



**ICNAAM 2013**  
**Rodos Palace Hotel, Rhodes, Greece,**  
**21-27 September 2013**

**PLEASE ATTENTION**

***The Desk of the Conference will be open for Registration, Requests etc the following days and hours:***

<b><u>Friday</u></b>	<b>20/9/13: 17.00 – 20.00</b>
<b><u>Saturday</u></b>	<b>21/9/13: 09:30 – 13:30, 17:00 – 20:30</b>
<b><u>Sunday</u></b>	<b>22/9/13: 09:00–13:00, 17:00 – 20:00</b>
<b><u>Monday</u></b>	<b>23/9/13: 09:30–13:00, 17:30 – 20:30</b>
<b><u>Tuesday</u></b>	<b>24/9/13: 09:30–12:30</b>
<b><u>Wednesday</u></b>	<b>25/9/13 10:00–13:00, 17:00 – 19:00</b>
<b><u>Thursday</u></b>	<b>26/9/13 10:30–13:00, 17:00 – 19:00</b>
<b><u>Friday</u></b>	<b>27/9/13: 10:30–13:00</b>



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**Saturday 21 SEPTEMBER 2013**

**09:50 – 10:00 (ROOM 1)**

**OPENING CEREMONY**

**Professor Dr. T.E. Simos (Chairman) and  
Dr. George Panopoulos  
(Organizing Committee)**

<b>21 September 2013</b>		
<b>SESSION: INVITED SPEAKER</b>		
<b>CHAIR: Klaus Gürlebeck (ROOM 1)</b>		
<b>10:00 – 11:00</b>	<b>Eckhard Hitzer</b>	<b>Extending Fourier transformations to Hamilton's quaternions and Clifford's geometric algebras</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>21 September 2013</b>		
<b>SESSION: The 8th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer-Numerical Fluids Symposium 2013</b>		
<b>CHAIR: Remi Abgrall</b>		
<b>(ROOM 1)</b>		
<b>11:30 – 11:50</b>	<b><u>A. De</u> and <u>S. Acharya</u></b>	<b>Investigation of Flow Structures in Hydrogen-enriched Premixed Combustion</b>
<b>11:50 – 12:10</b>	<b><u>H. Alehossein</u> and <u>Z. Qin</u></b>	<b>Mechanics of Granular-Frictional-Visco-Plastic Fluids in Civil and Mining Engineering</b>
<b>12:10 – 12:30</b>	<b><u>F. Bonelli</u>, <u>A. Viggiano</u> and <u>V. Magi</u></b>	<b>Large Eddy Simulation of High-Density Ratio Hydrogen Jets</b>
<b>12:30 – 12:50</b>	<b><u>M. Chapwanya</u> and <u>J. M-S. Lubuma</u></b>	<b>An Operator Splitting Method for the Advection Diffusion Reaction Equation for Problems in Porous Flow</b>
<b>12:50 – 13:10</b>	<b><u>J. Solsvik</u> and <u>H. A. Jakobsen</u></b>	<b>On the Spectral Methods for Population Balance Problems</b>
<b>Lunch Break</b>		



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<b>21 September 2013</b> <b>SESSION: 10-th Symposium on Clifford Analysis and Applications</b> <b>CHAIR: Klaus Gürlebeck</b> <b>(ROOM 2)</b>		
11:30 – 12:00	<u>Sprößig, Wolfgang,</u>	Some aspects of harmonic analysis in relation with Clifford algebras
12:00 – 12:30	<u>Orelma, Heikki</u>	On Hodge-de Rham systems in Hyperbolic Clifford Analysis
12:30 – 13:00	<u>Furui, Sadataka</u>	E. Cartan's Spinor and the Symmetry of Elementary Particles
<b>Lunch Break</b>		

<b>21 September 2013</b> <b>SESSION: The 3rd Symposium on Advanced Computation and Information in Natural and Applied Sciences</b> <b>CHAIR: Claus-Peter Rückemann</b> <b>(ROOM 3)</b>		
11:30 – 12:00	<u>Claus-Peter Rückemann</u>	High End Computing for Diffraction Amplitudes
12:00 – 12:30	<u>Raffaella Pavani</u>	About characterization of D-stability by a computer algebra approach
12:30 – 13:00	<u>Svetlana V. Maltseva</u>	A new Numerical Approach to the Function Reconstruction Problem from the Ray Transform in Refraction Tomography
<b>Lunch Break</b>		



