

# CONFERENCE PROGRAMME

16. October, 2024

## 9:00 Welcome addresses and opening of the Conference

### Opening Session

Session is chaired by: **Janusz Steller** (IMP PAN/TEW), Chairman of the Conference Organising Committee

- 9:00 **J. Steller** (IMP PAN/TEW): Welcome address from the Polish Hydropower Association and the Conference Organising Committee
- 9:10 **M. Sułowicz** (WIEiK PK/TEW): Welcome address from the Faculty of Electrical and Computer Engineering of the Cracow University of Technology
- 9:15 **E. Malicka** (TRMEW):  
Welcome address from the Polish Association for Small Hydropower Development
- 9:20 **M.Lackowski** (IMP PAN): Welcome address from IMP PAN and opening of the Conference

## 10:20 Coffee break

### Session I: Water management and small hydro – innovations and legal-economic constraints

Session is chaired by: **L.Opyrchal** (Military Academy of technology, Warsaw)

- 10:00 **W. Kozak** (RZGW Kraków): *Świnna Poręba Water Reservoir. Flood protection and hydropower use of water resources* (PL)
- 10:20 **Z. Kowalski** (IGSME PAN), **B. Tkocz** (Tauron Serwis SA): *The technology to produce the natural aggregate substitutes out of the Roznow Lake sewage deposits* (PL)
- 10:40 **E. Malicka** (TRMEW):  
*Economic and legal constraints for small hydropower development in Poland* (PL)
- 11:00 **D.Wygoda**, **P. Kisielewski** (Kisielewski Sp. z O.O.):  
*A highly efficient modular hydrogenerator for small hydropower installations* (PL)
- 11:20 **T. Żaba** (Cracow City Waternetworks): *Hydraulic energy recovery installations in the infrastructure of the Cracow City Waternetworks* (PL)
- 11:40 **M.Lackowski** (IMP PAN): *Heat storage as one of energy storage technologies*

## 12:10 Coffee break

### Session II: HYDROFORUM Debate "The duties of subjects using civil engineering infrastructure of multipurpose water barrages "

Session is chaired by: **Stanisław Lewandowski** (EasyServ / TEW).

- 12:30 **Opening of the debate** (S.Lewandowski)

## 14:00 Lunch break

### Session III: Power grid elasticity and hybridization of hydropower plants

Session is chaired by: **Prof. Dariusz Borkowski**

Faculty of Electrical and Computer Engineering of the Cracow University of Technology

- 15:00 **R. Koropis** (Renpro/TRMEW): *Ancillary and elasticity services - new opportunities for hydropower collaboration with the National Power Grid* (PL)
- 15:20 **J. Skrzypacz**, **A. Machalski**, **P. Szulc**, **D. Błoński**, **M. Nemš**, **A. Nycz** (WME PWr):  
*D-Hydroflex. Digital solutions for improving the sustainability performance and FLEXibility potential of HYDROpower assets. System functionality and architecture* (PL)
- 15:40 **J. Jurasz**, **B. Bochenek** (PWr), **E. Kasiulis** (VDU):  
*Hybrid hydro-solar systems: a straightforward solution in challenging times*
- 16:00 **A. Kamonciak** (Energa Wytwarzanie): *A PV installation as used to support the internal needs of an SHP installation at an example of the Radunia River Cascade* (PL)
- 16:20 **E. Kasiulis** (VDU), **J. Jurasz** (PWr):  
*Small hydropower and solar PV hybridization assessment: a case study from Lithuania*
- 16:40 **Y. Cui**, **J. Jurasz** (PWr): *Hydropower-dominated multi-energy complementary system in the low carbon era: a case study of Longyangxia, China*

