

8 <sup>th</sup> of July	Day 1		
8:00 - 9:30	Registration at Radisson Hotel & Suites		
9:30 – 10:00	Opening Ceremony		
10:00 – 10:50	<p>Invited Lecture</p> <p>Dr.-Ing. Markus Fischer</p> <p><b>Flow Control as an Enabler for Civil Aircraft Design</b></p> <p><b>Chairman: Prof. Rene Van den Braembussche</b></p>		
11:00 - 12:20	<p><b>Axial Compressors/Fans 1</b></p> <p><b>(1A)</b></p> <p>Chairman: Prof. Guillaume Dufour</p>	<p><b>Transonic Flows 1</b></p> <p><b>(1B)</b></p> <p>Chairman: Prof. Abhilash Suryan</p>	<p><b>Multiphase/Reacting Flows 1</b></p> <p><b>(1C)</b></p> <p>Chairman: Prof. M. M. Ashraful Alam</p>
11:00 - 11:20	<p><b>Numerical Simulation of Three-dimensional Flow of Axial Fan with Diffuser used for underground rail</b></p> <p>Xiaoyu XU, Huashu Dou</p>	<p><b>Exit Flow Field Patterns beyond the Limit Load Condition in a Hub Turbine Profile Cascade</b></p> <p>M. Luxa, J. Fürst, D. Šimurda</p>	<p><b>Thermal management evaluation for advanced aero-engines using detailed pyrolytic chemical reactions of hydrocarbon fuels</b></p> <p>Keyu GONG, Yu FENG, Yong CAO</p>
11:20 - 11:40	<p><b>Research on the Matching Performance under Variable Speed and Blade Mounting Angle of Counter-rotating Axial Flow Fan</b></p> <p>CHENG Delei, Huashu Dou</p>	<p><b>Computational analysis of a New Hypersonic Quiet Flow Nozzle</b></p> <p>DiviaHarshaVardini R.C., Rajesh G., Arul P.K.</p>	<p><b>Study of Effect of Coaxial Air Stream on High-Pressure Water Jet</b></p> <p>M. Yaga, K. Yamakawa, T. Wakuta, H.D. Kim</p>
11:40 – 12:00	<p><b>Detailed Aerodynamic CFD Analysis of Compressor Airfoils in Cascade</b></p> <p>YANG Lianfeng, D. Barsi, Yigang Luan, P. Zunino</p>	<p><b>Computational Study on Planar Nozzles with Different Divergence Angles Using OpenFOAM</b></p> <p>Prasanth. P.N., Abhilash. S., H.D. Kim</p>	<p><b>Compressible, Turbulent, Multiphase Simulation with Phase Change for Underwater Propulsion</b></p> <p>A.R. Elizabeth, T. Jayachandran</p>
12:00 – 12:20	<p><b>Active Stage Matching in an Axial Compressor by Zero-Net Mass-Flux Actuation</b></p> <p>L. Schwerdt, T. Willeke, O. Huxdorf, J.H. Krone, J. Friedrichs, J. Riemenschneider, H.P. Monner, J.R. Seume</p>	<p><b>Numerical simulation of transonic flows in wind tunnel test section</b></p> <p>P. Louda, J Pflhoda</p>	<p><b>Miniaturization of Bubbles by Shock Waves in Gas-Liquid Two-phase Flow in the Venturi Tube</b></p> <p>Xin Jiang, T. Yasunobu, A. Nakamura, M. Shimazu</p>
12:20 – 13:40	Lunch		
13:40 – 14:30	<p>Invited Lecture</p> <p>Prof. Satoru Yamamoto</p> <p><b>Modeling and Simulation of Thermophysical Flows with Nonequilibrium Condensation</b></p> <p><b>Chairman: Prof. Heuy Dong Kim</b></p>		

8 <sup>th</sup> of July	Day 1		
14:40 – 15:40	<p align="center"><b>Centrifugal Compressors</b> (2A)</p> <p align="center">Chairman: Prof. Toshiaki Kanemoto</p>	<p align="center"><b>Transonic Flows 2</b> (2B)</p> <p align="center">Chairman: Prof. Rajesh Gopalapillai</p>	<p align="center"><b>Micro/Nano-Flows</b> (2C)</p> <p align="center">Chairman: Prof. Ewa Tuliszkza-Sznitko</p>
