



ICNAAM 2015
Rodos Palace Hotel, Rhodes, Greece,
23-29 September 2015

23 September 2015 The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer Numerical Fluids 2015 CHAIR: Alice Kozakevicius (ROOM 1)		
9:00 – 10:00	Invited lecture Professor Evgeny Timofeev Hybrid, Explicit-Implicit, Finite-Volume Schemes on Unstructured Grids for Unsteady Compressible Flows	
10:00 – 10:20	<i>Riady Siswoyo Jo,</i> <i>Basil T.Wong and</i> <i>Anatoli Vakhguelt</i>	Comparative Study of Attenuation and Dispersion of Different Pressure Disturbances Propagating in Aerosols
10:20 – 10:40	<i>Mathias Lemke,</i> <i>Julius Reiss and Jörn</i> <i>Sesterhenn</i>	Pressure estimation From PIV Like Data of Compressible Flows by Boundary Driven Adjoint Data Assimilation
10:40 – 11:00	<i>Jakub Krzysztof</i> <i>Grabski and Jan</i> <i>Adam Kołodziej</i>	Fluid Flow and Heat Transfer of a Power-Law Fluid in an Internally Finned Tube with Different Fin Lengths
11:00 – 11:30	Coffee Break	



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23 September 2015 SESSION: Dynamical Networks with Complex Links CHAIR: Vladimir Nekorkin (ROOM 3)		
09:00 – 10:00	Invited Speaker: <u>E. Schoell</u> Chimera states and excitation waves in FitzHugh-Nagumo networks with complex topologies	
10:00 – 10:30	<u>M. Gilson</u>	Recovery of directed intracortical connectivity from fMRI data and application to the dynamical range of cortical activity
10:30 – 11:00	<u>V. Nekorkin</u>	Dynamics of a network of phase oscillators with plastic couplings
11:00 – 11:30	Coffee Break	
11:30 – 12:00	<u>V. Klinshov</u>	Experimental study of jittering chimeras in a ring of excitable units
12:00 – 12:30	<u>S. Binczak</u>	Electrical coupled Morris-Lecar neurons : from design to pattern analysis
12:30 – 13:00	<u>V. Semenov</u>	Deterministic and stochastic control of chimera states in delayed feedback oscillators
13:00 – 13:30	<u>N. Semenova</u>	Impact of hyperbolicity on chimera states in ensembles of nonlocally coupled chaotic oscillators
Lunch Break		



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23 September 2015		
SESSION: Physical-chemical gas-dynamics: Non-equilibrium processes modeling and simulation		
CHAIR: Yuriy Gorbachev		
(ROOM 4)		
09:00 – 09:30	<u>Yuriy Gorbachev</u>	Renormalized reaction and relaxation rates
09:30 – 10:00	<u>Irina Schweigert,</u> <i>A.L.Alexandrov,</i> <i>Dm.E.Zakrevsky,</i> <i>P.A.Bokhan</i>	Effect of Doppler-shifted photons on subnanosecond breakdown in high-voltage pulse discharge
10:00 – 10:30	<i>A.Montessori,</i> <u>P.Prestininzi,</u> <i>M.La Rocc,</i> <i>G.Falcucci,</i> <i>S.Succi</i>	Lattice kinetic approach to non-equilibrium flows
10:30 – 11:00	<u>M.A.Zatevakhin,</u> <i>V.K.Arefiev,</i> <i>S.E.Semashko,</i> <i>R.A.Dolganov</i>	The Kinetics of Aerosol Particle Formation and Removal in NPP Severe Accidents
11:00 – 11:30	Coffee Break	



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23 September 2015 SESSION: Safety of Critical Infrastructures Symposium No 86 CHAIR: Krzysztof Kołowrocki & Joanna Soszyńska-Budny (ROOM 5)		
09:00 – 09:30	<p><i>Agnieszka Blokus-Roszkowska and Przemysław Dziula</i></p> <p><i>Magda Bogalecka, Krzysztof Kołowrocki and Joanna Soszyńska-Budny</i></p>	<p>An Approach to Identification of Critical Infrastructure Systems</p> <p>A General Approach to Critical Infrastructure Accident Consequences Analysis</p>
09:30 – 10:00	<p><i>Talgat R. Gazizov, Pavel E. Orlov, Alexander M. Zabolotsky, and Sergey P. Kuksenko</i></p>	<p>New Concept of Critical Infrastructure Strengthening</p>
10:00 – 10:30	<p><i>Józef Żurek, Ryszard Kaleta and Mariusz Zieja</i></p>	<p>An Application of the Characteristic Function in Order to Predict Reliability and Lifetime of Aeronautical Hardware</p>
10:30 – 11:00	<p><i>Krzysztof Kołowrocki and Joanna Soszyńska-Budny</i></p> <p><i>Agnieszka Blokus-Roszkowska</i></p>	<p>Modelling Safety of Multistate Systems with Ageing Components</p> <p>Reliability Analysis of the Bulk Cargo Loading System Including Dependent Components</p>
11:00 – 11:30	<p>Coffee Break</p>	



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23 September 2015		
SESSION: 2nd Minisymposium on Mathematics in Engineering and Technology – Session # 1		
CHAIR: Prof. Oliviero Giannini (ROOM 6)		
09:00 – 09:15	<u>Donno</u>	Distances and isomorphisms in 4-regular circulant graphs
09:15 – 09:30	<u>Monti</u>	Computing the Wiener index in Sierpiński carpet graphs
09:30 – 09:45	<u>Monti</u>	Analytical Modeling for Microwave and Optical Metasurfaces Syngas
09:45 – 10:00	<u>Barbuto</u>	Broadband Integrated Band-stop Filter for Horn Antennas Based on Coupled SRRs
10:00 – 10:15	<u>Zucconi</u>	Equivalent Damage Validation by Variable Cluster Analysis
10:15 – 10:30	<u>Nerilli</u>	Strengthening of Reinforced Concrete Beams with Basalt-based FRP Sheets: An Analytical Assessment
10:30 – 10:45	<u>Imperatore</u>	Influence of the bond-slip relationship on the flexural capacity of R.C. joints damaged by corrosion
10:45 – 11:00	<u>Donno</u>	A comparison between different fractal grid generation methods coupled with Lattice Boltzmann approach
11:00 – 11:30	Coffee Break	



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23 September 2015		
SESSION: Mathematical Optimization in Modern Medicine and Engineering Symposium		
CHAIR: Flavius Pater, Sorin Herban, Serban Rosu (ROOM 7)		
09:00 – 09:30	<u>Flavius PATER</u>	Probability Density Function Modeling for Sub-Powered Interconnects
09:30 – 10:00	<u>Cristian Gradinaru,</u> <u>Ioan Sorin Herban,</u> <u>Cristian Gabor</u>	Development of Urban Green Space Monitoring technique with Remote Sensing and its application
10:00 – 10:30	<u>Iurie Roatesi,</u> <u>Simona Roatesi,</u> <u>Constantin Rotaru,</u> <u>Sanda Cretoiu,</u> <u>Dragos Cretoiu</u>	Mathematical Model of Living Cells Behavior: Case of Telocytes
10:30 – 11:00	<u>Iulia ROATEȘI,</u> <u>Simona ROATEȘI</u>	Numerical FEM Modeling in Dental Implantology
11:00 – 11:30	Coffee Break	



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23 September 2015 SESSION: INVITED SPEAKER CHAIR: Luigi Brugnano (ROOM 1)		
11:30 – 12:30	<u>Nicola Guglielmi</u> <i>and Vladimir</i> <i>Protasov</i>	Computing Lyapunov exponents of switching systems



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23 September 2015 The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer Numerical Fluids 2015 CHAIR: Rafal Przekop (ROOM 1)		
15:00 – 15:20	<u>A. R. Appadu</u>	Analysis of the unconditionally positive finite difference scheme for advection-diffusion-reaction equations with different regimes
15:20 – 15:40	<u>Gökhan Çerezci,</u> <i>Murat Darka and Ozan Şenman</i>	Airshuffler Implementation at Freezer Air Outlets for Heat Transfer Enhancement
15:40 – 16:00	<u>A. I. Bosioc and C.</u> <i>Tanasa</i>	Experimental and Numerical Investigation of a Draft Tube Cone at Lower Runner Speeds
16:00 – 16:20	<u>S.V. Bogovalov, V.A.</u> <i>Kislov and I.V.</i> <i>Tronin</i>	Impact of the Waves on the Product Flux of the Iguasu Gas Centrifuge
16:20 – 16:40	<u>Z. Chara, B. Kysela,</u> <i>J. Dolansky</i>	Velocity Field in a Vicinity of Cylinder Bouncing off Horizontal Wall
16:40 – 17:00	<u>R. Tomua, and D. Zeidan</u>	Unstaggered central schemes and applications
Coffee Break		



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23 September 2015 Symposium 16: 3rd Symposium on Highlights in Copula Modeling CHAIR: V.A. González-López University of Campinas, Brazil (ROOM 2)		
15:00 – 15:30	<i>J.E. García and V.A. González-López</i>	Independence Test for Sparse Data
15:30 – 16:00	<i>D. R. Recchia, T. Ostermann and J.E. García</i>	Surprise, p-value, s-value and a Diagnostic Procedure to Detect Not Informative Experiments
16:00 – 16:30	<i>J.E. García, V.A. González-López and M.L. Lanfredi Viola</i>	Copula-Based Analysis of Rhythm
16:30 – 17:00	<i>J.E. García, V.A. González-López and I.D. Hirsh</i>	Copula-Based Prediction of Economic Movements
17:00 – 17:30	Coffee Break	



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23 September 2015 SESSION: Physical-chemical gas-dynamics: Non-equilibrium processes modeling and simulation CHAIR: Yuriy Gorbachev (ROOM 4)		
15:00 – 15:30	<u>K.G.Gainullin,</u> A.I.Golubev, A.M.Petrov, V.N.Piskunov	Aerosol Kinetic Code "AERFORM": Model, Validation, Simulation Results
15:30 – 16:00	<u>A.B.Nadykto,</u> K.M.Nazarenko, P.N.Markov, F.Yu	<i>Modeling Impacts of NH₃ on Uptake of H₂SO₄ by Charged Nucleating Nanoparticles in the Earth's Atmosphere</i>
16:00 – 16:30	<u>A.B.Nadykto,</u> K.M.Nazarenko, P.N.Markov, F.Yu	Reducing Uncertainties in Nucleation Rates: A Comparison of Measurements and Simulations
16:30 – 17:00	<u>A.B.Nadykto,</u> K.M.Nazarenko, M.V.Jakovleva, L.A.Uvarova, F.Yu	H ₂ O–Mediated Trimerization of H ₂ SO ₄ : A Computational Study and Comparison with Experimental Data
17:00 – 17:30	Coffee Break	

23 September 2015 SESSION: General Session CHAIR: T.R. Gazizov (ROOM 5)		
15:00 – 15:30	<u>T.R. Gazizov,</u> S.P. Kuksenko and R.S. Surovtsev	Acceleration of Multiple Solution of a Boundary Value Problem Involving a Linear Algebraic System
15:30 – 16:00	Roman R. Ahunov, Sergey P. Kuksenko and <u>Talgat R.</u> <u>Gazizov</u>	Multiple solution of linear algebraic systems by an iterative method with recomputed preconditioner in the analysis of microstrip structures



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23 September 2015 SESSION: 2nd Minisymposium on Mathematics in Engineering and Technology – Session # 2 CHAIR: Prof. Alessio Monti (ROOM 6)		
15:00 – 15:15	<u><i>Cozzolino</i></u>	A Numerical Model for CO Effect Evaluation in HT-PEMFCs: Part 1 - Experimental Validation
15:15 – 15:30	<u><i>Tribioli</i></u>	A Numerical Model for CO Effect Evaluation in HT-PEMFCs: Part 2 - Application to Different Membranes
15:30 – 15:45	<u><i>Giannini</i></u>	Characterization of the Powertrain Components for a Hybrid Quadricycle
15:45 – 16:00	<u><i>Russo</i></u>	CFD Aided Optimization of an Innovative SCR Catalyst Design for Heavy-Duty Marine Diesel Engines
16:00 – 16:15	<u><i>Russo</i></u>	Design and optimization of an experimental test bench for the study of impulsive fluid-structure interactions
16:15 – 16:30	<u><i>Duraccio</i></u>	An Effective Model for Ergonomic Optimization Applied To a New Automotive Assembly Line
16:30 – 16:45	<u><i>Facci</i></u>	Strongly coupled partitioned approach for fluid structure interaction in free surface flows.
17:00 – 17:30	Coffee Break	



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23 September 2015 SESSION: Mathematical Optimization in Modern Medicine and Engineering Symposium CHAIR: Flavius Pater, Sorin Herban, Serban Rosu (ROOM 7)		
15:00 – 15:30	<i>Ioan Vlad, Ioan Sorin Herban, Mircea Stoian, Clara-Beatrice Vilceanu</i>	3D Model Tools for Architecture and Archaeology Reconstruction
15:30 – 16:00	<i>Liana Pater, Șerban Miclea and Monica Izvercian</i>	Statistical Testing of the Association between Annual Turnover and Marketing Activities in SMEs Using Chi²
16:00 – 16:30	<i><u>Dobrei Alina, Dobrei Alin, Nistor Eleonora, Cristea Teodor, Boldea Marius, Sala Florin</u></i>	Mathematical and Statistical Models for Determining the Crop Load in Grapevine
16:30 – 17:00	<i><u>Dobrei Alina, Dobrei Alin, Nistor Eleonora, Cristea Teodor, Boldea Marius, Sala Florin</u></i>	Optimization of Grapevine Yield by Applying Mathematical Models to Obtain Quality Wine Products
17:00 – 17:30	Coffee Break	



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23 September 2015 SESSION: 3. Statistics and Modelling VI CHAIR: T.Oliveira (ROOM 8)		
15:00 – 15:30	<i>K. Myskova</i>	Data Envelopment Analysis for Technological, Environmental and Economic Analysis of Motorway Overpasses
15:30 – 16:00	<i>Christine Duller</i>	Moodle, KUSSS and MUSSS - modern teaching at university
16:00 – 16:30	<i>V.Adamec</i>	Properties of OLS Estimator with Numerous Patterns of Heteroskedasticity
16:30 – 17:00	<i>T.Oliveira</i>	TBA
17:00 – 17:30	Coffee Break	
17:30 – 18:30	Invited Speaker	

23 September 2015 SESSION: INVITED SPEAKER CHAIR: Felice Iavernaro (ROOM 1)		
17:30 – 18:30	<u><i>William F. Mitchell</i></u>	30 Years of Newest Vertex Bisection



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23 September 2015		
53 SESSION: Title :Harmonic analysis and dynamic systems		
CHAIR: Peng Sun		
(ROOM 1)		
18:35 – 19:05	<i>Chao Liang</i>	Density of nonuniformly hyperbolic systems
19:05 – 19:35	<i>Yinmin Sun</i>	Recent results on the global controllability of polynomial systems
19:35 – 20:05	<i>Bo Wu</i>	Fundamental solutions of Cauchy problem for a class of parabolic equations over p -adic field
20:05 – 20:35	<i>Zuoling Zhou</i>	A proof of the conjecture on the twin primes
20:35 – 21:05	<i>Peng Sun</i>	Measures of intermediate entropies
21:05 – 21:35	<i>Weiyi Su</i>	The construction of fractal calculus



