

Polish Hydropower Conference **HYDROFORUM 2021**

Szewalski Institute of Fluid-Flow Machinery,
Gdansk University of Technology, Gdańsk (Poland), 13-15.10.2021



in hybrid format

Patronage



MINISTRY
OF INFRASTRUCTURE



MINISTRY
OF STATE ASSETS



Association
of Polish Electrical Engineers

Organisers

Towarzystwo Elektrowni Wodnych



Polish Hydropower Association (TEW)



The Szewalski
Institute of Fluid-Flow Machinery
of the Polish Academy of Sciences



Polish Association
for Small Hydropower Development)



**GDAŃSK UNIVERSITY
OF TECHNOLOGY**



Polish Academy of Sciences

Partners



Energia Odnawialna S.A.



Institute of Power Engineering, Gdansk Division



FUNDACJA
POSZANOWANIA
ENERGII
w Gdańsku



**Norwegian
Energy Partners**

Foundation of Energy Saving in Gdańsk

BULLETIN no 3 Conference Programme

HYDROFORUM 2021 is already the 10th edition of Polish Hydropower Conferences, organised ever since 2011 - for a longer time as a part of the RENEXPO Poland events. Since 2019 the conferences have carried the name of a renowned conference series organised in the period between 1973 and 2005 by the Institute of Fluid-Flow Machinery of the Polish Academy of Sciences (IMP PAN) with the scope covering the problems of hydraulic machinery and equipment, especially those used in the hydropower industry. In their current formula the HYDROFORUM events represent first of all a platform for discussing challenges encountered by the hydropower sector in Poland and in Europe in view of changes in its legal & administrative constraints, but also capabilities resulting from the available potential technology and environmental requirements. On the other hand the conferences serve exchange of opinions and information on the prospects and observed trends in sector development, experience on erection and operation of hydropower installations, new solutions to technical problems and the results of R&D efforts. The ambition of the organisers is to keep healthy balance between all these segments – so as to support the interpenetration of various groups of professionals linked to the hydropower sector.

Despite their naming, the Polish Hydropower Conferences are international meetings attended mainly by delegates from the Central-Eastern and Northern Europe. The debate is carried out in Polish and English, with simultaneous interpretation. The central item of the agenda is the HYDROFORUM Panel Debate, generally oriented on the sector problems in Poland and within the region. Competent representatives of central offices, widely conceived hydropower sector and research centres as well as independent experts are invited to the panel. However, other delegates present at the conference hall are always invited to express their opinions during the open discussion. In 2018 the tradition of linking the conference with study visits at hydropower installations was restored. Such an initiative is well justified by numerous rehabilitations having taken place since the mid of 1990-ies and the newly completed or planned projects.

The HYDROFORUM 2020 was assumed to debate in the Szewalski Institute of Fluid-Flow Machinery of the Polish Academy of Sciences. A study visit in Żarnowiec PSPP was envisaged. Eventually, the COVID 19 pandemic has forced us to shift and eventually cancel the event. HYDROFORUM 2021 is planned to take place in a hybrid format) on October 13th and 14th this year. The conference will be preceded by the TEW National Assembly whereas the study visit will take place on October 15th, depending on the epidemic situation.

The conference package will comprise the annual subscription of *Energetyka Wodna* quarterly, access to the electronic version of presentations and printed proceedings with extended abstracts of conference contributions. The authors of selected contributions will be invited to prepare post-conference papers to be published in the *Energetyka Wodna* quarterly. In case of potential authors' willingness and sufficient number of Scientific Committee recommendations (at least 6) a post-conference issue of the *Transactions of IFFM* will be also published.

8:00	Registration of delegates
9:00	Opening session
9:00	J. Steller (IMP PAN/TEW): <i>HYDROFORUM Hydropower Conferences – legacy and current status</i>
9:20	Welcome addresses by Conference Organisers
9:30	P. Szymczak (SEP): <i>Mikhail Dolivo-Dobrovolsky - ovolsky - a pioneer of the three-phase system</i> (PL)
10:00	Welcome addresses by Honorary Committee Members
10:10	Collective photograph of HYDROFORUM 2021 delegates
Session I: Hydropower development strategy and legal/economic constraints	
10:40	J. Fry (EuroCOLD): <i>The Hydropower Europe Forum – A Research and Innovation Agenda and a Strategic Industry Roadmap for hydropower development in Europe</i>
11:00	K. Krüger (Voith Hydro): <i>Current technology trends & challenges for pumped hydro power plants including modernization aspects for increased flexibility</i>
11:30	E. Malicka (TRMEW): <i>Support for Polish SHP sector - legislation updates</i> (PL)
11:50	M. Lis (IOZE/Energetyka Wodna): <i>Summarisation of Polish SHP market current state and trends. A report</i> (PL)
12:10	Coffee break
Session II: Panel Debate "Hydropower in energy transition of Poland and the region "	
12:30	J. Steller (IMP PAN/TEW): <i>Introduction to the debate</i> (PL)
14:00	Lunch break
Session III: Renewable hybrid solutions in the context of hydropower (NORWEP Session)	
15:00	A. Eide (Norwegian Ambassador to the Republic of Poland): <i>Welcome address and opening of the session</i>
15:10	G. Vik (NORWEP): <i>The Norwegian Energy Partners – a brief presentation of the foundation and its mission</i>
15:15	S. Lewandowski (TEW): <i>The potential for hybrid solutions in the Polish HP sector</i> (PL)
15:30	NORWEP: <i>Floating PV for hydropower energy plants</i>
15:50	E. Kasiulis (Vytautas Magnus University, Kaunas), J. Jurasz , G. Vyčienė <i>Complementarity of the marine renewable energy sources: Case study of the Baltic Sea</i> (EN)
16:10	Panel debate (moderated by S. Lewandowski)
17:00	Coffee break
Session IV: European Union for the SHP development in Africa and Latin America (HYPOSO Session)	
17:20	I. Ball (WIP, Munich): <i>HYPOSO Project - overview and the Promotion/Matchmaking Platform for the EU SHP Industry</i>
17:40	P. Punys (Vytautas Magnus University, Kaunas): <i>GIS techniques as applied for planning small hydro projects in remote areas</i>
18:00	Closing of the first day of Conference
20:00	Conference Dinner (Hotel Grano, Gdańsk)

