Wed, 9. October 2019

9:00	10:25	**Cavitation**	
		Welcome	Stefan Riedelbauch
		Modelling a torus cloud employing the van Wijngaarden Ansatz and the Gilnore equation	Paul Taubert, Johannes Buttenbender, Peter F. Pelz
		Experimental investigation of the passive control of unsteady cloud cavitation using miniature vortex generators (MVGs)	Ebrahim Kadivar, Mikhail Timoshevskiy, Konstantin Pervunin, Ould el Moctar
		Vibration and acoustic emission monitoring of a centrifugal pump under cavitating operating conditions	Georgios Mousmoulis, Christos Yiakopoulos, Ioannis Kassanos, Ioannis Antoniadis, John Anagnostopoulos
		Cavitation damage detection through acoustic emissions	Andreas Look, Stefan Riedelbauch, Jörg Necker, Alexander Jung

10:25	10:50	**Coffee break**	

10:50	12:35	**Vibration and Fatigue**	
		On variations in turbine runner dynamic behaviours observed within a given facility	Martin Gagnon, Jonathan Nicolle
		Hydro-structural stability investigation of a 100 MW Francis turbine based on experimental tests and numerical simulations	Jean Decaix, Vlad Hasmatuchi, Maximilian Titzschkau, Laurent Rapillard, Cécile Münch-Alligné
		Two-way strongly coupled fluid-structure interaction simulations with OpenFOAM	Benjamin Doulcet, Christophe Devals, Bernd Nennemann, Maxime Gauthier, François Guibault, Jean-Yves Trépanier
		Operation cycle concept for the fatigue life prediction of Francis runners	Florian von Locquenghien, Benjamin Leibing, Andreas Greck
		Predicting the stress and deformation of pump-turbine's guide vane at small opening	Ran Tao, Zhongyu Mao, Zhengwei Wang
		Experimental and computational investigation of fluid structure interaction of flexible tube's dynamic properties	Jan Kůrečka, Dominik Šedivý, Simona Fialová, Vladimír Habán

12:35	13:45	**Lunch**	

13:45	15:10	**Vibration and Fatigue**	
		Practical implications of hydraulic phenomena in Francis turbines	Joe Pott
		Troubleshooting of von Karman induced penstock protection valve resonance at FMHL+	Christophe Nicolet, Sébastien Alligné, Michel Furrer, Daniel Fischer, Joël Grognuz, Olivier Chène, Bernard Valluy
		Axial check valve behaviour during flow reversal	Daniel Himr, Vladimír Habán, Dalibor Závorka
		Digital clone for penstock fatigue monitoring	Matthieu Dreyer, Christophe Nicolet, Anthony Gaspoz, Daniel Biner, Samuel Rey-Mermet, Claude Saillen, Bruno Boulicaut
		Dynamic response analysis of powerhouse under turbine pressure pulsation with different distributions and application methods	Zhenyue Ma, Yucheng Ran, Hongzhan Zhang

15:00	15:30	**Coffee break**	

15:30	16:55	**Vibration and Fatigue**	
		Dissolved-gas influence on the Francis part-load oscillation	Peter K Dörfler
		Dynamic radial forces and pressure fluctuations measurement at off-design conditions on a model scale pump-turbine	Vojtech Novotny, Vladimir Haban, Ales Skotak, Radim Loub
		Investigation on the hydrodynamic damping using prescribed blade motion techniques	Pavel Čupr, Wilhelm Weber, Björn Hübner
		The inverse vibration problem for fixed beam submerged in fluid	Michal Havlásek, Vladimír Habán, Martin Hudec, František Pochylý
		Analysis of flexural vibrations of composite hydraulic microhose under the conditions of external excitation	Mirosław Bocian, Marek Lubecki, Michał Stosiak, Kamil Urbanowicz