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23 September 2015 SESSION: <i>Mathematical Methods in Economics and Engineering</i> CHAIR: Zhonghou GUO and Ana SOCALICI (ROOM 3)		
18:35 – 18:50	<u><i>Csaba Attila</i></u> <u><i>Gheorghiu,</i></u> <i>Teodor Heput,</i> <i>Erika Popa</i>	The optimization of the viscosity of lubricating slags used in the continuous casting of steel
18:50 – 19:05	<u><i>Csaba Attila</i></u> <u><i>Gheorghiu,</i></u> <i>Erika Ardelean,</i> <i>Teodor Heput</i>	The influence of chemical composition of the slags on the surface tension used in the continuous casting of steel
19:05 – 19:20	<u><i>Cristina Pacurar,</i></u> <i>Teodor Heput,</i> <i>Marius Ardelean</i>	Optimizing the structure of metal load in order to reduce electricity consumption in the production of steel
19:20 – 19:35	<u><i>Cristina Pacurar,</i></u> <i>Teodor Heput,</i> <i>Eugen Crisan</i>	The influence of the structure of the metal load removal from liquid steel in electric arc furnaces
19:35-19:50	<u><i>Darius-Alexandru</i></u> <u><i>Popescu,</i></u> <i>Lucia Vilceanu,</i> <i>Ana Socalici</i>	Analysis of the optimization possibilities to recover the powdery wastes containing iron and carbon
19:50-20:05	<u><i>Darius-Alexandru</i></u> <u><i>Popescu,</i></u> <i>Teodor Heput,</i> <i>Vasile Putan</i>	Optimisation of the steel plant dust recycling process
20:05-20:20	<u><i>Radu-Constantin</i></u> <u><i>Vilceanu,</i></u> <i>Flavius-Dan</i> <i>Surianu</i>	The importance of upgrading power stations with numerical protection relays



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SESSION: Physical-chemical gas-dynamics: Non-equilibrium processes modeling and simulation		
CHAIR: Yuriy Gorbachev		
(ROOM 4)		
18:35 – 19:05	<i>Y.Xu, <u>A.B.Nadykto</u>, L.Jiang, Z.Bai</i>	Interactions of Methylamine and Ammonia with Atmospheric Nucleation Precursor H₂SO₄ and Common Organic Acids: Thermodynamics and Atmospheric Implications
19:05 – 19:35	<i>N.Bykov, <u>Yuriy Gorbachev</u></i>	On Parameters of Size-Corrected Modification of Classical Nucleation Theory for Water



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23 September 2015 SESSION: Operational Research and Applications CHAIR: Flávio Ferreira (ROOM 5)		
18:30 – 18:50	<i>Fernanda A. Ferreira</i>	Privatization and environmental pollution in an international mixed Cournot model
18:50 – 19:10	<i>Oleg I. Nikonov, Fedor P. Chernavin, Marina A. Medvedeva</i>	The problems of classification: method of committees
19:10 – 19:30	<i>Elena N. Akimova, Damir N. Gainanov, Oleg A. Golubev, Ilya D. Kolmogortsev, Anton V. Konygin</i>	The problem of scheduling for the linear section of a single-track railway
19:30 – 19:50	<i>Elena N. Akimova, Peter S. Martyshko, Vladimir E. Misilov, Rostislav A. Kosivet s</i>	An efficient algorithm for solving the gravity problem of finding a density in a horizontal layer
19:50 – 20:10	<i>V.M. Kormyshev, M.A. Medvedeva, E.S. Naboychenko, A.V. Prisyazhnyy, A.P. Shamanov</i>	Detection of failures in a stator of turbo-generator on early stages of their evolution
20:10 – 20:30	<i>Luís Vieira, Vasco Mano</i>	Some results on the spectra of strongly regular graphs



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23 September 2015 SESSION: 2nd Minisymposium on Mathematics in Engineering and Technology – Session # 3 CHAIR: Prof. Mirko Barbuto (ROOM 6)		
18:35 – 18:50	<u><i>Manciola</i></u>	An Engineering Based Approach for Hydraulic Computations in River Flows
18:50 – 19:05	<u><i>Manciola</i></u>	Numerical Approach for the Evaluation of Weibull Distribution Parameters for Hydrologic Purposes
19:05 – 19:20	<u><i>Cacciotti</i></u>	'G.A.T.E': Gap Analysis for TTX evaluation
19:20 – 19:35	<u><i>Cacciotti</i></u>	Poly(lactic) acid fibers loaded with mesoporous silica for potential applications in the active food packaging
19:35 – 19:50	<u><i>Drago</i></u>	Combining Air Quality Forecasts

23 September 2015 SESSION: Mathematical Optimization in Modern Medicine and Engineering Symposium CHAIR: Flavius Pater, Sorin Herban, Serban Rosu (ROOM 7)		
19:35 – 20:05	<u><i>Herbei Mihai and Sala Florin</i></u>	Biomass Prediction Model in Maize Based on Satellite Images
20:05 – 20:35	<i>Radu Teșilă, Georgiana Rusu, Beatrice Vilceanu and Adrian Alionescu</i>	Targeting Displacements' Monitoring of Constructions through Mathematical Methods

END OF THE 1ST DAY



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24 September 2015 The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer Numerical Fluids 2015 CHAIR: Tomas Neustupa (ROOM 1)		
9:30 – 9:50	<u>S. I. Bernad, A. F.</u> <u>Totorean, A. I.</u> <u>Bosioc, I. Petre and</u> <u>E. S. Bernad</u>	<i>Stent Implantation Influence Wall Shear Stress Evolution</i>
9:50 – 10:10	<u>Ning Guo, Oskar</u> <u>Finnerman and</u> <u>Henrik Ström</u>	The Effect of Turbulent Velocity Fluctuations on the Convective Heat Transfer to Droplets Subjected to Evaporation and Thermolysis
10:10 – 10:30	<u>A.A. Aderogba, M.</u> <u>Chapwanya and O.A.</u> <u>Jejenwa</u>	Finite difference Discretisation of a Model for Biological Nerve Conduction
10:30 – 10:50	<u>Alex A. Schmidt,</u> <u>Alice J. Kozakevicius</u> <u>and</u> <u>Stefan Jakobsson</u>	A parallel splitting wavelet method for 2D conservation laws
11:00 – 11:30	Coffee Break	



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24 September 2015		
SESSION: Eighth Symposium on “Recent Trends in the Numerical Solution of Differential Equations”		
CHAIR: Ewa Weinmueller		
(ROOM 2)		
09:00 – 09:30	<u>Luigi Brugnano</u>	Line Integral formulation of Energy and QUadratic Invariants Preserving methods for Hamiltonian systems
09:30 – 10:00	<u>Alexey Eremin</u>	Functional Continuous Runge-Kutta Methods for Special Systems
10:00 – 10:30	<u>Vaclav Finek</u>	Wavelets based on Hermite cubic splines
10:30 – 11:00	<u>James Lambers</u>	High-Order Time-Stepping for Nonlinear PDE through Rapid Estimation of Block Gaussian Quadrature Nodes
11:00 – 11:30	Coffee Break	



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24 September 2015		
SESSION: Statistical Inference in Linear Models (I)		
CHAIR: Francisco Carvalho		
(ROOM 3)		
09:00 – 09:25	<u>Cristina Andrade</u> <i>J.A. Corte-Real</i>	Preliminary assessment of aridity conditions in the Iberian Peninsula
09:25 – 09:50	<u>Ovgucan Erdemir</u> <i>Meral Sucu</i>	Credibility Analysis of Risk Classes by Generalized Linear Model
09:50 – 10:15	<u>Sandra Monteiro</u> <i>Miguel Fonseca</i> <i>Francisco Carvalho</i>	Estimators for variance components in structured stair nesting models
10:15 – 10:40	<u>Aníbal Areia</u> <i>João T. Mexia</i>	ANOVA Like Analysis of Cancer Death Age
11:00 – 11:30	Coffee Break	



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24 September 2015 SESSION: Recent Advances and Current Research on the Difference Equations and its Applications CHAIR: Prof. Seifedine Kadry (ROOM 4)		
09:00 – 09:30	<u>Seifedine Kadry</u>	On The Periodic Solutions of the Difference Equations $x_{n+1} = a + b \frac{x_n}{x_{n-1}} \text{ and}$ $x_{n+1} = a + b \frac{x_{n-1}}{x_n} + c \frac{x_n}{x_{n-1}}$
09:30 – 10:00	<u>Dmitry kruchinin</u>	A method for obtaining coefficients of compositional inverse generating functions
10:00 – 10:30	<u>JERZY KLAMKA</u>	Controllability of the fractional discrete linear time-varying infinite-dimensional systems
11:00 – 11:30	Coffee Break	



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24 September 2015		
SESSION: Second Symposium on Approximation of Curves and Surfaces		
CHAIR: Abedallah Rababah (ROOM 5)		
09:00 – 09:30	<i>N. Lehmann, L.-B. Maier, S. Odathuparambil, U. Reif</i>	Approximation and Modeling with Ambient B-Splines
09:30 – 10:00	<i>Yusuf Fatihu Hamza</i>	G2 -degree reduction of disk Bézier Curves
10:00 – 10:30	<i>Michael Hillier, Eric de Kemp and Ernst Schetselaar</i>	Implicitly Modelled Stratigraphic Surfaces using Generalized Interpolation
10:30 – 11:00	<i>Salisu Ibrahim</i>	Weighted G0-and G1-Multi- Degree Reduction of Bezier Curves
11:00 – 11:30	Coffee Break	



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24 September 2015 SESSION: 31 Title: Workshop on Numerical and Symbolic Computation in Computer Vision and Data Management CHAIR: R. Kozera Co-Chairs: W. Homenda, A. Szczęśna and A. Śluzek Sub-session chairs: R. Kozera and A. Śluzek (ROOM 6)		
09:00 – 09:30	<i>R. Kozera</i>	Piecewise-Quartics and Exponential Parameterizaion for Interpolating Reduced Data
09:30 – 10:00	<u><i>M. Staniszewski, A. Skorupa, Ł. Boguszewicz, M. Wicher, M. Konopka, M. Sokół, A. Polański</i></u>	Reiteration of Hankel Singular Value Decomposition for Modeling of Complex- Valued Signal
10:00 – 10:30	<u><i>D. Pęszor and M. Wojciechowska</i></u>	Automatic Selection of the Feature Points for Video- Based Facial Animation
10:30 – 11:00	<u><i>D. Kostrzewa and H. Josiński</i></u>	Evaluation of the Selection Methods user in the exIWO Algorithm Based on the Optimization of Multidimensional Functions
11:00 – 11:30	Coffee Break	



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24 September 2015		
SESSION: Numerical Optimization and Applications		
CHAIR: M. Fernanda Costa		
(ROOM 7)		
09:00 – 09:30	<u>Florbela P. Fernandes,</u> <i>M. Fernanda P. Costa, Edite M. G. P. Fernandes</i>	Interrupted Searches in the BBMCSFilter Context for MINLP Problems
09:30 – 10:00	<u>Maria Antónia Forjaz,</u> <i>António Mário Almeida, T. de Lacerda-Arôso, Jorge Pamplona</i>	Special matrices for visco- elastic system
10:00 – 10:30	<u>M. Filomena Teodoro</u>	Modelling a Nonlinear MTFDE from Acoustics
10:30 – 11:00	<i>Eliana Costa e Silva, <u>Aldina Correia,</u> Isabel Cristina Lopes</i>	Optimization in Generalized Linear Models: a Case Study
11:00 – 11:30	Coffee Break	



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24 September 2015 SESSION: Dynamical Networks with Complex Links CHAIR: Vladimir Nekorkin (ROOM 8)		
09:00 – 10:00	Invited Speaker: <u>Jobst Heitzig</u> Stability and Resilience of Power Grids	
10:00 – 10:30	<u>J. Soriano</u>	Experiments in clustered neuronal networks: a paradigm for complex modular dynamics
10:30 – 11:00	<u>J.-n. Teramae</u>	Long-tailed distribution of synaptic strength reveals origin and functional roles of ongoing fluctuation in cortical circuit
11:00 – 11:30	Coffee Break	
11:30 – 12:00	<u>I. Franovic</u>	Mean Field Dynamics of Networks of Delay-coupled Noisy Excitable Units
12:00 – 12:30	<u>A. Ramos</u>	Total Dissonance impact over synchronization of networks of non-identical oscillators
12:30 – 13:00	<u>S. Kirillov</u>	Information processing in the neural networks with the complex dynamic thresholds
13:00 – 13:30	<u>O. Maslennikov</u>	Synchronization and cluster sequences in modular and evolving map-based neural networks



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24 September 2015		
SESSION: Computational prediction of behaviour of advanced building materials and structures		
CHAIR: Zdeněk Kala		
(ROOM 9)		
09:00 – 09:30	<i><u>J. Vala</u>, P. Jarošová</i>	Computational modelling of cohesive cracks in material structures
09:30 – 10:00	<i>P. Jarošová, <u>J. Vala</u></i>	Two-scale meshes in quasilinear discretized problems of computational mechanics
10:00 – 10:30	<i>F. Kocina, V. Šátek, P. Veigend, G. Nečasová, V. Valenta, <u>J. Kunovský</u></i>	New trends in Taylor series based applications
10:30 – 11:00	<i>P. Veigend, <u>J. Kunovský</u>, F. Kocina, G. Nečasová, V. Šátek, V. Valenta</i>	Electronic representation of wave equation
11:00 – 11:30	Coffee Break	



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24 September 2015 SESSION: Modeling of Statistical Inverse Problems and Applied Statistics CHAIR: Zhiqiang Pang (ROOM 10)		
09:00 – 09:30	Speaker-7: Maozai Tian <i>Center of Statistics, School of Statistics, Renmin University of China, Beijing, China</i>	Title: Modeling of Statistical Inverse Problems and Applied Statistics
09:30 – 10:00	Speaker-2: Haiyan Gao <i>School of Statistics, Lanzhou University of Finance and Economics, Lanzhou , China</i>	Title: Nonlinear Instability for a Volume-Filling Chemotaxis Model with Bistable Source Term
10:00 – 10:30	Speaker-3: Chengying Niu <i>School of Statistics, Lanzhou University of Finance and Economics, Lanzhou ,730020, China School of Economics and Management, Fuzhou University, Fuzhou, Fujian, China</i>	Title: Estimation and Adjustment of Self- Selection Bias in Volunteer Panel Web Surveys
10:30 – 11:00	Speaker-4: Ming Liu <i>School of Statistics, Gansu Economics & Development Quantitative Analysis Institute, Lanzhou University of Finance and Economics, Lanzhou ,China</i>	Title: A Study on Spatial Agglomeration of China's Manufacturing Industry
11:00 – 11:30	Coffee Break	