14:40 - 15:00	<p><b>Development of Diffuser Stall and Flow Structures in a Centrifugal Compressor with Vaned Diffuser</b> M. Takahashi, N. Fujisawa, Y. Ohta</p>	<p><b>Shock tube performance studies with helium and nitrogen using numerical simulation</b> Ananthu J.P., N Asok Kumar.</p>	<p><b>Flow Drag and Heat Transfer Characteristics in Circular Straight Pipe Flow of Nanosuspension as Heat Transport Medium</b> S. Morita, K. Hirano, T. Nishi, Y. Hayamizu, T. Yamada, A. Horibe</p>
15:00 - 15:20	<p><b>Detection and Analysis of an Alternate Flow Pattern in A Radial Vaned Diffuser</b> V. Moënne-Loccoz, I. Trébinjac, N. Poujol, P. Duquesne</p>	<p><b>Preliminary Experiments for Density Measurements in Shock-Containing Microjets by Twyman-Green Interferometers</b> Y. Kimura, S. Sugawara, S. Nakao, Y. Miyazato, Y. Ishino</p>	<p><b>Flow in Microchannel with Baffle</b> W. Nishikori, M.M.A. Alam, M. Takao</p>
15:20 – 15:40	<p><b>Quantitative Validation of CFD-Simulation Against PIV Data for a Centrifugal Fan</b> M. Probst, M. Nial, B. Pritz, R. Stieglitz</p>	<p><b>Numerical Study on the Performance Parameters of a Film Cooled LOX/GH2 Dual Bell Nozzle</b> R. Martin, A. Suryan, H.D. Kim</p>	<p><b>Non-stationary filtration in a scalar porous medium</b> V. Sergeev, M. Petrichenko, E. Kotov, D. Nemova</p>
15:40 – 16:05	Coffee Break		
16:05 - 17:05	<p align="center"><b>Axial Compressors/Fans 2</b> (3A)</p> <p align="center">Chairman: Prof. Hua-Shu Dou</p>	<p align="center"><b>Supersonic Flows</b> (3B)</p> <p align="center">Chairman: Prof. Minoru Yaga</p>	<p align="center"><b>Aeroacoustics</b> (3C)</p> <p align="center">Chairman: Prof. Isabelle Trébinjac</p>
16:05 - 16:25	<p><b>The research of compressor performance degradation in different blade surface roughness distribution forms</b> Feng Qu, Zhongyi Wang., Yaozhen Gong, P. Zunino, Yanhua Wang</p>	<p><b>Effect of the geometry of laminar flow airfoil on the characteristics of transonic buffet</b> P.A. Polivanov, A.D. Budovsky, A.A. Sidorenko</p>	<p><b>Flow Field and Acoustic Absorption Performance of Perforated Plate with Bias Flow</b> H. Hamakawa, K. Nakahara, A. Shimooka, E. Kurihara, H. Hayashi</p>
16:25 - 16:45	<p><b>Aerodynamic optimization of a compressor cascade</b> Feng Qu, Zhongyi Wang, Tao Sun, D. Barsi, P. Zunino</p>	<p><b>FSS-RSS Transition In Thrust Optimized Parabolic (TOP) Nozzles during Start-Up and Shut Down</b> I. Mohamed, Rajesh G.</p>	<p><b>Design of a centrifugal fan with reduced flow noise</b> H.J. Sung and S.J. Kim</p>
16:45 – 17:05	<p><b>Effect of turbulence anisotropy to multi-stage copressor CFD</b> N. Tani</p>	<p><b>Characteristics of Self-Induced Flow Oscillation Caused by Underexpanded Supersonic Rectangular Impinging Jet</b> T. Yasunobu, Y. Tanaka, Xin Jiang, K. Komatani</p>	<p><b>Implementation and validation of the FW-H acoustic analogy for helicopter rotor noise prediction</b> T. Suresh, P. Flaszynski, O. Szulc</p>
17:30 –	Welcome Reception		

9 <sup>th</sup> of July	Day 2		
9:00 - 9:50	<p style="text-align: center;">Invited Lecture</p> <p style="text-align: center;">Prof. Marius Swoboda</p> <p style="text-align: center;"><b>The future of Turbomachinery... and the associated CFD. A Rolls Royce perspective.</b></p> <p style="text-align: center;"><b>Chairman: Prof. Joerg Seume</b></p>		