## 17:00 Coffee break

**16 October 2024 (continued.)****Session IV: HYDROFORUM Debate " Technical opportunities for hydropower contribution to the energy transformation by rising the regulatory potential of hydropower installations"**Session is chaired by: **Stanisław Lewandowski** (EasyServ / TEW).**17:30 Opening of the debate** (S.Lewandowski)**19:00 Closing of the first day of Conference****20:00 Conference Dinner (Premium Cracow Hotel, Cracow)****17 October 2024****8:00 Opening of the debate and Organising Committee's communications****Session V: Workshop "Pumped Storage Technology - The Renewable Battery"****08:05 B.Benz, M.Schmid** (Andritz Hydro GmbH)**10:05 Coffee break****Sesja VI: Pumped storage hydropower projects**Session is chaired by: **Janusz Łobacz** (Żarnowiec PSPP.)**10:30 M. Kubecki** (IOZE): *Energy storage including pumped storage technology - market review, domestic and foreign trends* (PL)**10:50 A. Chyc** (Energoprojekt Warsaw), **W.Poręba** (HzBud): *Rehabilitation of the Poręba-Żar PSPP upper reservoir - project implementation from the viewpoint of the project manager* (PL)**11:10 A. Voychenko**, M. Levytskyi (Ukrhydroproject): *The updated design of the Kaniv PSP construction as a response to current challenges and changes in the United Energy System of Ukraine***12:00 Coffee break****Session VII: Life NEXUS: hydraulic energy recovery and fittings**Session is chaired by: **Prof. Petras Punys** (Vytautas Magnus University, Kaunas)**12:00 A. Kuriqi**, H. M. Ramos, P.S.M Guruprasad (CERIS, University of Lisboa): *Integrated strategies to improve the sustainability of urban water infrastructures through energy recovery***12:20 M.Piekoś** (MPEC Cracow): *The use of micro turbines for the heating network automation***12:40 A. Chlapek** (T.I.S. Poland): *T.I.S. hydraulic fittings for the needs of hydropower and energy recovery from the waternetwork infrastructure. Reliability, safety, individual solutions* (PL)**13:00 S. Wróblewski** (TB Hydro): *Numerical computations as applied in design process of valves to be used in hydropower installation* (PL)s**13:20 Lunch break****Session VIII: Research & development works I**Session is chaired by: **Dr. Przemysław Szulc** (Wrocław University of Science and Technology)**14:20 A.Neagoe**, G.-E.Dumitran, L.-I.Vuță, E.-I.Tică, **B.Popa** (Politehnica, Bukareszt), M.-V. Birsan (IG AR): *Computer based and physical model for flow forecasting for hydropower***14:40 P. Punys**, L. Jurevičius (Vytautas Magnus University, Kaunas): *Software for assessment of small hydropower project feasibility: a review***15:00 M. Kaniecki**, **M. Lewandowski** (TG DNALOP), Z. Krzemianowski (IMP PAN): *The mechanisms of non-stationary phenomena development in the Francis turbine flow system and the methods of their mitigation* (PL)**15:20 Z. Krzemianowski**, J. Steller (IMP PAN), M. Kaniecki (TG DNALOP): *Model tests of a low head and high specific speed Francis turbine* (PL)**15:40 A. Olszewski**, K. Rafał (IOT), A. Góralczyk (IMP PAN), P. Szulc (PWr), W.Lorenz (Hydrovacuum): *Hydrokinetic water turbine. From a concept to the prototype* (PL)**16:00 K. Kusukana** (CUT, PWr) , J. Jurasz (PWr): *Harnessing Untapped Potential: A Review of Hydrokinetic Systems in Hydropower Tailraces***16:20 Coffee break**

**17 October 2024 (continued)****Session IX: Good practices and research & development works II**Session is chaired by: **Dr Maciej Kaniecki** (IMP PAN)

- 16:50 **Ł. Kalina** (IOZE): *Increasing technical potential of hydropower installations - selected examples* (PL)
- 17:10 **D.Liszka**, D.Borkowski, S. Grądziel (WEiK PK): *An innovative technique of the hydraulic turbine runner vane angle adjustment during turbine operation - especially in low head hydropower installations* (PL)
- 17:30 **G.Wiszniewski** (WTW):  
*High efficiency Kaplan turbines - R&D works conducted by WTW Poland Sp. z O.O.* (PL)
- 17:50 **M. Masek** (Belse): *Belzona composites in hydropower installations* (PL)
- 18:20 **K. Górlicka**, J. Przydatek (PFTechnology): *The use of self-cleaning filters in hydropower sector* (PL)
- 18:40 **M. Lis**, E.Bogacka (Energetyka Wodna):  
*Study tours in the process of developing expert knowledge for the hydropower sector* (PL)

**19:00 Closing of the Conference****20:00 Joint Dinner****18 October 2024****The study visit to Cracow Waternetworks and Świnna Poręba HPP and Dam**

<b>8:15</b>	<b>Departure to Plaszów Sewage Treatment Plant</b>		
09:00	The visit to Plaszów Waste Water Treatment Plant		
10:30	Transfer to KP-3 Pressure Reduction Chamber		
11:00	The visit to KP-3 Pressure Reduction Chamber		
11:30	Transfer to Kalwaria Zebrzydowska Sanctuary		
	<b>Group I (only private cars)</b>		<b>Group II (bus + private cars)</b>
12:00	Lunch in the Pilgrim's House	12:00	Sight seeing of the Sanctuary
13:00	Departure to Świnna Poręba HPP	13:00	Lunch in the Pilgrim's House
13:30	The visit to Świnna Poręba HPP and Dam	13:45	Departure to Świnna Poręba HPP
<b>15:30</b>	<b>The end of the study visit</b>	14:15	The visit to Świnna Poręba HPP and Dam
		<b>16:15</b>	<b>The end of the study visit</b>
		17:30	Arrival to Premier Cracow Hotel (bus)
		17:45	Arrival to Cracow Railway Station (bus)

**Abbreviations**

CUT	- Central University of Technology Free State, South Africa	PK	- Cracow University of Technology
IG AR	- Institute of Geography, Romanian Academy	PWr	- Wrocław University of Science and Technology
IGSME PAN	- Mineral and Energy Economy Research Institute Pol.Ac.Sci., Cracow	RZGW	- Regional Water Management Authority
IMP PAN	- Institute of Fluid-Flow Machinery, Pol.Ac.Sci.	TEW	- Polish Hydropower Association
IOT	- Institute of Technology Optimisation, Warsaw	TRMEW	- Polish Association for Small Hydropower Development
IOZE	- Institute of Renewable Energy Sources, Kielce	VDU	- Vytautas Magnus University, Kaunas
MPEC	- Municipal Heat Power Enterprise	WAT	- Military Academy of Technology, Warsaw
		WEiK	- Faculty of Electrical and Computer Engineering
		WME	- Faculty of Mechanical and Power Engineering