Thu, 10. October 2019

9:00	10:25	**Plant Dynamics**	
		Recent developments in unsteady pipe flow experimentation at the University of Montenegro	Radislav Brđanin, Uroš Karadžić, Anton Bergant, Jovan Ilić
		Using DGCM to predict transient flow in plastic pipe	Kamil Urbanowicz, Anton Bergant, Huan-Feng Duan, Michał Stosiak, Mateusz Firkowski
		Dynamic closing modelling of the penstock protection valve for pipe burst simulations	Sébastien Alligné, Christophe Nicolet, Patrick Chabloz, Lionel Chapuis
		Numerical study of the Winter-Kennedy method for relative transient flow rate measurement	Binaya Baidar, Jonathan Nicolle, Bhupendra K Gandhi, Michel J Cervantes
		Wall shear stress in pulsating pipe flow at resonance and non-resonance conditions	Jurij Gregorc, Anton Bergant, Kamil Urbanowicz, Arris Tijsseling

10:25	10:50	**Coffee break**

10:50	12:35	**Computational Fluid Dynamics**	
		PIV measurements on a Kaplan turbine and comparison with scale-adaptive numerical analysis	Johannes Beck, Simon Jossberger, Roland Jester-Zürker, Stefan Riedelbauch
		Study of hydrofoil boundary layer transition using different turbulence models	Changliang Ye, Bart van Esch
		Simulation of a shut-down transient in the Francis-99 turbine model	L Uppström, J Fahlbeck, Eric Lillberg, Håkan Nilson
		Simulation of stochastic loads on a medium head Francis runner	Jean-François Morissette, Jonathan Nicolle
		Analysis of a propeller turbine operated in a full load operating point	Bernd Junginger, Stefan Riedelbauch
		Numerical study on pressure fluctuation in a multiphase rotodynamic pump with different inlet gas void fractions	Wenwu Zhang, Baoshan Zhu* , Zhiyi Yu

12:35	13:45	**Lunch**

13:45	14:55	**Cavitation**	
		Numerical simulation of the tip leakage vortex cavitating flow	Rui Zhang, Zhaodan Fei, Hui Xu
		Experimental verification of the effect of gap geometry on the tip-leakage flow pattern and tip-clearance cavitation	Konstantin S. Pervunin, Mikhail Yu. Nichik, Mikhail V. Timoshevskiy
		Cavitation erosion prediction based on a multi-scale method	Lydia Plastre, Christophe Devals, Maxime Gauthier, Bernd Nennemann, Jean-Yves Trépanier, François Guibault
		Experimental and numerical analysis of cavitation and pressure fluctuations in large high head propeller turbine	Matic Ocepek, Zlatko Peršin, Igor Kern, Vesko Djelić, Simon Muhič, Andrej Lipej

14:55	15:25	**Coffee break**

15:25	17:20	**Vortex flow, kinetic turbine**	
		Experimental investigation of vortex ring formation as a consequence of spiral vortex re-connection	David Štefan, Pavel Rudolf, Martin Hudec, Václav Uruba, P Procházka, Ondřej Urban
		POD analysis of a vortex rope with transient boundary conditions	Ondřej Urban, Pavel Rudolf
		Visualization of the elliptical form of a cavitation vortex rope and its collapse by two cameras	Arthur Favrel, Zhi hao Liu, Wataru Takahashi, Tatsuya Irie, Masashi Kubo, Kazuyoshi Miyagawa
		Numerical investigation of solutions to suppress the inlet vortex of an existing booster pump	Jean Decaix, Anthony Gaspoz, Daniel Fischer, Cécile Münch-Alligné
		Cost-effective CFD simulation to predict the performance of a hydrokinetic turbine farm	Olivier Pacot, Damien Pettinaroli, Jean Decaix, Cécile Münch-Alligné
		Development of an adapted turbine model for hydrokinetic turbines in 2d shallow water solvers	Christa Stadler, Jonas Wack, Stefan Fraas, Stefan Riedelbauch
		Closing Remarks	Stefan Riedelbauch