10:00 – 11:00	<b>Boundary Layer</b> (4A) Chairman: Prof. Artur Tyliczszak	<b>Gas Turbines 1</b> (4B) Chairman: Prof. Martin Luxa	<b>Measurements 1</b> (4C) Chairman: Prof. Yuataka Ohta
10:00 - 10:20	<b>Investigation of Laminar Separation Bubble on Flat Plate With Adverse Pressure Gradient</b> QU Yonglei, D. Barsi, D. Simoni, P. Zunino	<b>Passive method for leakage reduction in gas turbine</b> F. Wasilczuk, P. Flaszynski, P. Doerffer, K. Marugi	<b>Measurement with a split-fiber probe in unsteady and reverting periodic flows</b> J. Lepicovsky
10:20 - 10:40	<b>Large Eddy Simulation of the bypass transition process under different inlet turbulence conditions</b> D. Barsi, C. Costa, D. Lengani, D. Simoni, M. Ubaldi	<b>On the influence of high turbulence on the convective heat flux on the high- pressure turbine vane LS89</b> T.S. Cação Ferreira, T. Arts, E. Croner	<b>Quantitative Measurements of Unsteady Transonic Diffuser Flows by Mach-Zehnder Interferometers</b> H. Chidori, Y. Sakamoto, S. Nakao, Y. Miyazato
10:40 – 11:00	<b>Prediction of the laminar-turbulent transition for transonic SWBLI using e<sup>N</sup>-method</b> A.A. Sidorenko, P.A. Polivanov, A.I. Kutepova, A.V. Boiko	<b>Numerical Simulation of Sand erosion on CMC and Ni-based Superalloy Vanes and End Walls in High Pressure Turbine</b> M. Ueno, H. Mamori, K. Fukudome, M. Yamamoto, M. Suzuki	<b>Synchronous measurement of pressure fluctuation in shock tunnel and visualization of pulse jet using shock tunnel</b> T. Yasunobu, Y. Fujiwara, Xin Jiang, M. Shimazu
11:00 – 11:25	Coffee Break		
11:25 – 12:45	<b>Axial Compressors/Fans 3</b> (5A) Chairman: Prof. Hongwei Ma	<b>Jets/Vortex Flow</b> (5B) Chairman: Prof. Hiromitsu Hamakawa	<b>Hydraulic Machines</b> (5C) Chairman: Prof. Manabu Takao
11:25 - 11:45	<b>Numerical analysis of compressor rotor operation in conditions of high air humidity</b> S. Dykas, M. Majkut, K. Smółka	<b>Study on supercritical CO<sub>2</sub> jet in a confined duct</b> S. Raman, J. Edathol, M. Yaga, H.D. Kim	<b>Cavitation Reduction on Hydro-Turbine</b> R.S. Amano
11:45 - 12:05	<b>A Methodology for Design and Optimisation of Convolved Aero-engine Intakes</b> S.N. Theodorou, P.K. Zachos, F. Tejero, D.G. MacManus	<b>Flow in a rotating annulus with asymmetric boundary conditions</b> E. Tuluszka-Sznitko, T. Mullin	<b>Blade number effects on the In-pipe hydro Savonius performance</b> S.A. Payambarpour, N. Hasanzadeh, A.F. Najafi, F. Magagnato
12:05 - 12:25	<b>Flow control of radial migration along the rotor suction surface</b> Yuchen DAI, Donghai JIN, Xingmin GUI, WEI Xiao	<b>Collecting Performance in a Cyclone Separator with a Hemispherical Head</b> M. Munekata, G. Kitamura, N. Tsuzaki, A. Tsurumaru, H. Yoshikawa, K. Ono, T. Watanabe	<b>Non-Contact Laser Measurement of Water Jet Spreading Widths for Impulse Turbines (Effect of Internal Structure of Nozzle)</b> Y. Nakanishi, Y. Funami
12:25 – 12:45	<b>Flow field analysis of a multistage high pressure compressor during surge inception with a CFD zooming approach</b> L. Rojda, G.N. Boum, I. Trébinjac, X. Carbonneau	<b>Vortex breakdown in swirling and non-swirling annular jets</b> A. Bogusławski, K. Wawrzak, A. Tyliczszak	<b>A 6-Peaks Algorithm for CT-TDLAS Measurements</b> D.W. Choi, G.R. Cho, M.G. Jeon, D.H. Doh
