



CONFERENCE PROGRAMME

Monday, September 17, 2012			
8:00 - 9:30	Registration		
Room B			
9:30- 9:45	Opening Ceremony		
Plenary Session, Chair: Tomasz Kowalewski			
9:45-10:25	Invited Lecture: Blending the RANS and LES Strategies for High Re and Ra Wall-Bounded Flows, <i>Kemal Hanjalić, Sapienza University Italy</i>		
10:25-11:05	Invited Lecture: Methods of Spatio-Temporal Data Analysis, <i>Vaclav Uruba, Czech Academy of Sciences Czech Republic</i>		
11:05-11:30 Coffee Break			
	Room C	Room D	Room E
	Session S1: CFD I Chair: <i>Jacek Pozorski</i>	Session S2: Experiment I Chair: <i>Stanisław Drobniak</i>	Session S3: Turbulence Chair: <i>Romuald Puzyrewski</i>
11:30-11:50	Weighting Function Approximation in Transient Pipe Flow, <i>Kamil Urbanowicz</i>	The Influence of Suction Intensity Through Perforated Wall on Turbulent Boundary Layer, <i>Jan A. Szumski, Piotr Doerffer</i>	Some New Results on the Influence of Turbulence Scale on By-Pass Transition in a Boundary Layer, <i>Joanna Jurkowska, Zygmunt Wierciński</i>
11:50-12:10	Structure Mesh Generator with Anisotropic Adaptation for Boundary Layer Region, <i>Piotr Szaltys, Jerzy Majewski, Jacek Rokicki</i>	Influence of Typical Flow Disturbing Components on the Flow Rate in Selected Averaging Pitot Tubes, <i>Janusz Pospolita, Mirosław Kabaciński, Sławomir Pochwała</i>	The Decay Power Law in Turbulence Generated by Grids, <i>Joanna Jurkowska, Zygmunt Wierciński</i>
12:10-12:30	Skew Symmetric, Conservative Finite Difference Schemes, <i>Julius Reiss, Jens Brouwer, Jörn Sesterhenn</i>	Experimental Research on Velocity Profiles in Selected Flow Systems, <i>Mirosław Kabaciński</i>	Amplitude Modulated Near-Wall Cycle in a Turbulent Boundary Layer Under an Adverse Pressure Gradient, <i>Artur Drózdź, Witold Elsner</i>
12:30-12:50	Simulation of a Free Round Jet with Discontinuous Galerkin Method, <i>Maciej Marek, Artur Tyliszczak</i>	Experimental Verification of Critical Flow Model of Dense Gases, <i>Jan Górski, Sławomir Rabczak</i>	Introduction to the Turbulent Flows Theory – an Axially-Symmetric Peaceful Flows, <i>Tomasz Jankowski</i>
12:50-14:00 Lunch			
	Session S4: CFD II Chair: <i>Andrzej Bogustawski</i>	Session S5: Flow machinery I Chair: <i>Witold Elsner</i>	Session S6: Flow control I Chair: <i>Ewa Tuliszką-Sznitko</i>
14:00-14:20	Comparative Analysis of the Flow in the Boiler Dust Systems with the Elbow, <i>Jacek Wydrych, Bolesław Dobrowolski</i>	Inverse Method for Blade-To-Blade and Axisymmetric Viscous Flow Models in Cylindrical Coordinates Using Stream-Function Transformation, <i>Michał Butterweck, Jacek Pozorski</i>	Flow Control – Preliminary Design of Synthetic Jet Actuator, <i>Milan Matejka, Piotr Doerffer</i>