8:30	Opening of the Conference debate and organisatory communications
Session V: Żarnowiec Hydropower Plant	
08:35	S. Lewandowski (TEW): <i>Stanisław Cicholski - hydropower professional and humanist</i> (PL)
08:55	W. Majewski (IMGW, Warsaw): <i>Żarnowiec Lake investigation for the design and operational purposes of Żarnowiec Pumped-Storage and Nuclear Power Plants</i> (PL)
09:25	L. Adamczewski (Żarnowiec PSPP): <i>Selected operation & maintenance problems of large size penstocks in pumped storage installations</i> (PL)

9:45	Coffee break
Session VI: Hydropower projects - challenges and technological trends	
10:10	E. Ziaja , W. Szubert, R. Skakowski (IASE, Wrocław): <i>Local load frequency control (LFC) node systems for hydropower plants according to the new standards of the PSE Polish Power Grid Operator</i> (PL)
10:35	K. Woś , K. Wrzosek, Ł. Pieron (Wody Polskie, Warsaw): <i>Polish inland waterway multipurpose projects under construction and in planning</i> (PL)
10:55	A. Łukaszewska-Trzeciakowska (Regional Water Authority, Warsaw): <i>Modern technical arrangements for erecting water barrages at lowland rivers at an example of Siarzewo Dam as planned at Vistula river</i> (PL)
11:15	M. Kubecki (IOZE, Kielce): <i>Hydropower plant refurbishment using modern Kaplan turbines - how to conduct a profitable rehabilitation?</i> (PL)
11:35	B. Geisseler (Geisseler Law, Freiburg): <i>Challenges in the construction & erection phase of a hydro power plant - mitigation strategies: the critical success factors of the erection contract</i>
11:55	Coffee break
Session VII: Operation and technology problems - practical experiences and research work results	
12:15	A. Błaszczyk , M. Nawrocki, D. Woźniak (HYDROPOMP, Łódź): <i>Balancing rotating assemblies of high capacity hydraulic units</i> (PL)
12:35	J. Steller , A. Krzemianowski (IMP PAN, Gdańsk): <i>On prediction of cavitation damage in hydraulic machinery and equipment basing on the laboratory erosion tests</i> (PL)
12:55	R. Masek (Belse, Bielsko-Biała): <i>Cavitation erosion in fluid-flow machinery and its counter-measures</i> (PL)
13:15	L. Opyrchal , A. Bak (WAT): <i>Statistic methods as used for assessment of filtration through embankment dams</i> (PL)
13:35	Lunch break
Session VIII: Innovative hydraulic units and small capacity hydropower installations	
14:45	S. Mayerhofer (Voith Hydro): <i>StreamDiver – the most innovative concept for low head applications</i>
15:10	M. Kaniecki (Thordon Bearings Inc.): <i>Ultra-low head Kaplan turbine – a research project experience</i> (PL)
15:30	A. Radzevicius (Vytautas Magnus University, Kaunas): <i>In-conduit hydropower in municipal water networks of lowland areas. Case study in Lithuania</i>
15:50	A. Olszewski (IOT, Warsaw): <i>Floating hydropower plant with a hydrokinetic turbine - from a concept to the prototype development</i>
16:10	Coffee break
Session IX: Small hydropower and environment - design and research work results	
16:30	L. Jurevicius (Vytautas Magnus University, Kaunas): <i>Remote assessment of the impact of a large HPP on the fish spawning sites</i>
16:50	P. Augustyn (PROCOM SYSTEM SA): <i>Effectiveness assessment of electric fish barriers basing on tests in the Czech Republic, Belgium and Poland</i> (PL)
17:10	B. Pelikan (Prof. em., BOKU) <i>Fishlift® - an innovative fish-sluice system with an integrated turbine unit</i>
17:30	Ł. Kalina (IOZE, Kielce): <i>Active fish passages - experience following from the first implementations</i> (PL)
18:00	Closing of the Conference