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24 September 2015 SESSION: THE FIFTH SYMPOSIUM ON ADVANCED COMPUTATION AND INFORMATION IN NATURAL AND APPLIED SCIENCES CHAIR: Dr. Claus-Peter Rückemann (ROOM 11)		
09:00 – 09:05	<u><i>Claus-Peter Rückemann</i></u>	Welcome Notes
09:05 – 09:30	<u><i>Claus-Peter Rückemann</i></u>	Keynote Lecture: Beyond Challenges for Numerics and High End Computing
09:30 – 09:50	<u><i>Claus-Peter Rückemann</i></u>	Integrated Computational and Conceptual Solutions for Complex Environmental Information Management
09:50 – 10:10	<u><i>Despina T. Meridou,</i></u> <u><i>Udo Inden,</i></u> <u><i>Claus-Peter Rückemann,</i></u> <i>Charalampos Z. Patrikakis,</i> <i>Dimitra-Theodora I. Kaklamani, and</i> <i>Iakovos S. Venieris</i>	Ontology-based, Multi-agent Support of Production Management
10:10 – 10:30	<u><i>Przemyslaw Skurowski</i></u> and <i>Michal Staniszewski</i>	Parallel distance matrix computation for Matlab data mining
10:30 – 11:00	<u><i>Claus-Peter Rückemann,</i></u> <u><i>Despina T. Meridou,</i></u> <u><i>Przemyslaw Skurowski,</i></u> <u><i>and Michal Staniszewski</i></u> <i>(and audience)</i>	Delegates' Summit: Best Practice and Definitions of Knowledge and Computing



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24 September 2015 SESSION: INVITED SPEAKER CHAIR: William F. Mitchell (ROOM 1)		
11:30 – 12:30	<i><u>Luigi Brugnano and</u></i> <i><u>Felice Iavernaro</u></i>	On the use of the line integral in the numerical treatment of conservative problems

24 September 2015 SESSION: INVITED SPEAKER CHAIR: Raffaele D'Ambrosio (ROOM 1)		
12:30 – 13:30	<i><u>Maria Lopez-</u></i> <i><u>Fernandez and</u></i> <i><u>Stefan Sauter</u></i>	Runge–Kutta based generalized convolution quadrature



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24 September 2015		
The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer		
Numerical Fluids 2015		
CHAIR: Hoi Dick Ng		
(ROOM 1)		
15:00 – 15:20	<i><u>N. Hur</u>, M. Kwak, W.J. Lee, M. Moshfeghi, C.-S. Chang, and N.-W. Kang</i>	Unsteady Flow Analysis of a Two-Phase Hydraulic Coupling
15:20 – 15:40	<i><u>Habib Alehossein</u> and Zongyi Qin</i>	Modelling Cohesive, Frictional and Viscoplastic Materials
15:40 – 16:00	<i><u>G. Kumar</u>, S.K.Lakshmanan, H. Gopalan and A.De</i>	Comparative Study of Hybrid RANS-LES Models for Separated Flows
16:00 – 16:20	<i>D. Cerroni, L. Fancellu, S. Manservigi and <u>F. Menghini</u></i>	Fluid Structure Interaction solver coupled with Volume of Fluid method for two- phase flow simulations
16:20 – 16:40	<i><u>Rafał Przekop</u>, Anna Jackiewicz, Michał Woźniak and Leon Gradoń</i>	Effect of Work of Adhesion on Deep Bed Filtration Process
Coffee Break		



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24 September 2015		
SESSION: Eighth Symposium on “Recent Trends in the Numerical Solution of Differential Equations”		
CHAIR: Luigi Brugnano		
(ROOM 2)		
15:00 – 15:30	<i><u>Jun Liu</u></i>	Quadratic Spline Collocation and Parareal Deferred Correction Method for Parabolic PDEs
15:30 – 16:00	<i><u>Taketomo Mitsui</u></i>	Performance of “Look-Ahead” Linear Multistep Methods
16:00 – 16:30	<i><u>Raffaella Pavani</u></i>	On an unusual application of ODEs to solve linear systems
16:30 – 17:00	<i><u>Ewa Weinmueller</u></i>	BVP in Differential-Algebraic Equations and their numerical solution using collocation
17:00 – 17:30	Coffee Break	
17:30 – 18:30	Invited Speaker	



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24 September 2015 SESSION: Statistical Inference in Linear Models (II) CHAIR: Francisco Carvalho (ROOM 3)		
15:00 – 15:25	<u>Ricardo Covas</u> <i>Francisco Carvalho</i>	Construction of linear models: a framework based on commutative Jordan algebras
15:25 – 15:50	<i>Sónia Inácio</i> <i>João T. Mexia</i> <i>Miguel Fonseca</i> <u>Francisco Carvalho</u>	Estimation for large non- centrality parameters
15:50 – 16:15	<i>Francisco Carvalho</i> <i>Ricardo Covas</i>	Mixed Additive Models

24 September 2015 SESSION: Recent Advances and Current Research on the Difference Equations and its Applications CHAIR: Prof. Seifedine Kadry (ROOM 4)		
15:00 – 15:30	<u>JERZY KLAMKA</u>	A Generalization of Yamamoto's Theorem Relating Eigenvalue Moduli and Singular Values of a Matrix
15:30 – 16:00	<u>MICHAŁ</u> <u>NIEZABITOWSKI</u>	Exact Boundaries of Mobility of the Lyapunov, Perron and Bohl Exponents of Linear Difference Systems under Small Perturbations of the Coefficient Matrices



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24 September 2015		
SESSION: Second Symposium on Approximation of Curves and Surfaces		
CHAIR: Abedallah Rababah (ROOM 5)		
15:00 – 15:30	<i>Peter Berglez</i>	On the representation of bicomplex pseudoanalytic functions by integro- differential operators
15:30 – 16:00	<i>Ayman AL-Shbool</i>	The transformation matrix of Chebyshev III – Bernstein polynomial basis
16:00 – 16:30	<i>Pius W. M. Chin</i>	A finite element technique for a system of fully-discrete time-dependent Joule heating equations
16:30 – 17:00	<i>Sadiya Ali Rano</i>	Computing Derivatives Of Jacobi Polynomials Using Bernstein Transformation And Recurrence Relation
17:00 – 17:30	Coffee Break	



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24 September 2015 SESSION: 31 Title Workshop on Numerical and Symbolic Computation in Computer Vision and Data Management CHAIR: R. Kozera Co-Chairs: W. Homenda, A. Szczęśna and A. Śluzek Sub-session chair: R. Kozera (ROOM 6)		
15:00 – 15:30	<i>A. Śluzek</i>	Visual Retrieval of Known Objects Using Supplementary Depth Data
15:30 – 16:00	<i>A. Szczęśna</i>	Wavelet Features in Motion Data Classification
16:00 – 16:30	<i>M. Domżał, K. Jędrasiak, D. Sobel A. Ryt and A. Nawrat</i>	GPU-Based Video Motion Magnification
16:30 – 17:00	<i>D. Pęszor and M. Wojciechowska</i>	Facial Expression Reconstruction on the Basis of Selected Vertices of Triangle Mesh
17:00 – 17:30	Coffee Break	



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24 September 2015 SESSION: Numerical Optimization and Applications CHAIR: M. Fernanda Costa (ROOM 7)		
15:00 – 15:30	<i>Rogério B. Francisco, M. Fernanda P. Costa, Ana Maria A.C. Rocha, Edite M.G.P Fernandes</i>	Comparison of Penalty Functions on a Penalty Approach to Mixed-Integer Optimization
15:30 – 16:00	<i>Eliana Costa e Silva, M. Fernanda Costa, Wolfram Erlhagen, Estela Bicho</i>	Superquadrics Objects Representation for Robot Manipulation
16:00 – 16:30	<i>Marisa C. Martins, Ana Maria A.C. Rocha, M. Fernanda P. Costa, Edite M.G.P. Fernandes</i>	Comparing Immune-Tumor Growth Models with Drug Therapy using Optimal Control

24 September 2015 SESSION 39: Sampling for Decision Making CHAIR: Dr Ray Correll (ROOM 8)		
15:00 – 15:30	<i>Jennifer Brown</i>	Designs for environmental monitoring, adaptive sampling designs
15:30 – 16:00	<i>Ray Correll</i>	Basic definitions are not always obvious
16:00 – 16:30	Bryan Manly	Recent developments in environmental sampling
16:30 – 17:00	Sampling case studies of including use of auxiliary information, random v systematic sampling for walnut quality control)	
17:00 – 17:30	Coffee Break	



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24 September 2015		
SESSION: Computational prediction of behaviour of advanced building materials and structures		
CHAIR: Jiří Vala		
(ROOM 9)		
15:00 – 15:30	<i>P. Rozehnalová</i>	Homogenization on perforated domains
15:30 – 16:00	<i>L. Hobst, <u>P. Bílek</u></i>	Non-destructive identification of material properties of fibre concrete: a stationary magnetic field
16:00 – 16:30	<i>L. Hobst, <u>P. Bílek</u></i>	Non-destructive identification of material properties of fibre concrete: a time-harmonic electromagnetic field
16:30 – 17:00	<i>Z. Kala</i>	Fuzzy sensitivity analysis for reliability assessment of building structures
17:00 – 17:30	Coffee Break	



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24 September 2015		
SESSION: Modeling of Statistical Inverse Problems and Applied Statistics		
CHAIR: Zhiqiang Pang		
(ROOM 10)		
15:00 – 15:30	Speaker-6: Liwen Xu <i>College of Sciences, North China University of Technology, Beijing, China</i>	Title: Tests for ANOVA models with a combination of crossed and nested designs under heteroscedasticity
15:30 – 16:00	Speaker-5: Qiang Xiao <i>School of Statistics, Lanzhou University of Finance and Economics, Lanzhou ,730020, China</i>	Title: China's Financial Market and Its Relevant Measurement with Macroeconomy Based on Cross-spectral Analysis and the Wavelet Transform
16:00 – 16:30	Speaker-1: Jun Han <i>School of Statistics, Lanzhou University of Finance and Economics, Lanzhou , China</i>	Title: The Compilation and Application of Energy Pricing Model Restricted by Ecological Environment



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24 September 2015 SESSION: INVITED SPEAKER CHAIR: Maria Lopez-Fernandez (ROOM 1)		
17:30 – 18:30	<u>Raffaele D'Ambrosio</u>	Some recent advances in the numerical solution of differential equations

24 September 2015 SESSION: INVITED SPEAKER CHAIR: Nicola Guglielmi (ROOM 1)		
18:30 – 19:30	<u>Ludwig Gauckler</u>	On numerical energy conservation by the split- step Fourier method for the nonlinear Schrödinger equation



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24 September 2015 SESSION: GRAPHS CHAIR: Vojislav Petrovic (ROOM 2)		
19:35 – 20:05	<i>B. Mihailovic</i>	Some Classes of Graphs whose Second Largest Eigenvalue does not Exceed $\sqrt{2}$
20:05 – 20:35	<i>J. Orwat</i>	The Graph Representation of the Problem of Pairing Points from Two Sets
20:35 – 21:05	<i>M. Rašajski</i>	A Class of Maximal Tricyclic Reflexive Graphs

24 September 2015 SESSION: General Session CHAIR: Ch. Tsitouras (ROOM 3)		
19:35 – 20:05	<i>Ioannis Famelis, George Galanis and Aristotelis Liakatas</i>	New Efficient Optimizing Techniques for Kalman Filters and Numerical Weather Prediction Models
20:05 – 20:35	<i>I. Th. Famelis, S. Tsitmidelis and Ch. Tsitouras</i>	Evolutionary Generation of high order Runge–Kutta–Nyström type pairs for solving $y^{(4)} = f(x, y)$
20:35 – 21:05	<i>Alex Alexandridis, Ioannis Th. Famelis and Charalambos Tsitouras</i>	Particle Swarm Optimization for Complex Nonlinear Optimization Problems
21:05 – 21:35	<i>V. N. Katsikis, S. N. Papakostas, S. Tsitmidelis and Ch. Tsitouras</i>	Evolutionary Generation of Explicit Two Step Methods for Second Order Linear IVPs
21:35 – 22:05	<i>Christos G. Massouros</i>	Separation and relevant properties in Hypergroups
22:05 – 22:35	<i>Vasilios N. Katsikis</i>	An alternative computational method for finding the minimum-premium insurance portfolio



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24 September 2015 SESSION: Operational Research and Applications CHAIR: Fernanda A. Ferreira (ROOM 4)		
18:10 – 18:30	<i>Fernanda A. Ferreira, Flávio Ferreira</i>	Privatization in a public leadership mixed duopoly
18:30 – 18:50	<i>M.A. Medvedeva, E.I. Komotskiy</i>	About usage of data mining methods for fraud detection in the sphere of communal services
18:50 – 19:10	<i>Alexander M. Tarasyev, Julian Vasilev, Victoria F. Turygina</i>	Quantitative analysis of raw materials mining of Sverdlovsk region in Russia
19:10 – 19:30	<i>Igor N. Sachkov, Olga Marinova, Victoria F. Turygina, Evgeniy E. Turygin</i>	The effect of the geometry of the micro pores on the effective permeability of soil
19:30 – 19:50	<i>S.M. Borodachev, M.A. Medvedev</i>	Optimization of the bank's operating portfolio
19:50 – 20:10	<i>S.M. Borodachev</i>	Recursive least squares method of regression coefficients estimation as a special case of Kalman filter



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24 September 2015 SESSION: Second Symposium on Approximation of Curves and Surfaces CHAIR: Abedallah Rababah (ROOM 5)		
19:35 – 20:05	<i>Dam Min Zhang, Yong He and Jianming Zhang</i>	Application of the Higher-order Finite Element Method in Analysis of Concrete Gravity
20:05 – 20:35	<i>Rababah</i>	Degree Reduction of Bezier curves

24 September 2015 SESSION: 31 Title: Workshop on Numerical and Symbolic Computation in Computer Vision and Data Management CHAIR: R. Kozera Co-Chairs: W. Homenda, A. Szczesna and A. Śluzek Sub-session chair: A. Szczesna (ROOM 6)		
19:35 – 20:05	<i>P. Skurowski, P. Pruszowski and D. Pęszor</i>	Synchronization of Motion Sequences from Different Sources
20:05 – 20:35	<i>H. Josiński, A. Michalczuk, A. Świtoński, A. Szczesna and K. Wojciechowski</i>	Recurrence Plots and Recurrence Quantification Analysis of Human Motion Data
20:35 – 21:05	<i>R. Kozera and M. Wilkołazka</i>	A Natural Spline Interpolation and Exponential Parameterization
21:05 – 21:35	<i>P. Kasprowski and K. Harezlak</i>	Eye Movement Reference Data Base for Biometric Identification



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24 September 2015 SESSION: Third Symposium on Engineering Problems of Plasticity CHAIR: Rostislav Nepershin (ROOM 7)		
19:35 – 20:05	<i>Ljudmila A. Maksimova</i>	Three-Dimensional Plastic Flow of Anisotropic Layer Compressed by Flat Dies
20:05 – 20:35	<i>Rostislav I. Nepershin</i>	Plastic Tension of Thin Strip With Symmetrical Cut-Outs

24 September 2015 SESSION: Computational prediction of behaviour of advanced building materials and structures CHAIR: Jiří Kunovský (ROOM 9)		
19:35 – 20:05	<i>J. Valeš</i>	Sensitivity analysis of static resistance of slender beam under bending
20:05 – 20:35	<i>M. Kalina, P. Frantík</i>	Analytical and numerical analysis of the slope of Von Mises planar trusses
20:35 – 21:05	<i>S. Šťastník</i>	Computational and experimental study of atmospheric moisture in ceramic blocks filled with waste fibres in winter season
21:05 – 21:35	<i>S. Šťastník</i>	Computational analysis of roof composition due to interior thermal comfort under summer climatic conditions



