



Technical Sessions (Thursday Morning, September 20)

Thursday Morning (September 20) 10:10 - 12:10

Hydraulic Turbines 12 (RY202)

Chairs: Prof. Yuji Nakanishi (Kanagawa University, Japan)

[IAHR2018-231](#) **“Francis design and prediction technology for flexible operation”**, Joel Chamberland-Lauzon (Andritz Hydro, Canada), Christine Monette (Andritz Hydro, Canada), Bernd Nennemann (Andritz Hydro, Canada), Matthieu Melot (Andritz Hydro, Canada), Stefan Birk (Andritz Hydro, Germany), Nicolas Ruchonnet (Andritz Hydro, Switzerland)

[IAHR2018-232](#) **“Numerical simulation of air injection in Francis turbine”**, Denis Chirkov (Institute of Computational Technologies SB RAS, Russia), Pavel Shcherbakov (Institute of Computational Technologies SB RAS, Russia), Vladimir Skorospelov (Sobolev Institute of Mathematics SB RAS, Russia), Sergey Cherny (Institute of Computational Technologies SB RAS, Russia), Alexander Zakharov (PJSC "Power Machines" LMZ, Russia)

[IAHR2018-234](#) **“Numerical and experimental investigation of the runner channel vortex in Francis turbines regarding its dynamic flow characteristics and its influence on pressure oscillations”**, Marcelo V. Magnoli (Voith Hydro Holding GmbH & Co. KG, Germany), Danijel Anciger (Voith Hydro Holding GmbH & Co. KG, Germany), Marco Maiwald (Voith Hydro Holding GmbH & Co. KG, Germany)

[IAHR2018-241](#) **“Numerical simulation and analysis at partial load in Francis turbines: Three-dimensional topology and frequency signature of inter-blade vortices”**, Francois Doussot (Grenoble Institute of Technology, France), Guillaume Balarac (Grenoble Institute of Technology, France), James Brammer (GE Renewable Energy, France), Olivier Metais (Grenoble Institute of Technology, France), Claire Segoufin (GE Renewable Energy, France)

[IAHR2018-248](#) **“Numerical analysis of a Kaplan turbine model transient operation”**, Raluca G. Iovanel (University POLITEHNICA of Bucharest, Romania), Diana M. Bucur (University POLITEHNICA of Bucharest, Romania), Georgiana Dunca (University POLITEHNICA of Bucharest, Romania), Michel J. Cervantes (Lulea University of Technology, Sweden)