

# ISimT-18

Symposium on Innovative  
Simulations in Turbomachinery

Preliminary Program

15 - 16 October 2018, Schloss Hohenkammer, Germany

## Monday, 15 October 2018

12:50 - 13:00	<b>Welcome</b> ISimQ-Team
13:00 - 14:00	<b>Multiscale Multiphysics Interactions: Challenges and Opportunities in Turbomachinery CFD</b> Li He, Oxford University
14:00 - 14:30	<b>The Temperature-Dependent Characteristic of a Centrifugal Plastic Pump Simulated with Automatically Scaled Grids</b> Gunther Treutz, MUNSCH Chemie-Pumpen
14:30 - 15:00	<b>The Hydraulic Design and Computational Analysis of an Archimedes Screw Turbine</b> Edward Bennett, Mechanical Solutions
15:00 - 15:30	<b>Break</b>
15:30 - 16:00	<b>Scale Effects on a Ducted Azimuth Thruster in Extreme Off-Design Conditions</b> Moustafa Abdel-Maksoud, Technische Universität Hamburg-Harburg
16:00 - 16:30	<b>On the Challenges of CFD Simulations for Pump Sumps</b> Laurent Chatagny, Sulzer Management
16:30 - 17:00	<b>Break</b>
17:00 - 17:30	<b>Influence of Intra-Row Interaction on the Aerodynamic Damping of an Axial Turbine Stage</b> Tobias Müller, Universität Stuttgart
17:30 - 18:00	<b>Co-Simulation of the Flow in a Positive Displacement Engine with Flownex and ANSYS CFX</b> Andreas Spille-Kohoff, CFX Berlin Software
19:00	<b>Symposium dinner</b>

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## Tuesday, 16 October 2018

- 09:00 - 10:00 **Vertex-Centered and Cell-Centered Discretisation Schemes**  
Paul Galpin, ISimQ
- 10:00 - 10:30 **Some Experience and Problems of Direct Numerical Simulation of Unsteady Flow in Fan and in Low and High-Pressure Compressors of HBR Turbofan**  
Vladimir Makarov, Central Institute of Aviation Motors (CIAM), Moscow
- 10:30 - 11:00 **Break**
- 11:00 - 11:30 **Simulation-Driven Development of Centrifugal Compressor Impellers with Stage Pressure Ratios beyond 6**  
Marius Geller, Fachhochschule Dortmund
- 11:30 - 12:00 **Flexible and Robust Geometry Variation for the Optimization of Complex Turbomachinery Components**  
Mattia Brenner, Friendship Systems
- 12:00 - 12:30 **New Optimal Fan Design Method by Matching the Spiral Casing to the Impeller at Design Point and Off-Design Point Conditions**  
Philipp Epple, Hochschule Coburg
- 12:30 - 13:30 **Lunch**
- 13:30 - 14:00 **Numerical Study of Rotating-Stall Induced Blade Vibration in a Centrifugal Impeller**  
Bob Mischo, MAN Energy Solutions
- 14:00 - 14:30 **Gas Turbine Lubrication System Optimization Using Multi-Phase Flow Capability in Flownex**  
Bennie du Toit, Flownex Simulation Environment
- 14:30 - 15:00 **Parametric Innovative Design & Optimisation of a Hydraulic Turbine**  
Alessandro Arcidiacono, Enginsoft
- 15:00 - 15:30 **Break**
- 15:30 - 16:00 **Pump-Turbine Instability, Autooscillations and Reverse Waterhammer Accidents in Hydraulic Systems**  
Stanislav Pejovic, University of Belgrade
- 16:00 - 16:30 **Mesh Generation Best Practices for Turbomachinery CFD**  
Georg Scheuerer, ISimQ
- 16:30 - 16:45 **Wrap-Up & Outlook to ISimT-19**  
ISimQ-Team

The logo for ISimQ, featuring the text "ISimQ" in white on a red circular background.