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24 September 2015 SESSION: <i>Mathematical Methods in Economics and Engineering</i> CHAIR: Ludovic Dan LEMLE and Yiwen JIANG (ROOM 8)		
19:35 – 20:05	<u>Jiri Hozman,</u> <u>Tomas Tichy,</u> <u>Daniela Cvejnova</u>	A Discontinuous Galerkin method for two-dimensional PDE models of Asian options
20:05 – 20:35	<u>Wu Meirong,</u> <u>Cao Shaochen,</u> <u>Zhu Huazhen</u>	On Axiomatizations of the Shapley value for bicooperative games
20:35 – 21:05	<u>Huang Jinming,</u> <u>Li Wenjing,</u> <u>Zhu Huazhen</u>	Design the Price Signal Mechanism of Suppliers' Cost in the Commercial Procurement Process
21:05 – 21:35	<u>Justyna Orwat</u>	The Comparison of Measured Deformation Indicators of Mining Area with Theoretical Values Calculated Using Knothe's Formulas
21:35 – 22:05	<u>Justyna Orwat</u>	The Forecast Effectiveness of Mining Exploitation Effects on the Exploited Area Conducted with the Use of Bialek's Formulas
22:05 – 22:35	<u>Lin Jin,</u> <u>Jingxi Ma,</u> <u>Luo Min</u>	Dynamic fuzzy hierarchy analysis for evaluation of professionalization degree



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24 September 2015 SESSION: 3. Statistics and Modelling VI CHAIR: I.Serra (ROOM 10)		
19:35 – 20:05	<i>I.Serra</i>	On optimal threshold estimation in extreme value analysis
20:05 – 20:35	<i>M.Schindler</i>	L-moments under nuisance regression

24 September 2015 SESSION: General Session CHAIR: Özge Karadağ (ROOM 10)		
20:35 – 21:05	<i><u>Özge Karadağ and</u></i> <i>Serpil Aktaş</i>	Goodness of Fit Tests for Generalized Gamma Distribution

END OF THE 2ND DAY



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25 September 2015 The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer Numerical Fluids 2015 CHAIR: Rony Tomua (ROOM 1)		
9:30 – 9:50	<i>A.F. Totorean, S.I. Bernad, R.F. Susan- Resiga</i>	The Influence of Stenosis Degrees and Graft Suture Position on Local Hemodynamics of Coronary Bypass
9:50 – 10:10	<i>Jan Adam Kolodziej, Magdalena Mierzwiczak and Jakub Krzysztof Grabski</i>	About Some Application of Special Purpose Trefftz Function for Determination of Effective Viscosity in Filtration Equation
10:10 – 10:30	<i>O. Olmez, M. Ozbulut, M. Yildiz, O. Goren</i>	Vortical and Nonlinear Effects in the Roll Motion of a 2-D Body in the Free Surface Investigated by SPH
10:30 – 10:50	<i>T. Neustupa</i>	Mathematical Modelling of a Steady Flow of a Heat Conductive Incompressible Fluid through the Cascade of Profiles
11:00 – 11:30	Coffee Break	



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25 September 2015		
SESSION: Modern Methods for Solving Problems of Control and Modeling of Physical, Biological and Socio-Economic Processes		
CHAIR: Alexander Nikolaevich Kvitko (ROOM 2)		
09:00 – 09:20	<u>Alexander Kvitko</u>	Syntheses of Terminal Control for Nonlinear Stationary Controlled System Under Incomplete Information
09:20 – 09:40	<u>Valentina Chashnikova</u>	Choosing a Measuring Basis to Estimate Parameters of a Dynamic Object
09:40 – 10:00	<u>E. A. Kalinina</u>	Edge covers and independence: algebraic approach
10:00 – 10:30	<u>T. A. Lepikhin</u>	The Analysis of Quadrocopter and Hexacopter Dynamics
10:30 – 11:00	A.S. Eremin	An Embedded Pair of Method of Orders 6(4) With 6 Stages for Special Systems of Ordinary Differential Equations
11:00 – 11:30	Coffee Break	



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25 September 2015 SESSION: Numerical Methods and Fundamental research on Renewable Energy Conversion CHAIR: Abel Rouboa (ROOM 3)		
09:00 – 09:30	<i>Abel Rouboa</i>	Searching for optimized and robust operating conditions to target improved power densities
09:30 – 10:00	<i>Nuno Couto</i>	Analysis of Vineyard Pruning Residues Potential as a Function of Syngas Quality Indices
10:00 – 10:30	<i>Nuno Couto</i>	Modeling of Fluidized Bed Biomass Gasification: Comparison of Zero-Dimensional and CFD Simulations
10:30 – 11:00	<i>Nuno Couto</i>	PCM Application for HVAC System Using Radiant Ceiling System: A Parametric Study
11:00 – 11:30	Coffee Break	
11:30 – 12:30	Prof. Dr. Khalid Bouziane	
Lunch Break		



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25 September 2015		
SESSION: Global Optimization and Numerical Analysis		
CHAIR: Yaroslav Sergeyev and Marat Mukhametzhanov		
(ROOM 4)		
09:00 – 09:20	<i>J. Gillard, A. Zhigljavsky</i>	Global optimization for structured low rank approximation
09:20 – 09:40	<i>Y.D. Sergeyev, D.E. Kvasov, M.S. Mukhametzhanov</i>	Comments upon the usage of derivatives in Lipschitz global optimization
09:40 – 10:00	<i>K. Barkalov, V. Gergel, I. Lebedev</i>	Solving Global Optimization problems on GPU cluster
10:00 – 10:20	<i>V.I. Gurman</i>	Turnpike Solutions of Control Problems in Quantum Systems
10:20 – 10:40	<i>V.I. Gurman, I.S. Guseva, O.V. Fesko</i>	Optimization of Excitation Transfer in a Spin Chain
10:40 – 11:00	<i>O. Kuzenkov, V. Grishagin</i>	Global Optimization in Hilbert Space
11:00 – 11:30	Coffee Break	



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25 September 2015 SESSION 57: Computational Modeling and Experimental Assessment of Transport Processes in Porous Building Materials CHAIR: Zbyšek Pavlík and Oldřich Zmeškal (ROOM 5)		
09:00 – 09:20	<i>Jan Fořt, Jiří Maděra, Anton Trník, Milena Pavlíková and Zbyšek Pavlík</i>	Computational Modeling of Latent-Heat-Storage in PCM Modified Interior Plaster
09:20 – 9:40	<i>Martina Záleská, Milena Pavlíková, Zbyšek Pavlík</i>	Moisture storage parameters of porous building materials as time- dependent properties
9:40 – 10:00	<i>Tereza Kulovaná, Zbyšek Pavlík</i>	Characterization of Composite Materials Based on Cement-Ceramic Powder Blended Binder
10:00 – 10:20	<i>Milena Pavlíková, Zbyšek Pavlík, Radka Pernicová, Robert Černý</i>	The Influence of Inner Hydrophobisation on Water Transport Properties of Modified Lime Plasters
10:20 – 10:40	<i>Pavel Beran</i>	Comparison of 3-D Finite Element Model of Ashlar Masonry with 2-D Numerical Models of Ashlar Masonry
10:40 – 11:00	<i>Jaroslav Pokorný, Milena Pavlíková, Igor Medved', Zbyšek Pavlík, Jana Zahálková, Pavla Rovnaníková and Robert Černý</i>	Influence of Various Amount of Diatomaceous Earth Used as Cement Substitute on Mechanical Properties of Cement Paste
11:00 – 11:30	Coffee Break	



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25 September 2015		
SESSION: Applied Symmetries and Perturbation Methods		
CHAIR: Mehmet Pakdemirli		
(ROOM 6)		
09:00 – 09:30	<i>Yiğit Aksoy and Mehmet Pakdemirli</i>	Perturbation Iteration Method Solutions of a Nonlinear Fin Equation
09:30 – 10:00	<i>İhsan Timuçin Dolapci</i>	Boundary Layer Equations and Symmetry Analysis of a Carreau Fluid
10:00 – 10:30	<i>Basetsana P. Ntsime and Raseelo J. Moitsheki</i>	Symmetry reductions of a nonlinear convection- dispersion model arising in contaminant transport theory
10:30 – 11:00	<i>M.M.Fatih Karahan and Mehmet Pakdemirli</i>	New Approximate Solutions for the Strongly Nonlinear Cubic-Quintic Duffing Oscillators
11:00 – 11:30	Coffee Break	



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25 September 2015		
SESSION: 2nd Symposium on Modelling and Simulation in Computer Sciences and Engineering (MSCSE 2015)		
CHAIR: Torsten Hermanns (ROOM 7)		
09:00 – 09:30	<i><u>Torsten Hermanns,</u> <u>Wolfgang Schulz,</u> <u>Georg Vossen and</u> <u>Ulrich Thombansen</u></i>	Mathematical Modelling and Linear Stability Analysis of Laser Fusion Cutting
09:30 – 10:00	<i><u>Toufik Al Khawli,</u> <u>Sascha Gebhardt,</u> <u>Urs Eppelt, Torsten</u> <u>Hermanns, Torsten</u> <u>Kuhlen and</u> <u>Wolfgang Schulz</u></i>	An Integrated Approach for the Knowledge Discovery in Computer Simulation Models with a Multi-Dimensional Parameter Space
10:00 – 10:30	<i><u>R. Carneiro, P.D.</u> <u>Gaspar, P.D. Silva</u> <u>and <u>L.C. Dominques</u></u></i>	Numerical Modeling of Cold Room's Hinged Door Opening and Closing Processes
10:30 – 11:00	<i><u>V.K. Sin and I.K.</u> <u>Wong</u></i>	Oscillating Layer Thickness and Vortices Generated in Oscillation of Finite Plate
11:00 – 11:30	Coffee Break	



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25 September 2015		
SESSION: Dynamical Networks with Complex Links		
CHAIR: Vladimir Nekorkin		
(ROOM 8)		
09:00 – 10:00	Invited Speaker: <u>G. Leonov</u> Hidden attractor in the Rabinovich system, Chua circuits and phase-locked loops	
10:00 – 10:30	<u>A. Dmitriev</u>	Simulating Ensembles of Nonlinear Continuous Time Dynamical Systems via Active Ultra Wideband Wireless Network
10:30 – 11:00	<u>V. Rasvan</u>	Synchronization with propagation - the functional differential equations
11:00 – 11:30	Coffee Break	

25 September 2015		
SESSION: Mathematical Modelling of Hydrological Sciences		
CHAIR: Francesco Napolitano & Fabio Russo		
(ROOM 9)		
09:00 – 09:30	<i>Elisa Adirosi</i> <i>Luca Baldini</i> <i>Nicoletta Roberto</i> <u>Fabio Russo</u>	C/S algorithm based on properties of dual-polarization radar measurements derived from disdrometer data
09:30 – 10:00	<i>S. Sebastianelli</i> <u>M. Giglioni</u> <i>C. Mineo</i>	On the Hydrologic-Hydraulic Revaluation of Large Dams
10:00 – 10:30	<i>Ridolfi E.</i> <i>Alfonso L.</i> <i>Di Baldassarre G.</i> <u>Napolitano F.</u>	Optimal cross-sectional sampling for river modelling with bridges: an information theory-based method
10:30 – 11:00	<i>M. Rianna</i> <i>F. Lombardo</i> <i>B. Boccanera</i> <u>M. Giglioni</u>	On the evaluation of FDC by the use of spot measurements



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25 September 2015		
Session 88 “Santilli’s new sciences for a new era”		
Chair: Svetlin Georgiev		
(ROOM 10)		
09:00 – 10:00	<i>R.M. Santilli</i>	Invariant representations of extended particles under Hamiltonian and non-Hamiltonian interactions
10:30 – 10:30	<i>T. Vougiouklis</i>	Iso H_3-numbers in Lie-Santilli theory
10:30 – 11:00	<i>A. Dramalidis</i>	Lie-Santilli Admissibility on matrices
11:00 – 11:30	Coffee Break	



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25 September 2015 SESSION: 31 Title: Workshop on Numerical and Symbolic Computation in Computer Vision and Data Management CHAIR: R. Kozera Co-Chairs: W. Homenda, A. Szczesna and A. Śluzek (ROOM 11)		
Sub-session chair: A. Śluzek 09:00 – 09:30	<i><u>A. Świtoński, H. Josiński, H. Zghidi and K. Wojciechowski</u></i>	Motion Data Classification on the Basis of Dynamic Time Warping with a Cloud Point Distant Measure
09:30 – 10:00 (video presentation)	<i><u>J. Ciecierski, B. Dybisz, W. Homenda and A. Jastrzębska</u></i>	Clustering as a Tool of Reinforced Rejection in Pattern Recognition Problem
10:00 – 10:30 (video presentation)	<i><u>W. Homenda, A. Jastrzębska and M. Rybnik</u></i>	Dealing with Contaminated Data Sets: an Approach to Classifier's Training
10:30 – 11:00 (video presentation)	<i><u>M. Rybnik and A. Jastrzębska</u></i>	Melody-Based Knowledge Discovery in Musical Pieces
11:00 – 11:30	Coffee Break	



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25 September 2015 SESSION: INVITED SPEAKER CHAIR: Luigi Brugnano (ROOM 1)		
11:30 – 12:30	<u><i>Robert D. Skeel</i></u>	Spline Interpolation on Unbounded Domains

25 September 2015 SESSION: INVITED SPEAKER CHAIR: Robert D. Skeel (ROOM 1)		
12:30 – 13:30	<u><i>Yaroslav D. Sergeyev</i></u>	Numerical infinities and infinitesimals in a new supercomputing framework



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25 September 2015 The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer Numerical Fluids 2015 CHAIR: Zdenek Chara (ROOM 1)		
15:00 – 15:20	<i><u>S. I. Bernad</u>, A. Bosioc, E. S. Bernad, I. Petre and A. F. Totorean</i>	Flow Characteristics in Narrowed Coronary Bypass Graft
15:20 – 15:40	<i>A. R. Appadu</i>	Comparative study of three numerical schemes for contaminant transport with kinetic Langmuir sorption
15:40 – 16:00	<i><u>A. Belozarov</u>, E. Romenski and N. Lebedeva</i>	Conservative Model and Numerical Simulations of Compressible Two-Phase Pipe Flows
16:00 – 16:20	<i><u>Dia Zeidan</u>, <u>Alice J. Kozakevicius</u>, Alex A. Schmidt and Stefan Jakobsson</i>	WENO Wavelet Method for a Hyperbolic Model of Two-Phase Flow in Conservative Form
16:20 – 16:40	<i>G. Di Labbio, C.B. Kiyanda, X. Mi, A.J. Higgins, N. Nikiforakis and <u>H.D. Ng</u></i>	Investigation of detonation velocity in heterogeneous explosive system using the reactive Burgers' analog
Coffee Break		



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25 September 2015		
SESSION 57: Computational Modeling and Experimental Assessment of Transport Processes in Porous Building Materials		
CHAIR: Zbyšek Pavlík and Oldřich Zmeskal		
(ROOM 5)		
11:30 – 11:50	<i>Lucie Trhlikova, Radek Prikryl and <u>Oldrich Zmeskal</u></i>	Thermal Properties of an Erythritol Derivative
11:50 – 12:10	<i>Jan Fořt, Eva Vejmelková, Milena Pavlíková, Anton Trník, David Čítek, Jiří Kolísko, Robert Černý and <u>Zbyšek Pavlík</u></i>	High-Temperature Testing of High Performance Fiber Reinforced Concrete
12:10 – 12:30	<i>Pavel Beran</i>	Methodology for Assessment of Amount and Amplitude of Thermal Stress Cycles in Masonry
12:30 – 12:50	<i><u>Monika Čáchová</u>, Dana Koňáková, Eva Vejmelková, Martin Keppert and Robert Černý</i>	Moisture Properties of the Lightweight Brick Body
12:50 – 13:10	<i><u>Monika Čáchová</u>, Dana Koňáková, Eva Vejmelková, Martin Keppert and Robert Černý</i>	Mechanical and Thermal Properties of the Czech Marbles
Lunch Break		