14:20-14:40	Time-Accurate Simulation of Flow Past Pzł W-3a "Sokół" (Falcon) Helicopter Main Rotor in Forward Flight, <i>Oskar Szulc, Piotr Doerffer, Jerzy Żółtak, Jacek Małeck</i>	Influence of Deformations on Aerodynamic Characteristics of Rotor Blade Airfoil, <i>Katarzyna Grzegorzczak, Sara Kuprianowicz</i>	Effect of the Hole Elongation on Perforated Plate Permeability, <i>Tomasz Lewandowski, Piotr Doerffer</i>
14:40-15:00	Investigation of the Effects of Selected Physical Factors on Water Collection Efficiency of an Aerodynamic Surface in Icing Problems, <i>Janusz Sznajder</i>	Design and Numerical and Experimental Investigations of the Non-Conventional Centripetal Radial Blower for Special Purposes, <i>Władysław Kryłłowicz, Michał Kuczkowski, Waldemar Olczyk, Adam Papierski</i>	Numerical Simulation and Experimental Validation of a Synthetic Jet Actuator for Active Flow Control, <i>Marcin Kurowski, Piotr Doerffer, Bart Peeters</i>
15:00-15:20	Numerical Estimation of the Particle Collection Efficiency of a Cyclone Separator, <i>Paweł Kozolub, Wojciech Adamczyk, Ryszard Białecki, Gabriel Węcel</i>	Investigation of Turbine Control Stage Aerothermodynamics, <i>Piotr Lampart, Mariusz Szymaniak, Łukasz Jędrzejewski</i>	Reduction of Wind Tunnel Turbulence Intensity Level By Installation of a Honeycomb Straightener - CFD Simulation Vs Experiment, <i>Michał Kulak, Krzysztof Olasek, Maciej Karczewski</i>
15:20-15:40	Modelling CO ₂ Capture By Chemical Absorption, <i>Paweł Niegodajew, Dariusz Asendrych, Stanisław Drobnik</i>	CHT Analysis of the Tip Seal of the Counter Rotating LP Turbine, <i>Włodzimierz Wróblewski, Krzysztof Bochon</i>	Experimental and Numerical Analysis of the Turbulent Flow in T-Shaped Channel, <i>Marian Branny, Michał Karch, Waldemar Wodziak, Marek Jaszczur, Remigiusz Nowak, Janusz Szmyd</i>
15:40-16:10 Coffee Break			
	Session S7: Fluid-structure interaction I Chair: Jerzy Żółtak	Session S8: Multiphase flow I Chair: Piotr Doerffer	Session S9: Heat and fluid flow/Combustion Chair: Janusz Szmyd
16:10-16:30	Low Dimensional Analysis in Model Identification of Aeroelastic Structures, <i>Witold Stankiewicz, Marek Morzyński, Robert Roszak</i>	Rheological Analysis of an Effect of Addition of Surfactant to Aqueous Solutions of Polymers, <i>Lubomira Broniarz-Press, Karolina Smuszkiewicz</i>	The Distribution of Temperature in the Tile Insulating Material Li900 at Hypersonic Flow, <i>Łukasz Brodzik, Michał Ciałkowski, Andrzej Frąckowiak</i>
16:30-16:50	Coupling Problem of Multiphysics Computations on FSI Example with Structural Optimization, <i>Hubert Hausa, Michał Nowak, Robert Roszak</i>	Experimental Research on the Steam Condensing Flows in Nozzles, <i>Krzysztof Smółka, Michał Strozik, Mirosław Majkut, Sławomir Dykas</i>	Pulverized Coal Combustion in Swirl Burner in CO ₂ /O ₂ Atmosphere, <i>Piotr Warzecha, Andrzej Bogusławski</i>
16:50-17:10	CFD Mesh Deformation Control and Quality Assessment for FSI Analysis, <i>Błażej Gołuchowski, Witold Stankiewicz, Michał Nowak</i>	Investigations of Gas Bubble Formation By Means of the Optical Tomograph, <i>Mariusz R.Rzqsa</i>	The Oxy-Combustion Modelling in CFB Using Multiphase Approach, <i>Wojciech Adamczyk, Ryszard Białecki, Tomasz Czakiert, Adam Klimanek, Paweł Kozolub, Ziemowit Ostrowski, Sławomir Sladek, Gabriel Węcel</i>
17:25 Reception			