8:30	Departure to Żarnowiec Hydropower Plant / Visit to the IMP PAN lab
10:00	Study visit to Żarnowiec Hydropower Plant
13:00	Farewell dinner for the study visit participants
15:30	Arrival to Gdańsk

Conference applications

Participation in the Conference requires registration and payment of the conference fee. You can register online, using the <http://hydroforum.tew.pl/index.php/en/> website or by sending the completed registration form at the following address: **Biuro Towarzystwa Elektrowni Wodnych, ul. Piaskowa 18, 84-240 Reda, Poland**, phone: +48 58 678 79 51, e-mail: biuro@tew.pl. Conference documents are available from also the hydroforum.tew.pl, www.trmew.pl and www.imp.gda.pl websites.

The completed registration form will be the basis for issuing an invoice. The following fees apply (including VAT, €)

Application date	till 15.09	after 15.09
on-site participants		
basic fee:	225	250
hydropower association members	200	225
speakers*, session chairmen, students	135	170
TEW Reception**	30	30
on-line participants		
basic fee:	110	135
hydropower association members	90	110
speakers*, session chairmen, students	70	80

* Only non-commercial contributions.

** The reception will take place on the eve of the Conference (12.X) depending on the epidemic situation. The reception is free of charge for TEW National Assembly delegates.

Providing the printed version of the Book of Abstracts cannot be guaranteed in case of applications after October 1st. The fee shall be paid at the TEW account, according to the invoice received. The conference fee covers participation costs, including the proceedings and the conference dinner at the end of the first day. The hotel costs are to be covered by the delegates on an individual basis. The Organisers reserve themselves the right to apply special discounts and to issue free invitations for Conference guests. For further details and application forms please consult the TEW Office (☎ +48 58 678 79 51, biuro@tew.pl) and our websites.

Conference sessions

With few exceptions 20 minutes have been scheduled for each speaker. After accounting for introduction by the session chairman and a brief discussion, we assume that each presentation should take no more than 12 to 15 minutes. Each speaker will have the conference projector and computer with MS Power Point software at his disposal.

In order to streamline the Conference debate the speakers are asked to send their presentations in advance at the steller@imp.gda.pl address. It will be also possible to submit the presentation file to the Organisers directly before the conference or during the coffee breaks. However, please, do not wait with uploading your presentation till the very last moment. In view of the simultaneous interpretation, please, speak clearly and not too swiftly to the mike. Authors, having failed so far to submit the abstracts of their contributions are kindly asked to do it at their earliest convenience.

Conference venue and logistics

Choosing Gdansk for the Jubilee Edition of Polish Hydropower Conferences is not incidental as Szwedzki Instytut of Fluid-Flow Machinery is exactly the site where the idea of HYDROFORUM conferences was born as early as 1973. Gdansk, a Baltic Sea harbour city with over 1000 year long history, is easily accessible from numerous European airports. The A1 highway connects the city with central Poland and the southern border of the country whereas good railway connection with Warsaw and Poznan is another logistic advantage of fundamental significance.



Due to high interest in our event, the Conference venue has been moved from the IMP PAN to Gdansk University of Technology [GUT], located in Wrzeszcz [Vzheshch] district of Gdansk, in direct neighbourhood of the Institute, on the left side of the historical Great Avenue, named Aleja Zwycięstwa (Victory Avenue) after WWII. The Conference will debate in the GUT Main Hall at the second floor of the historical Main Building, ul. G. Narutowicza 11/12. The delegates coming with their own cars to the venue are kindly requested to notify the Organising Committee about the necessary parking place. Otherwise, it is recommended to use the public transport means. The tram travel from the historical centre of Gdansk to the Conference venue takes some 15 minutes.

Gdansk University of Technology was established in 1945 as a Polish technical university continuing tradition and using resources of famous *Technische Hochschule (zu) Danzig*, established as early as 1904. Till previous decade GUT was the only Polish university with a hydraulic turbine laboratory. Numerous GUT graduates and professors have contributed substantially to developing Polish hydropower sector, just to mention Professor A. Hoffmann, and K. Pomianowski, but also W. Balcerski, M. Broszko, W. Krzyżanowski and others, including K. Steller – the initiator of HYDROFORUM Conference series and a multiyear head of the Department of Dynamics of Liquids at the IMP PAN.

Hotel rooms have been pre-booked in *Grano*, ul. Pszenna 3, and *Dom Muzyka*, ul. Łakowa 1-2, hotels. Both hotels are located in direct neighbourhood of the historical centre of Gdansk, close to the tramway line 9. It is in *Grano* hotel where the Polish Hydropower Association Reception and the Conference Dinner will take place. It is also *Grano Hotel* from where the guided city walk will start on October 12th. Please note that the number of pre-booked rooms is limited and an ASAP decision is essential.

Publishing collaboration and media patronage