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25 September 2015 SESSION: General Session CHAIR: Claudia Roberta Calidonna (ROOM 2)		
13:15 – 13:45	<i>Bengisen Pekmen</i>	DRBEM solution of natural convection in an enclosure with a conducting solid body
13:45 – 14:15	<u><i>Claudia Roberta Calidonna,</i></u> <i>Salvatore Di Gregorio, Francesco Gullace, Daniel Gulli and Valeria Lupiano</i>	RUSICA Initial Implementations: Simulation Results of Sandy Shore Evolution in Porto Cesareo, Italy

25 September 2015 SESSION: Numerical Methods and Fundamental research on Renewable Energy Conversion CHAIR: Abel Rouboa (ROOM 3)		
15:00 – 15:30	<i>Jose Luis Alexandre</i>	Analysis of Chiller Performance Using Expeditious Indirect Methods
15:30 – 16:00	<i>Jose Luis Alexandre</i>	Energy Performance Analysis on a Radiative Cooling Storage System
16:00 – 16:30	<i>Zhuqing Wen</i>	Numerical analysis of Hydrodynamics in a Rotor-stator Reactor for Biodiesel Synthesis
16:30 – 17:15	<i>Khalid Bouziane</i>	Improved Dual-axis Tracker Using A Fuzzy-Logic Based Controller
17:15 – 17:45	Coffee Break	
18:45 – 19:30	Prof. Dr. Jose Luis Alexandre	



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25 September 2015 SESSION: Global Optimization and Numerical Analysis CHAIR: Yaroslav Sergeyev and Marat Mukhametzhanov (ROOM 4)		
15:00 – 15:20	<i>D. Lera, Y.D. Sergeyev</i>	Space-filling curves and multiple estimates of Hölder constants in derivative-free global optimization
15:20 – 15:40	<i>V. Grishagin, R. Israfilov</i>	Global Search Acceleration in the Nested Optimization Scheme
15:40 – 16:00	<i>D.E. Kvasov, M.S. Mukhametzhanov</i>	One-dimensional Global Search: Nature-inspired vs. Lipschitz Methods
16:00 – 16:20	<i>I.V. Rasina, E.A. Trushkova, O.V. Baturina, A.V. Bulatov, I.S. Guseva</i>	Development and Applications of Krotov Method of Global Control Improvement
16:20 – 16:40	<i>I.V. Rasina, O.V. Baturina, S.N. Nasatueva</i>	Hierarchical Models and Iterative Optimization of Hybrid Systems
16:40 – 17:00	<i>V.Ya. Modorskii, D.F. Gaynutdinova, V.P. Gergel, K.A. Barkalov</i>	Optimization in Design of Scientific Products for Purposes of Cavitation Problems
17:00 – 17:30	Coffee Break	



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25 September 2015 SESSION: Hydrodynamic Instabilities in Single and Two-phase Flow CHAIR: Oscar Rodriguez (ROOM 5)		
15:00 – 15:30	<i>O. M. H. Rodriguez</i>	Instability due to interfacial tension in parallel liquid-liquid Flow
15:30 – 16:00	<i>G. R. Azevedo, J. L. Baliño, K. P. Burr</i>	Influence of pipeline modelling in stability analysis for severe slugging
16:00 – 16:30	<i>H. F. Velasco-P., L. E. Ortiz-Vidal, D. M. Rocha, O. M. H. Rodriguez</i>	Slug to churn transition analysis using wire-mesh sensor
16:30 – 17:00	<i>M. S. Castro, O. M. H. Rodriguez</i>	Interfacial-tension-force model for the wavy stratified liquid-liquid flow pattern transition: the usage of two different approaches
17:00 – 17:30	Coffee Break	
17:30 – 18:30	Invited Speaker	
18:30 – 19:30	Round Table on Current Research on Hydrodynamic Instability in Two-phase Flow	



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25 September 2015 SESSION: Symposium on High Performance Computing in Engineering and Environmental Sciences CHAIR: Martin Cermak (ROOM 6)		
15:00 – 15:20	<u>M. Cermak,</u> V. Hapla, D. Horak, L. Pospisil, A. Vasatova, A. Markopoulos	PERMON software toolbox as solver of contact problems in mechanics
15:20 – 15:40	<u>M. Hasal</u>	Preconditioning of Steady Stokes–Brinkman Equation with Jumps in Coefficients with Symmetric Positive Definite Preconditioning
15:40 – 16:00	M. Hasal, L. Pospisil, <u>J. Nowakova</u>	Barzilai-Borwein Method in Graph Drawing Algorithm Based on Kamada-Kawai Algorithm
16:00 – 16:20	<u>A. Ronovsky,</u> M. Podhoranyi	The Optimalization of high resolution topographic data for 1D hydrodynamic models
16:20 – 16:40	M. Hasal, P. Burda	Application of A Posteriori Error Estimates for the Steady Stokes-Brinkman Equation in 2D
16:40 – 17:00	M .Pecha, <u>M. Cermak</u>	Segmentations for Piecewise Smooth Pictures in PERMON Applications
17:00 – 17:30	Coffee Break	



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25 September 2015		
SESSION: 2nd Symposium on Modelling and Simulation in Computer Sciences and Engineering (MSCSE 2015)		
CHAIR: Stepan Ozana (ROOM 7)		
15:00 – 15:30	<u>Stepan Ozana,</u> <i>Martin Pies and Tomas Docekal</i>	Case Studies on Optimization Problems in MATLAB and COMSOL Multiphysics by Means of the LiveLink
15:30 – 16:00	<i>Radovan Hajovsky,</i> <u>Martin Pies</u> and <i>Jaroslav Lossmann</i>	The Physical Model for Research of Behavior of Grouting Mixtures
16:00 – 16:30	<i>Pavel Nevriva,</i> <u>Blanka Filipova</u> and <i>Ladislav Vilimec</i>	The Predictive Protective Control of the Heat Exchanger
16:30 – 17:00	<u>A.L. Kartashev, S.D.</u> <i>Vaulin, M.A.</i> <i>Kartasheva, A.A.</i> <i>Martynov and</i> <i>E.V. Safonov</i>	Mathematical Modeling and Optimization of Flow Structure in Stage of Francis Turbine of Micro Gas Turbine Power Plant
17:00 – 17:30	Coffee Break	



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25 September 2015 SESSION: 61) I. Applications of Mathematical Methods and Models in Sciences and Engineering CHAIR: Prof. Dr. Necdet BİLDİK (ROOM 8)		
15:00 – 15:20	<i>Liudmila UVAROVA</i>	<i>Nonexistence Results for Some Nonlinear Inequalities with Functional Parameters</i>
15:20 – 15:40	<i>Constantin ROTARU</i>	<i>Aircraft Engine Mathematical Model- Linear System Approach</i>
15:40 – 16:00	<i>Esin AKSOY</i>	<i>Exact Solutions of the (3+1)-dimensional space-time fractional Jimbo-Miwa equation</i>
16:00 – 16:20	<i>Sinan DENİZ</i>	<i>Application of Adomian Decomposition Method for Singularly Perturbed Fourth Order Boundary Value Problems</i>
16:20 – 16:40	<i>Esin AKSOY</i>	<i>Various methods for solving time fractional KdV-Zakharov-Kuznetsov equation</i>
16:40 – 17:00	<i>Abdullah SÖNMEZOĞLU</i>	<i>Improved Generalized F-expansion Method for the time Fractional Modified KdV(fmKdV) Equation</i>
17:00 – 17:30	Coffee Break	



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25 September 2015 SESSION 81: State of the Art of Mathematical Modeling, Numerical Analysis, Optimization and Control of Green Energy Systems and Clean Environment CHAIR: Alexandru DUMITRACHE Florin FRUNZULICA Daniel CRUNTEANU (ROOM 9)		
15:00 – 15:30	<u><i>Diana Alina Bistran</i></u> <i>Romeo-Susan Resiga</i>	Efficient Proper Orthogonal Decomposition for Parameter Dependent Problems With Applications to Hydraulic Turbines
15:30 – 16:00	<u><i>Marcel Topor</i></u>	Real Time Wind Farm Emulation Using SimWindFarm Toolbox
16:00 – 16:30	<u><i>Pricop Mihai Victor,</i></u> <i>Boscoianu Mircea,</i> <i>Crunteanu Daniel-</i> <i>Eugeniu</i>	Incremental Wind Tunnel Testing of High Lift Systems
16:30 – 17:00	<i>Florin Frunzulica,</i> <i>Alexandru</i> <i>Cismilianu,</i> <i>Alexandru Boros,</i> <u><i>Alexandru</i></u> <u><i>Dumitrache</i></u> and <i>Bogdan Suatean</i>	A new Vertical Axis Wind Turbine Design for Urban Areas
17:00 – 17:30	Coffee Break	



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25 September 2015 Session 88 "Santlli's new sciences for a new era" Chair: T. Vougiouklis (ROOM 10)		
15:00 – 15:30	<i>R. Kohale</i>	A fundamental prediction and confirmations of IRS and IBS by R. M. Santlli
15:30 – 16:00	<i>A. Muktibodh</i>	Advances in Santilli's Isonumber Theory
16:00 – 17:00	<i>S. Georgiev</i>	Measurable Is-Functions
17:00 – 17:30	Coffee Break	



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25 September 2015 SESSION: 31 Title: Workshop on Numerical and Symbolic Computation in Computer Vision and Data Management CHAIR: R. Kozera Co-Chairs: W. Homenda, A. Szczęśna and A. Śluzek (ROOM 11)		
Sub-session chair: A. Szczęśna 15:00 – 15:30 (video presentation)	<i><u>M. Adamski</u> and K. Saeed</i>	Signature Verification by only Single Genuine Sample in Offline and Online Systems
15:30 – 16:00 (video presentation)	<i>T. Bhattasali, <u>P. Panasiuk</u>, K. Saeed, N. Chaki and R. Chaki</i>	Modular Logic of Authentication Using Dynamic Keystroke Pattern Analysis
16:00 – 16:30 (video presentation)	<i>K. Saeed, M. Rybniak, <u>P. Panasiuk</u> and M. Rogowski</i>	The Impact Database Quality on Keystroke Dynamics Authentication
16:30 – 17:00	<i>R. Kozera</i>	Closing workshop 31.



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25 September 2015 SESSION: INVITED SPEAKER CHAIR: Yaroslav D. Sergeyev (ROOM 1)		
17:30 – 18:30	<u>David Ketcheson</u>	The limits of explicit numerical integration of differential equations



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25 September 2015 SESSION: Applied Symmetries and Perturbation Methods CHAIR: Mehmet Pakdemirli (ROOM 4)		
18:35 – 19:05	<i>Duygu ÇÖMEN ATCI</i> <i>and Erdoğan</i> <i>ÖZKAYA</i>	Effects of non-ideal boundary conditions on natural frequencies of fluid conveying micro-beams

25 September 2015 SESSION: Third Symposium on Numerical Calculations on Theoretical Magnetism CHAIR: H. Şevki Mert (ROOM 4)		
19:05 – 19:35	<i>Gülistan Mert and</i> <i>H. Şevki Mert</i>	Spin Configurations on a Decorated Square Lattice
19:35 – 20:05	<i>Murat Mert, Ahmet</i> <i>Kılıç and</i> <i>Gülistan Mert</i>	Spin-1 Heisenberg Ferromagnet Using Pair Approximation Method



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25 September 2015		
SESSION: Symposium on High Performance Computing in Engineering and Environmental Sciences		
CHAIR: Jaroslav Kruis (ROOM 6)		
18:30 – 18:50	<i>J. Zapletal, M. Merta, M. Cermak</i>	BEM4I applied to shape optimization problems
18:50 – 19:10	<i>J. Kruis, T. Krejci</i>	Two-scale approach for the coupled heat and moisture transport
19:10 – 19:30	<i>T. Krejci</i>	Two-dimensional analysis of coupled heat and moisture transport in masonry structures
19:30 – 19:50	<i>T. Koudelka, J. Kruis</i>	Damage-plasticity model of the host rock in a nuclear waste repository
19:50 – 20:10	<i>J. Kruis,</i>	3D multi-scale analysis of coupled heat and moisture transport and its parallel implementation



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25 September 2015		
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CHAIR: Tawanda Mushiri (ROOM 7)		
18:35 – 19:05	<i>Abigail Y. Mahachi and Tawanda Mushiri</i>	Design of a Model Reference Adaptive Control (MRAC) System for the Pneumatic Valve of the Bottle Washer in Beverage Companies
19:05 – 19:35	<i>D. Miranda, F. Miranda, C.M. Costa, A.M. Almeida and S. Lanceros- Méndez</i>	Evaluation and Optimization of the Performance of Frame Geometries for Lithium-Ion Battery Application by Computer Simulation
19:35 – 20:05	<i>Francisco Miranda, Carlos Abreu and Paulo M. Mendes</i>	Stabilization of Model-Based Networked Control Systems
20:05 – 20:35	<i>Carlos Abreu, Francisco Miranda and Paulo M. Mendes</i>	Adaptive and Context-Aware Detection and Classification of Potential QoS Degradation Events in Biomedical Wireless Sensor Networks



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25 September 2015		
SESSION: 61) I. Applications of Mathematical Methods and Models in Sciences and Engineering		
CHAIR: Prof. Dr. Constantin Rotaru		
(ROOM 8)		
18:35 – 18:55	Necdet BİLDİK	<i>Exact Solutions of the Time-Fractional Fisher Equation by Using Modified Trial Equation Method</i>
18:55 – 19:15	Duygu DÖNMEZ DEMİR	<i>The Shooting Method for the Second Order Singularly Perturbed Differential Equation</i>
19:15 – 19:35	Yusuf PANDIR	<i>New exact solutions for fractional Sine-Gordon equation by using the new version of generalized F-expansion method</i>
19:35 – 19:55	Yusuf GÜREFE	<i>New 2-Point Implicit Block Multistep Method for Multiplicative initial Value Problems</i>



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25 September 2015 SESSION: General Session CHAIR: Panayiotis Alefragis (ROOM 9)		
18:35 – 19:05	<i>Bartosz Binias</i>	Guided Energy-Minimizing Model for Segmentation of Vector Fields
19:05 – 19:35	<i><u>Adrian Łęgowski</u> and Michał Niezabitowski</i>	An Industrial Robot Singular Trajectories Planning Based on Graphs and Neural Networks
19:35 – 20:05	<i>Aigli Korfiati, Konstantis Daloukas, <u>Panayiotis Alefragis</u>, Panagiota Tsompanopoulou and Spiros Likothanassis</i>	An Asynchronous Interface Relaxation Method for Multi- domain/Multi-physics Problems
20:05 – 20:35	<i><u>Mirac Kamislioglu</u></i>	Application of Chaos Analyses Methods on East Anatolian Fault Zone Fractures