Tuesday, September 18, 2012

Room B

Plenary Session, Chair: Piotr Doerffer

9:00- 9:40	Invited Lecture: Corner Effects on Shock-Induced Separation, <i>Holger Babinsky, Cambridge University UK</i>
9:40-10:20	Invited Lecture: Wind Tunnel Tests and CFD-Simulation for Air-Breathing Propulsion Systems Aerodynamics, <i>Alexander F. Chevagin, TsAGI Russia</i>
10:20-11:00	Invited Lecture: On the Validity of Turbulent Heat Flux Spectra in an Impinging Flow Condition, <i>Sean Jenkins, GE Germany</i>

11:00-11:30 Coffee Break

	Room C	Room D	Room E
	Session S10: Multiphase flow II Chair: <i>Stanisław Drobnik</i>	Session S11: Flow control II Chair: <i>Jacek Rokicki</i>	Session S12: Acoustics I Chair: <i>Henryk Kudela</i>
11:30-11:50	Modeling of Gas-Particle Two-Phase Turbulent Flow with Gas Mass Source, <i>Izabela Wardach-Święcicka, Dariusz Kardaś</i>	The Influence of Streamwise Vortices on Shockwave Unsteadiness, <i>Janusz Telega, Piotr Doerffer</i>	The Aeroacoustics Studies of the Flat Plates with the Trailing Edge Modifications, <i>Joanna Kopania, Władysław Kryłłowicz</i>
11:50-12:10	Buoyancy Driven, Multi-Phase Flow Simulations Using Smoothed Particle Hydrodynamics, <i>Kamil Szewc, Jacek Pozorski</i>	Active Control of Turbulent Separation with Air Jet Vortex Generators, <i>Konrad Gumowski, Andrzej Szumowski</i>	Acoustic Velocity with Mean Flow Measurements in the Air By Means of Laser Doppler Velocimetry, <i>Witold Mickiewicz, Stefan Weyna, Michał Jabłoński, Michał Pyła</i>
12:10-12:30	Influence of Filter Media Loading on the Filtration Efficiency and Pressure Drop, <i>Rafał Przekop, Arkadiusz Moskal</i>	Slot Influence in Boundary Layer Suction for Secondary Flow Control in a High Speed Compressor Cascade, <i>Karsten Liesner, Robert Meyer, Christoph Gmelin, Frank Thiele</i>	Acoustic Particle Image Velocimetry and Sound Intensity Technique in Visualisation of Sound Fields, <i>Michał Jabłoński, Stefan Weyna, Witold Mickiewicz, Michał Pyła</i>
12:30-12:50	Numerical Investigations on Particle Segregation in Pneumatic Conveying with a Change of Elbow Radius, <i>Grzegorz Borsuk</i>	Convolution Integral in Transient Pipe Flow, <i>Kamil Urbanowicz, Zbigniew Zarzycki</i>	Modelling of a Homogeneity Disturbance of Air/CO ₂ Mixture By Means of Acoustic Wave, <i>Leszek Remiorz, Sebastian Rulik, Sławomir Dykas</i>

12:50-14:00 Lunch

	Room C	Room D	Room E
	Session S13: CFD III Chair: <i>Włodzimierz Wróblewski</i>	Session S14: Micro flow and porous media Chair: <i>Jacek Pozorski</i>	Session S15: Flow machinery II Chair: <i>Sławomir Dykas</i>
14:00-14:20	Re-Dependent Drag Coefficient of Finite Cylinder, <i>Grzegorz Kondora, Dariusz Asendrych</i>	Investigations on Heat and Momentum Transfer in Nanofluid, <i>Grzegorz Dzido, Michał Drzazga, Marcin Lemanowicz, Andrzej Gierczycki</i>	Synopsis of the Formed Suction Intake Design Method for a Vertical Axial-Flow Pump, <i>Andrzej Błaszczuk, Adam Papierski, Mariusz Susik</i>
14:20-14:40	Investigation of the 2d Free Turbulent Jet, <i>Aldona Skotnicka-Siepsiak, Zygmunt Wierciński</i>	Problems with the Modelling of Water Flow in Nanochannels, <i>Janusz Bytnar, Anna Kucaba-Piętal</i>	2D Model of Guide Vane for Low Head Water Turbine Analytical and Numerical Solution of Inverse Problem, <i>Romuald Puzyrewski, Zbigniew Krzemianowski</i>

