics will be grouped according the 4 focus points of the first day.</i>	Ole Gunnar DAHLHAUG and Eduard DOUJAK Rapporteur from first day (1 of 4 session leaders) Rapporteur = M from HEU group Rapporteur = M from Policy group Rapporteur = M from Society group
17:00	End of Day 2	

Students and speakers from the first day will be invited to join a lab tour through NTNU labs.