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25 September 2015 SESSION: General Session CHAIR: Mihaela Sava (ROOM 10)		
18:35 – 19:05	<i>Mihaela Sava,</i> <i>Anton Hadăr, Ioan</i> <i>Părăușanu, Horia-</i> <i>Alexandru</i> <i>Petrescu, Florin</i> <i>Baciu, Stănescu</i> <i>Marius Marinel</i>	Analysis of Discontinuities Influence on the Differences Between Static and Dynamic Elastic Modulus of Composite Material
19:05 – 19:35	<i>Mihaela Sava,</i> <i>Anton Hadăr, Ioan</i> <i>Părăușanu, Horia-</i> <i>Alexandru</i> <i>Petrescu, Florin</i> <i>Baciu, Stănescu</i> <i>Marius Marinel</i>	Validation of the numerical model of single-layer composites reinforced with carbon fiber and kevlar
19:35 – 20:05	<i>Florin Baciu, Anton</i> <i>Hadăr, Mihaela Sava,</i> <i>Stănescu Marius</i> <i>Marinel, and Dumitru</i> <i>Bolcu</i>	Calculation of the Relative Uniformity Coefficient on the Green Composites Reinforced with Cotton and Hemp Fabric
20:05 – 20:35	<i>Michal Beneš</i>	A Note on Variational Principle for Dissipative Reaction-Convection-Diffusion Problems
20:35 – 21:05	<i>Aliya S. Azhibekova</i>	Recovering a Coefficient in a Parabolic Equation Using an Iterative Approach



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25 September 2015		
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CHAIR: Witold Pawlus (ROOM 11)		
18:35 – 19:05	<u>Witold Pawlus,</u> <i>Morten K. Ebbesen, Michael R. Hansen, Martin Choux and Geir Hovland</i>	Comparative Analysis of Numerical Models of Pipe Handling Equipment Used in Offshore Drilling Applications
19:05 – 19:35	<i>Abdykappar Ashimov, Yuriy Borovskiy and Mukhit Onalbekov</i>	Economic Policy Optimization Based on Both One Stochastic Model and the Parametric Control Theory
19:35 – 20:05	<u>M. Rui Alves</u>	Getting Full Control of Canonical Correlation Analysis with the <i>AutoBiplot.CCA</i> Function
20:05 – 20:35	<u>Carla Barbosa, Filipa Diogo and M. Rui Alves</u>	Fitting Mathematical Models to Describe the Rheological Behaviour of Chocolate Pastes

END OF THE 3RD DAY



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26 September 2015 SESSION: INVITED SPEAKER CHAIR: C.W. Gear (ROOM 1)		
09:30 – 10:30	<i><u>Peter Deuflhard</u></i>	Adaptive Numerical Solution of PDEs in Virtual Medicine

26 September 2015 SESSION: INVITED SPEAKER CHAIR: Peter Deuflhard (ROOM 1)		
10:30 – 11:30	<i><u>C. W. Gear, E. Chiavazzo and I. G. Kevrekidis</u></i>	Manifolds defined by points: Parameterizing and Boundary Detection

26 September 2015 SESSION: INVITED SPEAKER CHAIR: Zdzislaw Jackiewicz (ROOM 1)		
11:30 – 12:30	<i><u>Nicola Guglielmi and Ernst Hairer</u></i>	Study of discontinuous differential equations close to the intersection of two discontinuity surfaces



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26 September 2015 SESSION: SCLIT 2015 5th Symposium on Computer Languages, Implementations and Tools CHAIR: Zoran Budimac (ROOM 2)		
09:00 – 09:20	<i><u>Zoran Budimac</u> and SCLIT team</i>	SCLIT 2015 Opening
09:20 – 09:45	<i>Miloš Savić, <u>Mirjana Ivanović</u>, Zoran Budimac and Miloš Radovanović</i>	Do Students' Programming Skills depend on Programming Language?
09:45 – 10:10	<i><u>Jan Kollar</u></i>	The Machine Mind and Absorption of Language Concepts
10:10 – 10:35	<i><u>Melinda Tóth</u> and István Bozó</i>	Analysing and visualising Erlang behaviours
10:35 – 11:00	<i>Miloš Savić, <u>Gordana Rakić</u> and Zoran Budimac</i>	Translation of Tempura Specifications to eCST



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26 September 2015		
Session 88 "Santilli's new sciences for a new era"		
Chair: A. Muktibodh		
(ROOM 3)		
09:00 – 09:30	<i>S. Georgiev</i>	Iso-Probabilities
09:30 – 10:00	<i>R. M. Falcon</i>	An approach to the iso-theory by means of extended pseudo isotopisms
10:00 – 10:30	<i>N. Lygeros</i>	Small e-hyperfields with gradation
10:30 – 11:00	<i>R. Kohale</i>	A brief review on experimental confirmations of IsoRed Shift and IsoBlue Shift by R. M. Santilli
11:00 – 11:30	<i>T. Vougiouklis</i>	Lie-Santilli Admissibility in hyperstructures



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12:40

Photo of the Conference

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Excursion



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20:30

Central Dinner

- **Introduction by Professor Dr. Theodore E. Simos**
- **Honouring Professor Dr. Robert D. Skeel for his career on Numerical Analysis and Applied Mathematics. Introduction by Professor Dr. C.W. Gear (Bill)**
- **Presentation of the Honorary Fellowship Awards of the European Society of Computational Methods in Sciences, Engineering and Technology**
- **Dinner**

END OF THE 4TH DAY



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27 September 2015 The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer Numerical Fluids 2015 CHAIR: Evgeny Timofeev (ROOM 1)		
9:00 – 10:00	Invited lecture Professor Sergey Utyuzhnikov Non-overlapping Domain Decomposition for Near-wall Turbulence Modeling	
10:00 – 10:20	<i>Jens Grabel, S.</i> <i>Hensel, P.</i> <i>Ueberholz, D.</i> <i>Zeidan, P. Farber</i>	Numerical Issues on Two- phase Flows
10:20 – 10:40	<i>Magdalena</i> <i>Mierzwiczak, Jan</i> <i>Adam Kołodziej and</i> <i>Jakub Krzysztof</i> <i>Grabski</i>	Generalized Newtonian fluid flow through fibrous porous media
10:40 – 11:00	<i>S.V. Bogovalov, V.D.</i> <i>Borisevich, V.D.</i> <i>Borman, I.V. Tronin</i> <i>and V.N. Tronin</i>	Numerical modelling of the flow and isotope separation in centrifuge Iguasu for different lengths of the rotor
11:00 – 11:30	Coffee Break	



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27 September 2015 SESSION: SCLIT 2015 5th Symposium on Computer Languages, Implementations and Tools CHAIR: Mirjana Ivanović (ROOM 2)		
09:00 – 09:25	<i><u>Tomas Skersys,</u> Paulius Danenas and Saulius Pavalkis</i>	Model-driven Development of Partial Model-to-Model Transformations in a CASE Tool
09:25 – 09:50	<i><u>Nikola Tanković and</u> Tihana Galinac Grbac</i>	AGM: A DSL for Mobile Cloud Computing Based On Directed Graph
09:50 – 10:15	<i><u>Milan Kosanović,</u> <u>Igor Dejanović and</u> Gordana Milosavljević</i>	Applang – A DSL for Specification of Mobile Applications for Android Platform Based on textX
10:15 – 10:40	<i><u>Dejan Sredojević,</u> Milan Vidaković, Dušan Okanović, Dejan Mitrović and Mirjana Ivanović</i>	Conversion of the Agent- Oriented Domain-Specific Language ALAS into JavaScript
10:40 – 11:00	<i><u>Zoran Budimac and</u> SCLIT team</i>	SCLIT 2015 Closing
11:00 – 11:30	Coffee Break	



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27 September 2015 SESSION: Application of Fuzzy Logic and Neural Networks in Construction Management CHAIR: Edyta Plebankiewicz, Dariusz Skorupka (ROOM 4)		
09:00 – 09:20	<i>Agnieszka Leśniak</i>	Supporting contractors' bidding decision: RBF neural networks application
09:20 – 09:40	<i>J. Bień, M. Kuźawa</i>	NDT-based bridge condition assessment supported by Expert Tools
09:40 – 10:00	<i>Michał Krzemiński</i>	Comparison of Selected Multi-criteria Assessment Methods
10:00 – 10:20	<i>Nabi Ibadov</i>	Construction Project Selection, With The Use Of Fuzzy Preference Relation
10:20 – 10:40	<i>Renata Kozik</i>	Using a Fuzzy DEMATEL Method for Analyzing the Factors Influencing Subcontractors Selection
10:40- 11:00	<i>Michał Juszczyk</i>	Application of PCA-based Data Compression in the ANN-supported Conceptual Cost Estimation of Residential Buildings
11:00 – 11:30	Coffee Break	



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27 September 2015, SESSION #70 Mathematical models and methods to investigate heterogeneity in cell and cell population biology CHAIRS: Jean Clairambault/Nick Cogan/Marek Kimmel (ROOM 5)		
09:30 – 10:15	<i>Jean Clairambault</i>	<i>Phenotype heterogeneity in cancer cell populations</i>
10:15 – 11:00	<i>Tommaso Lorenzi</i>	<i>Cytotoxic resistance in cancer cell populations</i>
11:00 – 11:30	Coffee Break	
11:30 – 12:15	<i>Loïc Barbarroux</i>	<i>Multiscale model of the CD8 immune response</i>
12:15 – 13:00	<i>Shalla Hanson</i>	<i>Models for the T-cell response to pathogens</i>
13:00 – 14:30	<i>patio-temporal dynamical patterns of p53 and cell fate decisions</i> Lunch Break	



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27 September 2015		
SESSION: 61) I. Applications of Mathematical Methods and Models in Sciences and Engineering		
CHAIR: Prof. Dr. Liudmila UVAROVA		
(ROOM 6)		
10:00 – 10:20	<i>İsmail ULUSOY</i>	<i>On the Singular Sturm-Liouville Problems that Have the Same Spectrum</i>
10:20 – 10:40	<i>Şeyma TÜLÜCE DEMİRAY</i>	<i>Dark Soliton Solutions of (N+1)-Dimensional Nonlinear Evolution Equations</i>
10:40 – 11:00	<i>İsmail ULUSOY</i>	<i>Asymptotic Formula for Eigenvalues of One Dimensional Dirac System</i>
11:00 – 11:30	Coffee Break	



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27 September 2015 SESSION: Mathematical Models and Numerical Methods in Life Sciences (session 79) CHAIR: Ezio Venturino (ROOM 7)		
09:00 – 09:30	<i>Roberto Cavoretto</i>	Approximating basins of attraction for dynamical systems via stable radial bases
09:30 – 10:00	<i>Emma Perracchione</i>	Fast and flexible interpolation via PUM with applications in population dynamics
10:00 – 10:30	<i>Ilaria Stura</i>	An RBF-PSO Based Approach for Modeling Prostate Cancer
10:30 – 11:00	<i>Karunia Putra Wijaya</i>	Solving bi-objective optimal control problems with rectangular framing
11:00 – 11:30	Coffee Break	



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27 September 2015 SESSION: INVITED SPEAKER CHAIR: W.H. Enright (ROOM 1)		
11:30 – 12:30	<i>Michał Braś,</i> <i>Giuseppe Izzo and</i> <i><u>Zdzislaw Jackiewicz</u></i>	Construction of IMEX methods with inherent Runge-Kutta stability

27 September 2015 SESSION: INVITED SPEAKER CHAIR: Zdzislaw Jackiewicz (ROOM 1)		
12:30 – 13:30	<i><u>W.H. Enright</u></i>	Exploiting Special Problem Structure when Reliably Investigating the Solution of Systems of IVPs and DDEs



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27 September 2015 The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer - Theoretical, Experimental, and Computational Mechanics CHAIR: Hamid Sarlak Chivae (ROOM 1)		
15:00 – 15:20	<u><i>P. Shojaee</i></u> <u><i>Nasirabadi, M.</i></u> <i>Jabbari and J.H.</i> <i>Hattel</i>	Numerical Simulation of Transient Moisture Transfer into an Electronic Enclosure
15:20 – 15:40	<u><i>H. Sarlak, T.</i></u> <i>Nishino and J.N.</i> <i>Sørensen</i>	RANS Simulations of Separated Flow with Stall Cells over an NREL S826 Airfoil
15:40 – 16:00	<u><i>M. Jabbari, V.A.</i></u> <i>Jambhekar, J.H.</i> <i>Hattel and R.</i> <i>Helmig</i>	Numerical Modelling of Evaporation in A Ceramic Layer in the Tape Casting Process
16:00 – 16:20	<u><i>Ž. Staliulionis, M.</i></u> <i>Jabbari, J.H. Hattel</i>	Moisture Ingress into Electronics Enclosures under Isothermal Conditions
16:20 – 16:40	<u><i>E. Hovad, J.</i></u> <i>Spangenberg, P.</i> <i>Larsen, J. Thorborg</i> <i>and J.H. Hattel</i>	An analytical solution describing the shape of a yield stress material subjected to an overpressure
Coffee Break		



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27 September 2015 SESSION: Dynamics of Complex Systems & Networks: Modelling, Computational Analysis and Control CHAIR: Dr. Lucia Russo and Prof. Constantinos Siettos (ROOM 2)		
15:00 – 15:45	Review Talk Vortex knot cascade in polynomial skein relations Prof. Renzo L. Ricca	
15:45 – 16:10	<i>Dr. Konstantinos Spiliotis, Dr. Lucia Russo and Prof. Elias Aifantis</i>	The effect of the diffusion on the bifurcation behavior of dislocation patterns in the one-dimensional finite domain
16:10 – 16:35	<i>Prof. Constantinos Siettos, Prof. Cleo Anastassopoulou, Dr. Lucia Russo, Christos Grigoras and Prof. Eleftherios Mylonakis</i>	Estimation of the Age-Specific Per-Contact Probability of Ebola virus Transmission in Liberia using Agent-based Simulations
16:35 – 17:00	<i>Dr. Konstantinos Spiliotis and Dr. Lucia Russo</i>	Bifurcation Analysis of a Forest Grassland Ecosystem
17:00 – 17:30	Coffee Break	



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27 September 2015		
SESSION: 5th Symposium on Distribution Theory, Estimation and Inference		
CHAIR: Filipe Marques/Wolf-Dieter Richter (ROOM 3)		
15:00 – 15:30	<i>Wolf-Dieter Richter</i>	Representing continuous star-shaped probability measures in spaces with suitably constructed geometries
15:30 – 16:00	<i>José M. Fernandes</i>	An open Markov chain scheme model for a credit consumption portfolio fed by ARIMA and SARMA processes
16:00 – 16:30	<i>Alberto Mulenga</i>	Asymmetry of ARCH effects and Natural Resource Disease or Virtue: Mozambique experience
16:30 – 17:00	<i>Filipe J. Marques</i>	Near-exact distributions for positive linear combinations of independent non-central Gamma random variables
17:00 – 17:30	Coffee Break	



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27 September 2015		
SESSION: Application of Fuzzy Logic and Neural Networks in Construction Management		
CHAIR: Edyta Plebankiewicz, Dariusz Skorupka (ROOM 4)		
15:00 – 15:20	<i>Krzysztof Zima</i>	Fuzzy Case Based Reasoning in Sports Facilities Unit Cost Estimating
15:20 – 15:40	<i>Dariusz Skorupka and Dorota Kuchta</i>	Using fuzzy numbers for construction projects monitoring and control
15:40 – 16:00	<i>Edyta Plebankiewicz</i>	Application of the Fuzzy Sets Theory to Cost Calculations on Individual Stages of a Construction Investment
16:00 – 16:20	<i>Mariusz Zytnewski, Mateusz Klement, Dariusz Skorupka, Stanislaw Stanek, Artur Duchaczek</i>	Application of the AHP Method in Modeling the Trust and Reputation of Software Agents
17:00 – 17:30	Coffee Break	