14:40-15:00	Numerical Investigation of Flow Around Cylinder Covered with Spanwise Grooves, <i>Witold Elsner, Łukasz Kowalczyk</i>	Viscous Flows Across Ceramic Foams – a Numerical and Experimental Study, <i>Wojciech Regulski, Konrad Gumowski, Łukasz Łaniewski-WoŃk, Jakub Skibiński, Tomasz Barczak</i>	Numerical Investigation of the Effect of Jet Flaps in a Transonic Turbine Cascade with Supersonic Operating Conditions, <i>Pingping Chen, Weiyang Qiao, Puwei Wang</i>
15:00-15:20	A Numerical Analysis of the Unsteady Flow Round a Savonius Turbine, <i>Katarzyna Kludzińska, Jerzy Świrydczuk</i>	Droplet Impact on the Frozen Surface II, <i>Grzegorz Sobieraj, Konrad Gumowski, Jacek Rokicki</i>	Effect of Inflow Variation on Compressor Secondary Flow Behaviour, <i>Pingping Chen, Karsten Liesner, Robert Meyer, Weiyang Qiao</i>
15:20-15:40	A Numerical Study of Frequency and Amplitude Effects in Flow Around an Oscillating NACA Airfoil, <i>Maciej Karczewski</i>	Influence of Flow Properties on Micro Size Droplets Dynamics, <i>Grzegorz Wojciechowski, Piotr Domagała, Stanisław Drobnik, Witold Elsner</i>	Investigations of Losses at the Inlet to the Shrouded Blade Rotor, <i>Krzysztof Sobczak</i>
16:20 Social Programme with Dinner at the Historic Coal Mine 'Guido'			

Wednesday, September 19, 2012

Room B

Plenary Session, Chair: Stanisław Drobniaak

9:00- 9:40	Invited Lecture: Multiphase Flow Simulations in the Upper Airways and Tracheobronchial Geometries of the Lung, <i>Chris Lacor, Vrije Universiteit Brussel</i>
9:40-10:20	Invited Lecture: Revisiting Near Wall Turbulence Physics, <i>Michel Stanislas, EC Lille France</i>
10:20-11:00	Research strategy for Aero Industry. Programme Innolot, <i>Jacek Rokicki, Warsaw University of Technology Poland</i>

