

Francis-99 program

Wednesday 14/12-2016

1000-1130: Registration

1130-1230: Lunch

1230-1240: Prof. T. Nielsen: Introduction

1240-1310: C. Bergan: Francis-99 test case: experiments

1310-1340: R. Lestriez: Francis-99 test case: mesh

1340-1410: P. Mossinger, R. Jester-Zurker, A. Jung: Francis-99: Transient CFD simulation of load changes and turbine shutdown in a model sized high-head Francis turbine

1410-1430: Coffee break

1430-1500: K-R Jakobsen, M. Aasved Holst: CFD simulations of transient load change on a high head Francis turbine

1500-1530: Y. Dewan, C. Custer, A. Ivashchenko: Simulation of the Francis-99 hydro turbine during steady and transient operation

1530-1600: A. Minakov, A. Sentyabov, D. Platonov: Numerical investigation of flow structure and pressure pulsation in the Francis-99 turbine during startup

1600-1630: A. Minakov, D. Platonov, A. Sentyabov, A. Gavrilov: Francis-99 turbine numerical flow simulation of steady state operation using RANS and RANS/LES turbulence model

1610-1630: A. Gavrilov, A. Dekterev, A. Minakov, D. Platonov, A. Sentyabov: Steady state operation simulation of the Francis-99 turbine by means of advanced turbulence models

1630-1700: E. Casartelli, L. Mangani, O. Ryan, A. Del Rio: Performance prediction of the high head Francis-99 turbine for steady operation points

1700-1900: (free time)

1900-2100: Dinner

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Thursday 15/12-2014

0830-0900: Y. Zeng, L.X. Zhang, J.P. Guo, Y.K. Guo, Q.L. Pan, J. Qian: Efficiency limit factor analysis for the Francis-99 hydraulic turbine

0900-0930: N. Tonello, Y. Eude, B. de Laage de Meux, M. Ferrand : Frozen rotor and sliding mesh models applied to the 3D simulation of the Francis-99 Tokke turbine with Code_Saturne

0930-1000: P. Østby, J.T. Billdal, B. Haugen, O-G. Dahlhaug: On the relation between friction losses and pressure pulsations caused by rotor-stator interaction on the Francis-99 turbine

1000-1015: Coffee break

1015-1140: Group discussion

1140-1155: Prof. Ole-Gunnar Dahlhaug: Francis-99 III

1155-1200: Prof. T. Nielsen: Conclusion

1200-1300: Lunch

1300-1500: Visit Water Power Laboratory