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27 September 2015, SESSION #70 Mathematical models and methods to investigate heterogeneity in cell and cell population biology CHAIRS: Jean Clairambault/Nick Cogan/Marek Kimmel (ROOM 5)		
14:30 – 15:15	<i>Marek Kimmel</i>	<i>Pre-selective and selective phase in tumor development</i>
15:15 – 16:00	<i>Jan Elias</i>	<i>Spatio-temporal dynamical patterns of p53 and cell fate</i>
16:00 – 16:30	Coffee Break	
16:30 – 17:15	<i>Nick Cogan</i>	<i>Controlling bacterial populations with persister dynamics</i>
17:15 – 17:30	End of Session #70 – Concluding remarks	



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27 September 2015		
SESSION: 61) I. Applications of Mathematical Methods and Models in Sciences and Engineering		
CHAIR: Prof. Dr. Erdal BAS		
(ROOM 6)		
15:00 – 15:20	Haci Mehmet BASKONUS	<i>Chaos in the Fractional Order Logistic Delay System: Circuit Realization and Synchronization</i>
15:20 – 15:40	Erdal BAS	<i>Representation of the Solution for Fractional Sturm-Liouville Problem</i>
15:40 – 16:00	Haci Mehmet BASKONUS	<i>Regarding on the Prototype Solutions for the Nonlinear Fractional-Order Biological Population Model</i>
16:00 – 16:20	Ramazan OZARSLAN	<i>Asymptotics of Eigenfunctions for Sturm-Liouville Problem in Difference Equations</i>
16:20 – 16:40	Ahu ERCAN	<i>Stability of the Spectral Problem for Dirac Operators</i>
16:40 – 17:00	Sinan ERCAN	<i>New Properties of BK-Spaces Defined by Using Regular Matrix of Fibonacci</i>
17:00 – 17:30	Coffee Break	



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27 September 2015 SESSION: Mathematical Models and Numerical Methods in Life Sciences (session 79) CHAIR: Roberto Cavoretto (ROOM 7)		
15:00 – 15:30	<i>Maíra Aguiar</i>	Feels right, but it's so wrong: The impact of empirical data analysis on public health practical intervention (Part I)
15:30 – 16:00	<i>Maíra Aguiar</i>	Feels right, but it's so wrong: The impact of empirical data analysis on public health practical intervention (Part II)
16:00 – 16:30	<i>Luis Mateus</i>	Modelling Spatial Connectivity in Epidemiological Systems, Dengue Fever in Thailand on Networks from Radiation Models
16:30 – 17:00	<i>Nico Stollenwerk</i>	Modelling Spatial Connectivity in Epidemiological Systems, Dengue Fever in Thailand on Networks from Radiation Models
17:00 – 17:30	Coffee Break	



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27 September 2015		
SESSION: State of the Art of Mathematical Modeling, Numerical Analysis, Optimization and Control of Green Energy Systems and Clean Environment		
CHAIR: Alexandru DUMITRACHE Florin FRUNZULICA Daniel CRUNTEANU (ROOM 3)		
17:35 – 18:05	<i>M. L. Niculescu <u>M. G. Cojocaru</u> D. E. Crunteanu</i>	Aerodynamic Study of a Small Wind Turbine with Emphasis on Laminar and Transition Flows
18:05 – 18:35	<i>Pricop Mihai Victor, <u>Boscoianu Mircea</u>, Crunteanu Daniel- Eugeniu</i>	Wind Tunnel Investigation of a High Lift System with Pneumatic Flow Control
18:35 – 19:05	<i>Constantin Rotaru, Ionică Cîrciu, Doru Luculescu</i>	Lift Capability Prediction for Helicopter Rotor Blade- Numerical Evaluation
19:05 – 19:35	<i>Florin Frunzulica, Cosmin Oncescu, Alexandru Dumitrache and Adela Vintea</i>	Study of the Modelling of an Electromagnetic Launcher of Fire Extinguishing Loads



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27 September 2015 SESSION: General Session CHAIR: G. Milani (ROOM 4)		
17:35 – 18:05	<i>Mucahit YILMAZ' and Fatih KULAHCI</i>	Risk Analysis of ^{222}Rn Gas received from East Anatolian Fault Zone in Turkey
18:05 – 18:35	<i>R. Řídký, M. Popovič, S. Rolc, M. Drdlová, J. Krátký</i>	The Absorption of Polymeric Composites
18:35 – 19:05	<i>G. Milani, T. Hanel, R. Donetti, F. Milani</i>	NR Sulphur vulcanization: interaction study between TBBS and DPG by means of a combined experimental rheometer and meta-model best fitting strategy
19:05 – 19:35	<i>G. Milani, T. Hanel, R. Donetti, F. Milani</i>	Combined experimental and numerical kinetic characterization of NR vulcanized with sulphur, N terbutyl, 2 benzothiazylsulphenamide and N,N diphenyl guanidine

27 September 2015 SESSION: General Session CHAIR: Z. Kalogiratou (ROOM 5)		
17:35 – 18:05	<i>Petrakis L., Kalogiratou Z., Monovasilis Th., Simos T.E.</i>	Numerical Integration of the Chaplain and Stuart model
18:05 – 18:35	<i>Kalogiratou Z., Michalas A., Monovasilis Th., Simos T.E.</i>	Numerical Solution of Maxell's Equations with Symplectic Integrators.
18:35 – 19:05	<i>Dorota Aniszewska and Marek Rybaczuk</i>	Multiplicative Hénon map

END OF THE 5TH DAY



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28 September 2015 The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer - Theoretical, Experimental, and Computational Mechanics CHAIR: Mirmasoud Jabbaribehnam (ROOM 1)		
9:30 – 9:50	<i>N. Ramos-García, H. Sarlak, S.J. Andersen, J.N. Sørensen</i>	Simulations of the Flow past a Cylinder Using an Unsteady Double Wake Model
9:50 – 10:10	<i>S. Azizaddini, W. Lin and K. Dam- Johansen</i>	Experimental investigation of a Draft Tube Spouted Bed for Effects of Geometric Parameters on Operation
10:10 – 10:30	<i>M. Nasr Esfahani, M. Yilmaz, M. R. Sonne, J. H. Hattel and B. Erdem Alaca</i>	Effect of Geometry in Frequency Response Modeling of Nanomechanical Resonators
10:30 – 10:50	<i>P. Shojaee Nasirabadi, M. Jabbari and J.H. Hattel</i>	Estimation of Water Diffusion Coefficient into Polycarbonate at Different Temperatures Using Numerical Simulation
11:00 – 11:30	Coffee Break	



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28 September 2015		
SESSION: Methods of Nonlinear Mathematical Physics		
CHAIR: Nikolay Kudryashov		
(ROOM 2)		
09:00 – 09:30	<u>N.A. Kudryashov</u>	From the Fermi-Pasta-Ulam model to higher order nonlinear evolution equations
09:30 – 10:00	<u>O.V. Nagornov, V.G. Nikitaev, A.N. Pronichev, S.A. Tyufin and T.I. Bukharova</u>	Analysis of Past Surface Temperature Reconstructions Based on the Tree-ring Chronologies and Borehole Temperature Measurements
10:00 – 10:30	<u>A.V. Porubov, R.S. Bondarenkov, A.L. Fradkov, B.R. Andrievsky</u>	Control of antikinks of the Sine Gordon equation
10:30 – 11:00	<u>S.Z. Dunin, O.V. Nagornov, N.V. Starostin, V.P. Trifonenkov</u>	Analytical Approach for Temperature of the Evaporating Droplets on Solid Substrates
11:00 – 11:30	Coffee Break	



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28 September 2015		
SESSION: Second Symposium on Optimization Algorithms for Discrete Problems		
CHAIR: Dr. Joaquín Pérez Ortega (ROOM 3)		
09:00 – 09:30	<i>J.C. Zavala-Díaz, J. Pérez-Ortega, J.A. Hernández-Aguilar, A. Martínez-Rebollar, B.E Serrano-Rodríguez</i>	Solution of the Bin Packing problem by means of a deterministic weighted finite automaton
09:30 – 10:00	<i>Adriana Mexicano, R. Rodríguez, Salvador Cervantes, P. Montes, M. Jiménez, L. Abrego</i>	The Early Stop Heuristic: A new convergence criterion for k-means
10:00 – 10:30	<i>Joaquín Pérez, Rodolfo Pazos, Víctor Olivares, Miguel Hidalgo, Jorge Ruiz-Vanoye, Alicia Martínez, Nelva Almanza, Moisés González</i>	Optimization of the K-means Algorithm for the Solution of High Dimensional Instances



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28 September 2015 SESSION: Mathematical Models and Numerical Methods in Life Sciences (session 79) CHAIR: Maira Aguiar (ROOM 4)		
09:30 – 10:00	<i>Ezio Venturino</i>	An SIRS predator-prey model with disease in the prey
10:00 – 10:30	<i>Galina Neverova</i>	Dynamic regimes of local homogeneous population model with time lag
10:30 – 11:00	<i>Oksana L. Zhdanova</i>	Multistability in Simplest Models of The Population Dynamics

28 September 2015 SESSION: General Session CHAIR: Godfried T. Toussaint (ROOM 5)		
09:00 – 09:30	<i>W. Jin, C. R. Kleijn and J. R. van Ommen</i>	Direct Simulation Monte Carlo calculation of rarefied gas drag using an immersed boundary method
09:30 – 10:00	<i>Michael E. Houle and Godfried T. Toussaint</i>	Quadrangles Which Cannot Be Separated With Two Hands
10:00 – 10:30	<i>V. Semenov, Yu. Maistrenko, A. Zakharova and E. Scholl</i>	Deterministic and stochastic control of chimera states in delayed feedback oscillators
10:30 – 11:00	<i>Franciszek Grabski</i>	Markov and Semi-Markov Processes as a failure rate
11:00 – 11:30	<i>Héctor A. Pedrozo, Mario R. Rosenberger and Carlos E. Schvezov</i>	Stability Analysis of the Solution of the One-dimensional Richards Equation by the Finite Difference Method



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28 September 2015		
The 10th International Symposium on Numerical Analysis of Fluid Flow and Heat Transfer - Theoretical, Experimental, and Computational Mechanics		
CHAIR: Julius Reiss (ROOM 1)		
11:30 – 12:00	<i>C. Rotaru, I. Cîrciu and <u>R. Ioana Edu</u></i>	Mathematical Model of Induced Flow on the Airplane Vertical Tail
12:00 – 12:30	<i>S. Faeghi and <u>K. Lennerts</u></i>	Flow Analysis of Airborne Particles in a Hospital Operating Room
12:30 – 13:00	<i>A. Mohammadi, M.R. Sonne, D.G. Madruga, L. De Chiffre and <u>J.H. Hattel</u></i>	Defining Allowable Physical Property Variations for High Accurate Measurement in Polymer Parts
13:00 – 13:30	<i>M. Lin and <u>H. Sarlak</u></i>	A comparative study on the flow over an airfoil using transitional turbulence models
Coffee Break		



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28 September 2015 SESSION: Methods of Nonlinear Mathematical Physics CHAIR: Nikolay Kudryashov (ROOM 2)		
11:30 – 12:00	<u><i>G I. Burde</i></u>	New Types of Multisoliton Solutions of Some Integrable Equations via Direct Methods
12:00 – 12:30	<u><i>V.L.Kamynin,</i></u> <u><i>T.I.Bukharova</i></u>	On A priori Estimate in $W_q^{1,2}$ for the Solution of Nondivergent Parabolic Equation with Unbounded Coefficients
12:30 – 12:50	<u><i>N.A. Kudryashov,</i></u> <u><i>D.I. Sinelshchikov</i></u>	Analytical Solutions of the Rayleigh Equation for Arbitrary Polytropic Exponent
12:50 – 13:10	<u><i>N.A. Kudryashov,</i></u> <u><i>M.B. Kochanov</i></u>	Exact solution for description of long wave on shallow water under ice
13:10 – 13:30	<u><i>N.A. Kudryashov,</i></u> <u><i>K.E. Shilnikov</i></u>	Nonlinear bioheat transfer models and multi-objective numerical optimization of the cryosurgery operations



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28 September 2015 SESSION: Numerical Analysis of Heat Transfer in Porous Medium CHAIR: Name and Surname (ROOM 3)		
11:30 – 12:00	<i>Yunus Khan</i>	<i>Thermal Non-Equilibrium Analysis of Porous Annulus Subjected to Segmental Isothermal Heater-Part A</i>
12:00 – 12:30	<i>Sarfaraz Kamangar</i>	<i>Thermal Non-Equilibrium Analysis of Porous Annulus Subjected to Segmental Isothermal Heater-Part B</i>
12:30 – 13:00	<i>Salman Ahmed</i>	<i>Effect of Segmental Heating on Mixed Convection Aiding Flow in a Vertical Porous Annulus</i>
13:00 – 13:30	<i>Salman Ahmed</i>	<i>Mixed Convection Opposing Flow in Porous Annulus</i>



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28 September 2015 SESSION: Mathematical Models and Numerical Methods in Life Sciences (session 79) CHAIR: Nico Stollenwerk (ROOM 4)		
11:30 – 12:00	<i>Han Li Qiao</i>	A model for an aquatic ecosystem
12:00 – 12:30	<i>Iulia Martina Bulai</i>	The Beddington-De Angelis and the HTII product response functions: application to polluted ecosystems biodegradation
12:30 – 13:00	<i>Marat Rafikov</i>	Controlling the <i>Aedes aegypti</i> mosquito population by Wolbachia-based strategies
13:00 – 13:30	<i>Nico Stollenwerk</i>	Stochastic Hopf and torus bifurcations in population biology



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28 September 2015 SESSION: General Session CHAIR: Jacek Malinowski (ROOM 5)		
11:30 – 12:00	<i>Andrey V. Timofeev, Dmitry V. Egorov</i>	New Approach to Information Fusion for Lipschitz Classifiers Ensembles: Application in Multi-Channel C-OTDR-monitoring systems
12:00 – 12:30	<i>Jacek Malinowski</i>	A New Efficient Algorithm Generating All Minimal S-T Cut-Sets in a Graph-Modeled Network
12:30 – 13:00	<i>Wu Meirong, Cao Shaochen, Zhu Huazhen</i>	On Axiomatizations of the Shapley value for bicooperative games
13:00 – 13:30	<i>Huang Jinming ,Li Wenjing , Zhu Huazhen</i>	Design the Price Signal Mechanism of Suppliers' Cost in the Commercial Procurement Process

28 September 2015 SESSION: #87: Numerical methods for wave simulation and waveform inversion CHAIR: Wenshen Zhang (ROOM 1)		
15:00 – 15:30	<i>Wensheng Zhang and Yuan Zhuang</i>	Parallel full-waveform inversion in the frequency domain by the Gauss-Newton method
15:30 – 16:00	<i>Wensheng Zhang and Hui Zheng</i>	Multiscale simulation of 2D elastic wave propagation



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28 September 2015 SESSION : General Session CHAIR: : A.N. Kanatnikov (ROOM 1)		
16:00 – 16:30	<u>A.N. Kanatnikov</u> and A.P. Krishchenko	Localization of the compact invariant sets of nonautonomous discrete-time systems
16:30 – 17:00	<u>A.P. Krishchenko</u> and A.N. Kanatnikov	The analysis of the dynamical system arising from Gray — Scott model