11:00-11:30 Coffee Break

	Room C	Room D	Room E
	Session S16: CFD IV Chair: <i>Andrzej Bogustawski</i>	Session S17: Multiphase flow III Chair: <i>Anna Kucaba-Piętal</i>	Session S18: Flow simulation I Chair: <i>Marek Morzyński</i>
11:30-11:50	Hybrid RANS/LES of Plane Jets Impinging on a Flat Plate at Small Nozzle-Plate Distances, <i>Slawomir Kubacki, Jacek Rokicki, Erik Dick, Joris Degroote, Jan Vierendeels</i>	Mixed Model for Heavy Particles in Large Eddy Simulation of Turbulent Flow, <i>Maria Knorps, Jacek Pozorski</i>	Collapse of N Vortices, <i>Marek Lewkowicz, Henryk Kudela</i>
11:50-12:10	Numerical Simulations for Gas Turbine Nozzle Guide Vane with Film Cooling and Vortex Generators Jets, <i>Pawel Flaszynski, Piotr Doerffer</i>	Numerical Study of Particle-Laden Turbulent Channel Flow, <i>Marek Jaszczur</i>	Influence of the Angle of Attack on Propulsive Efficiency of Oscillating Foils, <i>Tomasz Kozłowski, Henryk Kudela</i>
12:10-12:30	Numerical Study of the Flow Structure and Heat Transfer on a Rotating Disk Surface Under Annular Jet Impingement, <i>Kamil Kietczewski, Ewa Tuliscka-Sznitko.</i>	Capturing of Interface Evolution Using Diffuse Interface Method, <i>Andrzej F.Nowakowski, Ahmed Ballil, Shaban A.Jolgam, Franck C.G.A.Nicolleau</i>	Decreasing Statistical Noise in Thermal Creep Flows, <i>Nevsan Sengil</i>
12:30-12:50	The Experimental and Numerical Investigation of the Coanda Effect at the Flat Plate, <i>Aldona Skotnicka-Siepiak, Zygmunt Wierciński</i>	Measurements of Water Velocity Inside the Model of the Flotation Machine, <i>Zbigniew Buliński, Adam Mańka, Ireneusz Szczygieł</i>	
12:50-14:00 Lunch			
	Session S19: CFD V Chair: <i>Piotr Lampart</i>	Session S20: Experiment II Chair: <i>Janusz Pospolita</i>	Session S21: Environmental and biological flow Chair: <i>Tomasz Kowalewski</i>
14:00-14:20	Fast Lattice Boltzmann Algorithm for Hybrid Architecture, <i>Łukasz Łaniewski-WoŃk, Wojciech Regulski</i>	The Transport Process Analysis of Free Counter Current Flow By Means of CTA and LDA, <i>Barbara Wojciechowska, Witold Elsner, Stanisław Drobniaak, Agnieszka Pawłowska</i>	The Analysis of Airflow Around Buildings In various Configurations of Arrangement and Height, <i>Konrad Gumowski, Marta Poćwierz, Oskar Olszewski</i>
14:20-14:40	A Parallel Modular Framework for Multi-Scale and Multi-Physics Finite Element Simulations of Fluid Flow, <i>Kazimierz Michalik, Krzysztof Banaś, Przemysław Płaszewski, Paweł Cybulka</i>	Visualization of Flow Past a Vertical Cylinder in Shallow Water, <i>Katarzyna Strzelecka, Henryk Kudela</i>	On the Generalised Herschel Model Applied to Blood Flow Modelling, <i>Krzysztof Tesch</i>

14:40-15:00	Simplified Adaptivity Indicator for Edge Based Mesh Refinement, <i>S.Gepner, J.Majewski, J.Rokicki</i>	Multi-Phase Modernisation of the Subsonic Wind Tunnel Oriented Towards Integration of CFD & Experiment, <i>Krzysztof Olasek, Maciej Karczewski</i>	The Influence of Wind Structure and Aspect Ratio of Circular Cylinders on Mean Wind Pressure Coefficient, <i>Tomasz Lipecki, Paulina Jamińska</i>
15:00-15:20	Improved Efficiency of Pressure-Velocity Coupling Algorithm with Weak-Compressibility Terms, <i>Tomasz Dysarz</i>	Deformation Measurement of a Flexible Birdlike Airfoil with Optical Flow, <i>Xiaoliang Gong, Stephan Bansmer</i>	Analysis of Wind Pressure Distribution on the Surface of 2:1 Rectangular Cylinder, <i>Tomasz Lipecki, Paulina Jamińska</i>
15:20-15:40	Parallel Computations on GPU of Vortex Tubes Reconnection Using Vortex Particle Method, <i>Henryk Kudela, Andrzej Kosior</i>	Pressure-Sensitive Paint (PSP) Calibration Stand, <i>Michał Strozik, Mirosław Majkut</i>	Flow and Dispersion in the Presence of Surface-Mounted Cubes, <i>Elżbieta Moryń-Kucharczyk, Renata Gnatowska</i>
15:40-16:10 Coffee Break			
	Session S22: Flow simulation II Chair: <i>Jacek Rokicki</i>	Session S23: Fluid-structure interaction II Chair: <i>Ewa Tuliszką-Sznitko</i>	Session S24: Optimisation Chair: <i>Piotr Lampart</i>
16:10-16:30	Numerical Analysis of the Underground Water Flow on the Borehole Heat Exchangers Performance, <i>Marek Jaszczur, Tomasz Śliwa</i>	Computational and Experimental Investigation of Aeroelasticity for the Flutter Aircraft Model, <i>Robert Roszak, Witold Stankiewicz, Marek Morzyński, Michał Nowak</i>	Multi-Objective and Multidisciplinary Optimization of Wing for Cesar Ac-1 Aircraft, <i>Wieńczysław Stalewski, Jerzy Żółtak</i>
16:30-16:50	Mathematical Modelling of Heat Exchange in Turbulent Slurry Flow with Enhanced Damping of Turbulence, <i>Artur Bartosik</i>	DMD in Assessment of Computational Aeroelastic Analysis of Flutter Aircraft Demonstrator, <i>Krzysztof Kotecki, Witold Stankiewicz, Marek Morzyński</i>	Fast Optimisation Using Adjoint Based Multiresolution Approach, <i>Armen Jaworski, Jacek Rokicki</i>
16:50-17:10	Analytical Research of the Flow in Compressed Layer Downstream the Incident Shock in Overexpanded Jet, <i>Mikhail V.Chernyshov, Vladimir N.Uskov</i>	Discrete Vortex Method Capability to Predict Aeroelastic Response of Bridge Decks, <i>Tomasz Nowicki</i>	
17:25 Scientific Committee and Fluid Mechanics Section Meeting (Room D)			

