

Francis-99 program

Monday 15/12-2014

1000-1130: Registration

1130-1230: Lunch

1230-1240: Prof. T. Nielsen: Introduction

1240-1320: Prof. M. Raisee: Uncertainty quantification in CFD with application to hydropower

1320-1410: C. Trivedi and C. Bergan: Francis-99 test case

1410-1430: J Nicolle and S Cupillard: Prediction of dynamic blade loading of the Francis-99 turbine

1430-1450: Coffee break

1450-1510: D Stefan and P Rudolf: Proper orthogonal decomposition of pressure fields in a draft tube cone of the Francis (Tokke) turbine model

1510-1530: H. Wallimann and R. Neubauer: Numerical study of a high head Francis turbine with measurements from the Francis-99 project

1530-1550: A V Minakov, A V Sentyabov, D V Platonov, A A Dekterev and A A Gavrilov: Numerical modelling of flow in the Francis-99 turbine with Reynolds stress model and detached eddy simulation method

1550-1610: P Mössinger, R Jester-Zurker, A Jung: Investigation of different simulation approaches on a high-head Francis turbine and comparison with model test data: Francis-99

1610-1630: D Jošt, A Škerlavaj, M Morgut, P Mežnar and E Nobile: Numerical simulation of flow in a high head Francis turbine with prediction of efficiency, rotor stator interaction and vortex structures in the draft tube

1630-1900: (free time)

1900-2100: Dinner

Francis-99 program

Tuesday 16/12-2014

0830-0850: Carl Bergan, Kaveh Amiri, Michel J Cervantes and Ole G Dahlhaug: Preliminary measurements of the radial velocity in the Francis-99 draft tube cone

0850-0910: D Čelič and H Ondráčka: The influence of disc friction losses and labyrinth losses on efficiency of high head Francis turbine

0910-0930: M Lenarcic, M Eichhorn, SJ Schoder and C Bauer: Numerical investigation of a high head Francis turbine under steady operating conditions using foam-extend

0930-0950: O Amstutz, B Aakti, E Casartelli, L Mangani, L Hanimann: Predicting the performance of a high head Francis turbine using a fully implicit mixing plane

0950-1010: B Aakti, O Amstutz, E Casartelli, G Romanelli, L Mangani: On the performance of a high head Francis turbine at design and o-design conditions

1010-1030: Coffee break

1030-1050: L Stoessel, H Nilsson: Steady and unsteady numerical simulations of the flow in the Tokke Francis turbine model, at three operating conditions

1050-1110: Z Yaping, L Weili, R Hui, L Xingqi: Performance study for Francis-99 by using different turbulence models

1110-1130: JD. Buron, S Houde, R. Lestriez and C Deschênes: Application of the non-linear harmonic method to study the rotor-stator interaction in Francis-99 test case

1130-1230: Lunch

1230-1410: Visit Water Power Laboratory

1410-1430: Coffee break

1430-1610: Discussion: geometry, mesh, and experimental data

1610-1620: Prof. Ole-Gunnar Dahlhaug: Francis-99 II

1620-1630: Prof. T. Nielsen: Conclusion