28 September 2015 SESSION: General Session CHAIR: Michal Kuraz (ROOM 2)		
15:00 – 15:30	<i>Michal Kuraz</i>	Schwarz type domain decomposition and subcycling multi-time step approach for solving Richards equation
15:30 – 16:00	<i>Michal Kuraz</i>	Numerical solution of the Richards equation based catchment runoff model with dd-adaptivity algorithm
16:30 – 17:00	<u>Mateusz Baran</u> and <u>Lesław K. Bieniasz</u>	An adaptive multicut-HDMR map generation



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28 September 2015		
SESSION: Numerical Analysis of Heat Transfer in Porous Medium		
CHAIR: Name and Surname (ROOM 3)		
15:00 – 15:30	Irfan Magami	Heat Transfer In Porous Medium Embedded With Vertical Plate: Non-Equilibrium Approach- Part A
15:30 – 16:00	Irfan Magami	Heat Transfer In Porous Medium Embedded With Vertical Plate: Non-Equilibrium Approach- Part B
16:00 – 16:30	Irfan Magami	Heat and Mass Transfer in Porous Cavity: Assisting Flow
16:30 – 17:00	Irfan Magami	Radiation and Viscous Dissipation Effect On Square Porous Annulus



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28 September 2015 SESSION: General Session CHAIR: Torge Schmidt (ROOM 4)		
15:00 – 15:30	<i>Andrey G. Atamuratov, Igor E. Mikhailov, Leonid A. Muravey</i>	The Moment Problem and Vibrations Damping of Beams and Plates
15:30 – 16:00	<i>Alibek Issakhov</i>	Numerical modelling of distribution the discharged heat water from thermal power plant on the aquatic environment
16:00 – 16:30	<i>Ivan Martynov and Tuomo Kauranne</i>	Defining Solar Park Location Using Shadow Over Time Detection Method
16:30 – 17:00	<i>Torge Schmidt and Marko Lindner</i>	Approximation of Pseudospectra on a Hilbert Space
17:00 – 17:30	<i>WERONIKA JAMRÓZ</i>	<i>APPROXIMATION OF PROPERTIES OF HYPERELASTIC MATERIALS WITH USE OF ENERGY-BASED MODELS AND BIAXIAL TENSION DATA</i>



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28 September 2015 SESSION: General Session CHAIR: Inta Volodko (ROOM 5)		
15:00 – 15:30	<i><u>Gonzalo Castineira and Jose M. Rodriguez</u></i>	Asymptotic Analysis of a Newtonian Fluid in a Curved Pipe with Moving Walls
15:30 – 16:00	<i>V. Koliskina, A. Kolyshkin, I. Volodko and H. Kalis</i>	On the Stability of a Convective Motion Generated by a Chemically Reacting Fluid in a Pipe
16:00 – 16:30	<i>V. Koliskina, A. Kolyshkin and I. Volodko</i>	Linear Stability Analysis of Confined Slightly Curved Shallow Mixing Layers
16:30 – 17:00	<i><u>Hafedh Zghidi Maksym Walczak and Adam Świtoński</u></i>	Multispectral Image Segmentation Using Parallel Mean Shift Algorithm And CUDA Technology
17:00 – 17:30	<i>Pavel Balabanov, <u>Daria Liubimova</u>, Alexander Savenkov</i>	The Mathematical Model of Method for Measuring the Thermophysical Properties of the Bulk Layer
17:30 – 18:00	<i>Dawid Czapla and Katarzyna Horbacz</i>	The stability of Markov chains with partially equicontinuous transition structure
18:00 – 18:30	<i><u>Vladimir Astafev and Andrey Kasatkin</u></i>	Numerical Solution of the Moving Boundary-Value Problem Based on the Model of Piston-Like Oil Displacement
18:00 – 18:30	<i><u>Choudhary Arun</u></i>	Wave scattering by a permeable barrier over undulating bed topography

END OF THE 6TH DAY



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29 September 2015 SESSION: General Session CHAIR: Vladislav N. Kovalnogov (ROOM 1)		
09:00 – 09:30	<u>Vladislav N. Kovalnogov,</u> Ruslan V. Fedorov, Dmitry A. Generalov, Yury A. Khakhalev and Aleksandr N. Zolotov	Numerical Research of Turbulent Boundary Layer Based on the Fractal Dimension of Pressure Fluctuations
09:30 – 10:00	<u>Vladislav N. Kovalnogov,</u> Tamara V. Karpukhina and Evgeny A. Korotkov	Mathematic Modeling of the Kinetics of Heat-and-Humidity State of Capillary-Porous Bodies under Convection Drying
10:00 – 10:30	<u>Vladislav N. Kovalnogov,</u> Yuri E. Chamchiyan and Dmitry V. Suranov	Modeling, Research and Development of the System for Optimal Heat Consumption of a Building
10:30 – 11:00	<u>Vladislav N. Kovalnogov,</u> Aleksandr A. Nikiforov and Ruslan V. Fedorov	Modeling and Research of Thermal Aspects of Precision Holes Drilling Quality Assurance
11:00 – 11:30	Coffee Break	



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29 September 2015 SESSION: General Session CHAIR: Magdalena Grygorowicz (ROOM 3)		
09:30 – 10:00	<u>Magdalena Grygorowicz</u> and Jerzy Lewiński	Bending of I-beam with Include the Transvers Shear Effect – FEM Calculated
10:00 – 10:30	<u>Ewa Magnucka-Blandzi</u> and Zbigniew Walczak	Some approximation theorems for a general class of discrete type operators in spaces with a polynomial weight
10:30 – 11:00	<u>Ewa Magnucka-Blandzi</u>	Mathematical modelling of the beam under axial compression force applied at any point – the buckling problem

29 September 2015 SESSION: General Session CHAIR: Josephin Giacomini (ROOM 4)		
09:00 – 09:30	<u>Nadaniela Egidi,</u> <u>Josephin Giacomini</u> and <u>Pierluigi Maponi</u>	Solution Strategies for Finite Elements and Finite Volumes Methods applied to Flow and Heat Transfer Problem in U-shaped Geothermal Exchangers
09:30 – 10:00	<u>M.L. Corradini,</u> <u>M. Garbuglia,</u> <u>P. Maponi</u> and <u>M. Ruggeri</u>	A Scattering Approach to SeaWave Diraction
10:00 – 10:30	<u>F. Kolarik,</u> <u>B. Patzak</u> and <u>J.Zeman</u>	Numerical Modeling of Fresh Concrete Flow through Porous Medium
10:30 – 11:00	<u>Pawan Kumar</u>	Preconditioners based on approximation of non-standard norms for phase separation applications



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29 September 2015 SESSION: General Session CHAIR: Toshihiko Abe (ROOM 5)		
09:00 – 09:30	<i>Uno Hamarik</i>	On Comparison of Accuracy of Approximate Solutions of Operator Equations with Noisy Data
09:30 – 10:00	<i>Toshihiko Abe, Yoshihito Sekine and Kazuo Kikuchi</i>	Generalization of the residual cutting method based on the Krylov subspace
10:00 – 10:30	<i>Yan Wang and Jun Liu</i>	Global Stability for Delay-Dependent HTLV-I Model with CTL Immune Response

29 September 2015 SESSION: General Session CHAIR: K Nandi (ROOM 6)		
09:00 – 09:30	<i>K Nandi, S P Walker and A W Date</i>	High Resolution TVD Schemes for Interface Tracking
09:30 – 10:00	<i>Dimpho Millicent Mothibi</i>	Conservation Laws for Ablowitz-Kaup-Newell-Segur Equation
10:00 – 10:30	<i>Mohamed hassanine Aissa, Tom Verstraete and Cornelis Vuik</i>	Aerodynamic Optimization of Supersonic Compressor Cascade using Differential Evolution on GPU
10:30 – 11:00	<i>Gökhan GÖKDERE and Mehmet GÜRCAN</i>	Measure of Machine Strength by Erlang Distribution



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29 September 2015 SESSION: General Session CHAIR: Barbara Szyszka (ROOM 7)		
09:00 – 09:30	<i>Barbara Szyszka</i>	An Interval Version of Wendroff's method for Solving the Wave Equation
09:30 – 10:00	<i>Godehard Sutmann</i>	Green's function enriched Poisson solver for electrostatics in many-particle systems
10:00 – 10:30	<i>Majak J., Shvartsman B. Pohlak M., Karjust K., Eerme M., Tungel E.</i>	Solution of Fractional Order Differential Equation by the Haar Wavelet Method. Numerical Convergence Analysis for Most Commonly Used Approach
10:30 – 11:00	<i>Lotfi Abdelhakim</i>	Simulation of an Active Cooling System for Photovoltaic Modules

29 September 2015 SESSION: General Session CHAIR: A.F. Pashchenko (ROOM 1)		
11:30 – 12:00	<i>S. Abraham, G. Ghorbaniasl, M. Raisee and C. Lacor</i>	Effect of Geometrical Uncertainties on the Performance of Heat Exchangers Using an Efficient POD-Based Model Reduction Technique
12:00 – 12:30	<i>A.F. Pashchenko and P.G. Ageev</i>	Elastic Waves and Plasma – A New Era of Enhanced Oil Recovery
12:30 – 13:00	<i>Hrushikesh G. Pimpalgaonkar, Volkert van Steijn, Michiel T. Kreutzer and Chris R. Kleijn</i>	Modeling and Simulation of Diffusion-Convection-Reaction in Heterogeneous Nanochannels Using Open FOAM
13:00 – 13:30	<i>Pashchenko A.F., Pashchenko F.F</i>	Advanced Modeling Techniques in Application to Plasma Pulse Treatment



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29 September 2015 SESSION: General Session CHAIR: Jerzy Klamka (ROOM 2)		
11:30 – 12:00	<i>Artur Babiarz and Jerzy Klamka</i>	Controllability of Discrete Linear Time-Varying Fractional System with Constant Delay
12:00 – 12:30	<i>Michal Elias and Jan Dousa</i>	Outlier Detection Using Some Methods of Mathematical Statistic in Meteorological Time-Series
12:30 – 13:00	<i>Simon Ingelsten, Anton Lundberg, Vijay Shankar, Lars-Olof</i>	Virtual Modelling of Turbulent Fibre Flow in a Low Consistency Refiner for a Sustainable and Energy Efficient Process
13:00 – 13:30	<i>J. ŻUREK, R. CZAPLA</i>	Selected Supplies Prognosis Problems of Aviation Techniques

29 September 2015 SESSION: General Session CHAIR: Xin Yu (ROOM 3)		
11:30 – 12:00	<i>Xin Yu, Kuibang Huang and Miao Zheng</i>	Reactive Flow Modeling of Initial Density Effect on Divergence JB-9014 Detonation Driving
12:00 – 12:30	<i>Sasi Gopalan, Linu Pinto, Sheela.C, Arun Kumar M.N</i>	A Mathematical Model of Neuro-Fuzzy Approximation in Image Classification
12:30 – 13:00	<i>Chniti Chokri and Sharefa Eisa Ali Alhazmi</i>	DtN Surface Radiation Conditions For Two-Dimensional Acoustic Scattering



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29 September 2015 SESSION: General Session CHAIR: George Charalampopoulos (ROOM 4)		
11:30 – 12:00	<i>Efraim Shmerling</i>	A Multidimensional Version of the Ziggurat Algorithm
12:00 – 12:30	<i>Ioannis Kassanos, Marios Chrysovergis, John Anagnostopoulos, Dimitris Papantonis and <u>George Charalampopoulos</u></i>	NUMERICAL PERFORMANCE EVALUATION OF DESIGN MODIFICATIONS ON A CENTRIFUGAL PUMP IMPELLER RUNNING IN REVERSE MODE
13:00 – 13:30	<i><u>Miao Zheng</u> and Zhibo Ma</i>	Quantification of Uncertainties for Application in Detonation Simulation

29 September 2015 SESSION: General Session CHAIR: Katsuyuki Nakayama (ROOM 5)		
11:30 – 12:00	<i><u>Katsuyuki Nakayama</u> and Hideki Hasegawa</i>	A Numerical Method of Tracing a Vortical Axis along Local Topological Axis Line
12:00 – 12:30	<i><u>Katsuyuki Nakayama</u>, Lucas Dias Mizushima, Junsuke Murata and Takao Maeda</i>	A Numerical Method for Three-dimensional Vortical Structure of Spiral Vortex in Wind Turbine with Two-Dimensional Velocity Data at Plural Azimuthal Angles
12:30 – 13:00	<i>G. Kosec</i>	Convergence Analysis of WLS based solution of Navier Stokes equation
13:00 – 13:30	<i>Zeynep Fidan KOCAK and <u>Dilara ALTAN KOC</u></i>	Application of Homotopy Perturbation Sumudu Transform Method to Linear and Nonlinear Schrödinger Equations
13:30 – 14:00	<i>J. P. Jaiswal</i>	Semilocal Convergence of a Sixth-Order Method in Banach Spaces and its Computational Efficiency



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29 September 2015 SESSION: General Session CHAIR: Roman Trobec (ROOM 6)		
11:30 – 12:00	<i><u>O. Agafonova</u>, A. Avramenko, A. Chaudhari and A. Hellsten</i>	The Effects of the Canopy Created Velocity Infection in the Wake Development
12:00 – 12:30	<i>Anna Avramenko, <u>Oxana Agafonova</u>, Joonas Sorvari and Heikki Haario</i>	Simulation of depth-integrated flow over a hill
12:30 – 13:00	<i>Roman Trobec</i>	Mechanics of cantilever beam: implementation and comparison of FEM and MLPG approach
13:00 – 13:30	<i>Adam J. Zakrzewski</i>	Multiple precision arithmetic in scientific calculations

29 September 2015 SESSION: General Session CHAIR: Juraj Králik (ROOM 7)		
11:30 – 12:00	<i>Urve Kangro</i>	Analyticity of Solutions of Singular Fractional Differential Equations
12:00 – 12:30	<i><u>Jolanta Pozorska</u> and Zbigniew Pozorski</i>	New Insights into Classical Solutions of the Local Instability of the Sandwich Panels Problem
12:30 – 13:00	<i>Oleg Kalutskov and <u>Liudmila Uvarova</u></i>	The Nonlinear Model for Emergence of Stable Conditions in Gas Mixture in Force Field
13:00 – 13:30	<i>Juraj Králik and Juraj Králik, jr.</i>	Nonlinear Analysis of NPP Safety Against the Aircraft Attack
13:30 – 14:00	<i>Juraj Králik</i>	Probabilistic Safety Assessment of the Design of a Tall Buildings under the Extreme Load



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Poster Session	
Agnieszka Bołtuć and <u>Eugeniusz Zieniuk</u>	The Application of the Galerkin method to solving PIES for Laplace's equation
Andrzej Kuzelewski and <u>Eugeniusz Zieniuk</u>	Open MP for 3D potential boundary value problems solved by PIES
Krzysztof Szerszeń, <u>Eugeniusz Zieniuk</u>	The strategy for numerical solving of PIES without explicit calculation of singular integrals in 2D potential problems
<u>Eugeniusz Zieniuk</u>, Marta Kapturczak and Dominik Sawicki	The NURBS curves in modelling the shape of the boundary in the parametric integral equations systems for solving the Laplace equation

END OF THE 7th DAY
END OF THE CONFERENCE