Thursday, September 20, 2012

Room B

Plenary Session, Chair: Marek Morzyński

9:00- 9:40	Invited Lecture: Macromolecules in Flow Fields, <i>Roland G. Winkler, Forschungszentrum Jülich Germany</i>
9:40- 10:20	Invited Lecture: Acoustic Flow Field Research with Sound Intensity and Laser Anemometry Methods, <i>Stefan Weyna, West Pomeranian University of Technology Szczecin Poland</i>
10:20-10:50	Official announcements / Results of the Competition

10:50-11:20 Coffee Break

	Room C	Room D	Room E
	Session S25: Flow simulation/Experiment Chair: <i>Witold Elsner</i>	Session S26: Flow machinery III Chair: <i>Jan Górski</i>	Session S27: Acoustics II Chair: <i>Henryk Kudela</i>
11:20-11:40	Influence of Cooling and Vortex Generators on Shock Induced Separation Region on Turbine Blade, <i>Ryszard Szwaba, Piotr Doerffer</i>	Volumetric Losses in Multi-Slot Sealing of Balance Disc in High-Pressure Pumps, <i>Andrzej Wilk, Kazimierz Golec</i>	Numerical and Experimental Visualization of Acoustic Flow Over Flat Obstacles, <i>Michał Pyła, Stefan Weyna, Witold Mickiewicz, Michał Jabłoński</i>
11:40-12:00	Experimental and Computational Investigation of the Natural Convection in the Laboratory Drying Oven, <i>Zbigniew Buliński, Marek Rojczyk, Wojciech Adamczyk, Jacek Smółka</i>	Study of Flow Structure Through Centrifugal Fan and Its Impact on Machines Performance, <i>Stanisław Fortuna, Jan Górski, Tomasz Siwek</i>	Acoustic Flow Field Research With Sound Intensity and Laser Anemometry Methods, <i>Stefan Weyna, Witold Mickiewicz, Michał Pyła, Michał Jabłoński</i>
12:00-12:20	Experimental Investigation of Flow Behind the Cube for Low Reynolds Numbers, <i>L. Klotz, S. Goujon-Durand, J. E. Wesfreid</i>	Excitation Mechanism of the Conventional Rotating Cavitation in the Pump with the Three Blade Inducer, <i>Andrzej Błaszczuk, Adam Papierski, Mariusz Nawrocki</i>	Modelling of an Aerodynamic Noise Propagation By Means of an In-House CAA Code, <i>Stawomir Dykas, Sebastian Rulik, Włodzimierz Wróblewski</i>
12:20-12:40		Local Parameters of the Liquid at the Outlet of the Formed Suction Intake of Vertical Axial-Flow Pumps, <i>Andrzej Błaszczuk, Radosław Kunicki, Adam Papierski</i>	

12:45-13:30 Lunch