12:45 – 14:05	Lunch		

9 <sup>th</sup> of July	Day 2		
14:05 - 14:55	<p style="text-align: center;">Invited Lecture  Prof. Charles Hirsch  <b>Enhancing Reliability in Simulation Analysis and Optimization</b>  Chairman: Prof. Isabelle Trébinjac</p>		
15:05 - 16:05	<p style="text-align: center;"><b>Axial Compressors/Fans 4</b>  <b>(6A)</b>  Chairman: Prof. Petr Louda</p>	<p style="text-align: center;"><b>Gas Turbines 2</b>  <b>(6B)</b>  Chairman: Prof. Joerg Seume</p>	
15:05 - 15:25	<p><b>Numerical Investigation of the Effect of Hub Leakage Flow on a One-Stage Compressor</b>  Dong LIANG, Donghai JIN, Xingmin GUI</p>	<p><b>Experimental and Numerical Analysis of a Cavity Mean-flow Interaction in Low Pressure Axial Flow Turbines</b>  D. Barsi, C. Costa, D. Lengani, D. Simoni, G. Venturino, P. Zunino</p>	
15:25 - 15:45	<p><b>A Study of Fan-Distortion Interaction within the Transonic Fan Stage</b>  Zhihui LI, Juan DU, Hongwu ZHANG</p>	<p><b>Influence of Meridian Flow Path and Loading Distribution on the Performance of Turbine Rear Frame</b>  Shulei LI, Donghai JIN, Xingmin GUI, Jinwei LI.</p>	
15:45 - 16:05	<p><b>Hybrid simulation of tip-leakage flow in an axial compressor</b>  C. Montsarrat, J. Marty, J. Boudet, E. Lippinois, X. Ottavy</p>	<p><b>Numerical Investigation of Cooling Effect of Different Ribs in an Intercooled Nozzle Guide Vane</b>  Wencan WU, Donghai JIN, Xingmin GUI, Jinwei LI.</p>	
16:05 - 16:30	Coffee Break		
16:30 - 17:30	<p style="text-align: center;"><b>Multiphase/Reacting Flows 2</b>  <b>(7A)</b>  Chariman: Prof. Franco Magagnato</p>	<p style="text-align: center;"><b>Heat Transfer 1</b>  <b>(7B)</b>  Chairman: Prof. Gui Xingmin</p>	
16:30 - 16:50	<p><b>Large eddy simulation of cavitating flow using a homogeneous mixture model based on method of moments</b>  Y. Kunishima, S. Tsuda, S. Watanabe</p>	<p><b>Swirl flow and heat transfer through twisted square duct combined with multi-channel twisted tape</b>  P. Promthaisong, K. Wongcharee, V. Chuwattanakul, S. Eiamsa-ard</p>	
16:50 - 17:10	<p><b>Numerical Simulation of Pulse Detonation Engine</b>  K. Takeda, M.M.A. Alam, M. Takao</p>	<p><b>Cooling enhancement by swirling impinging air jet with liquid crystal technique</b>  P. Somravysin, A. Kaewpradap, K. Wongcharee, K. Nanan, K. Kunarak, S. Eiamsa-ard</p>	
17:10 - 17:30	<p><b>Prediction of non-equilibrium homogeneous condensation in supersonic nozzle flows</b>  J. Edathol, H.D. Kim</p>	<p><b>Experimental research of the influence of pulsating impinging jet on heat transfer coefficient</b>  J. Telega, R. Szwaba</p>	
10 <sup>th</sup> of July	Day 3		
9:00	<p style="text-align: center;">Conference Tour – Malbork Castle, Guided Old Town walk  <a href="http://www.zamek.malbork.pl/en">http://www.zamek.malbork.pl/en</a></p>		
20:00	<p style="text-align: center;">Conference Dinner  Restaurant Piwnica Racjów  Address: Długi Targ 44</p>		

11 <sup>th</sup> of July	Day 4		
09:30 - 10:30	<p align="center"><b>Turbines (8A)</b></p> <p align="center">Chairman: Prof. Ryo Amano</p>	<p align="center"><b>Gas Turbines 3 (8B)</b></p> <p align="center">Chairman: Prof. Pawel Flaszynski</p>	<p align="center"><b>Measurements 2 (8C)</b></p> <p align="center">Chairman: Prof. Pietro Zunino</p>
09:30 - 09:50	<p><b>Numerical Analysis of the Influence of Tip Clearance on the Flow Field and Performance of Axial Hydraulic Turbine</b> Yuzhen WU, Donghua LIAO, Qiyao LIN, Longxian LI, Xiaoming YE</p>	<p><b>Experimental Investigations Of Tip Leakage Flow Inside The Turbine Cascade</b> Yangtao TIAN, Hongwei MA</p>	<p><b>Numerical and experimental investigations of a synthetic jet actuator for active flow control</b> M. Kurowski, R. Szwaba</p>
09:50 - 10:10	<p><b>Development of Suitable Cascade for Wave Powered Counter-rotating Impulse Turbine</b> M. Takao, R. Sasaki, S. Okuhara, M.M.A. Alam, Y. Kinoue, M. Suzuki</p>	<p><b>Numerical study on the effect of upstream wake on purge flow in a linear turbine cascade</b> Sushanlal B., Anish S.</p>	<p><b>Open Loop Low Speed Wind Tunnel with Streamline-Mouth Shape Inlet – Design and Testing</b> R. Szwaba, K. Hinc, T. Ochrymiuk, Z. Krzemianowski</p>
10:10 – 10:30	<p><b>Simplified determination of vortex traces behind propeller windmills</b> L. Kwapisz, J. Szantyr</p>	<p><b>Influence of Incidence Angle on Two-Dimensional Aerodynamic Performance of Ultra-Highly Loaded Turbine Cascade at Transonic Condition</b> H. Tsujita, M. Kaneko</p>	<p><b>CFD analysis of multi-hole orifice flow meter, investigation of the relationship between pressure drop and mass flow rate</b> A. Tomaszewski, M. Lackowski</p>
10:30 – 11:00	Coffee Break		
11:00 – 12:00	<p align="center"><b>Transonic/Supersonic (9A)</b></p> <p align="center">Chairman: Prof. Hoshio Tsujita</p>	<p align="center"><b>Multiphase/Reacting Flows 3 (9B)</b></p> <p align="center">Chairman: Prof. Andrzej Boguslawski</p>	<p align="center"><b>Heat Transfer 2 (9C)</b></p> <p align="center">Chairman: Prof. Ryszard Szwaba</p>
11:00 - 11:20	<p><b>Effects of Streamwise Slots on Pseudo Shock Wave in an Isolator</b> Vignesh Ram P.S., M. Yaga, H.D. Kim</p>	<p><b>Modelling behaviour of a two-phase nitrous oxide mixture during emptying of a hybrid rocket oxidizer tank</b> D. Kardaś, R. Kwidziński, J. Szymborski, M. Lubieniecki</p>	<p><b>CFD Simulation of Flow inside a Hybrid Decompression Heat Pump Dryer</b> M.M. Shamsuddeen, D.A. Cha, S.C. Kim, Y.L. Kim, T. Kanemoto, J.H. Kim</p>
11:20 - 11:40	<p><b>Numerical investigations of flow structure on transonic profile in wind tunnel</b> M. Piotrowicz, P. Flaszynski</p>	<p><b>Visualization and Physical Interpretation of Geyser Boiling Phenomenon in Two-Phase Thermosyphons</b> N.Y. Londoño Pabon, M.B.H. Mantelli</p>	<p><b>Heat transfer enhancement and pressure loss in a micro-fin tube installed with twisted tape</b> S. Eiamsa-ard, P. Somravyasin, K. Wongcharee, V. Chuwattanakul, V. Kongkaiptaiboon</p>
11:40 – 12:00	<p><b>Acoustic characteristics and structure of supersonic jet radially discharged by convergent nozzle</b> H. Suzuki, M. Endo, Y. Sakakibara</p>	<p><b>Air Purification from Toxic Volatile Compounds in Innovative Combustion Chamber</b> M. Stajneke, P. Ziółkowski</p>	<p><b>Thermal performance evaluation of a solar air heater fitted with sinusoidal-wavy-baffle turbulators</b> M. Rungsiyopas, P. Promthaisong, W. Noothong, P. Promvonge, V. Chuwattanakul, S. Eiamsa-ard</p>
12:15	Closing Ceremony		
12:30	Lunch		