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<b>21 September 2013</b>		
<b>SESSION: Computational Bioimaging and Visualization</b>		
<b>CHAIR: João Manuel R. S. Tavares and R. M. Natal Jorge</b>		
<b>(ROOM 4)</b>		
<b>11:30 – 12:00</b>	<b><i><u>Hamada R. H. Al-Absia and Brahim Belhaouari Samir</u></i></b>	<b>A Statistical Feature Selection Method for Lung Cancer Classification in CT Scans</b>
<b>12:00 – 12:30</b>	<b><i><u>Hiroyuki Fujii, Yoko Hoshi, Shinpei Okawa, Tetsuya Yoshinaga, Satoru Kohno and Yukio Yamada</u></i></b>	<b>A coupling model of light propagation based on the radiative transfer and diffusion equations</b>

<b>21 September 2013</b>		
<b>SESSION#10: Recent Advances and Current Research on the Difference Equations and its Applications</b>		
<b>CHAIR: Seifedine Kadry</b>		
<b>(ROOM 5)</b>		
<b>11:30 – 12:00</b>	<b><i><u>Seifedine Kadry</u></i></b>	<b>A Closed Form Solution of A System of Linear Difference Equations</b>
<b>12:30 – 13:00</b>	<b><i><u>M. Pospíšil, J. Diblík, M. Fečkan</u></i></b>	<b>Observability of difference equations with a delay</b>



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<b>21 September 2013</b>		
<b>SESSION: Applied and Numerical Mathematics IV</b>		
<b>CHAIR: Tibor Kmet</b>		
<b>(ROOM 6)</b>		
<b>11:30 – 12:00</b>	<b><u>Aline C. Soterroni</u> <u>Roberto L. Galski</u> <i>and Fernando M. Ramos</i></b>	<b>The q-Gradient Method for Continuous Global Optimization</b>
<b>12:00 – 12:30</b>	<b><u>Tibor Kmet</u> <i>and</i> <u>Maria Kmetova</u></b>	<b>Simulation of Photosynthetic Production Using Neural Network</b>
<b>12:30 – 13:00</b>	<b><u>Maria Kmetova</u> <i>and</i> <u>Tibor Kmet</u></b>	<b>Visualization of Some Geometric Relationships with Parallel Coordinates Using GeoGebra</b>

<b>Poster Session (12:00 – 13:00)</b>	
<b><u>Richard Lenhard</u> <i>and</i> <u>Jozef Jandačka</u></b>	<b>Two-Phase Modeling of Interphase Heat Transport from the Condensation to Evaporation Part of the Heat-Pipe</b>



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<b>21 September 2013</b>		
<b>SESSION: Implementation of the Different Type of the Numerical Methods for Caputo's, Riemann- Liouville and Grünwald- Letnikov sense Fractional- Order Differential Equations</b>		
<b>CHAIR: Prof.Dr. Necdet BILDIK (ROOM 7)</b>		
11:30 – 12:00	<i>Hasan Bulut, Yusuf Pandir and Haci Mehmet Baskonus</i>	Symmetrical Hyperbolic Fibonacci Function Solutions of Generalized Fisher Equation with Fractional Order
12:00 – 12:30	<i>Yusuf Pandir and Yusuf Ali Tandoğan</i>	Exact solutions of the time-fractional Fitzhugh-Nagumo Equation
12:30 – 13:00	<i>Duygu Dönmez Demir, B.Gültekin Sınır, Necdet Bildik</i>	The Combination Resonance Analysis for an Axially Moving String
13:00 – 13:30	<i>Yusuf Pandir, Yusuf Güreffe, Emine Mısırlı</i>	A Multiple Extended Trial Equation Method for the Fractional Sharma-Tasso-Olver Equation
13:30 – 14:00	<i>Yusuf Güreffe and Emine Mısırlı</i>	Traveling wave solutions by extended trial equation method



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<b>21 September 2013</b> <b>SESSION: The 8th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer-Numerical Fluids Symposium 2013</b> <b>CHAIR: Gilcilene Sanchez de Paulo</b> <b>(ROOM 1)</b>		
15:00 – 15:20	<b><u>M.G. Cojocaru</u></b>	<b>Hybrid Discretization of Convective Terms for Aeroacoustics</b>
15:20 – 15:40	<b><u>S. Farooq, M. Basha and A. Z. Al-Garni</u></b>	<b>Simulation of Flow around a Thick Airfoil with a Vortex Trapping Cavity</b>
15:40 – 16:00	<b><u>S. Mukhopadhyay, R.J.M. Bastiaans, J.A. van Oijen, L.P.H. de Goey</u></b>	<b>Application of Explicit Convolution to Numerical Modeling of Turbulent Combustion</b>
16:00 – 16:20	<b><u>I. Rusagara and C. Harley</u></b>	<b>Well-Balancing and Relaxation Schemes for the Numerical Investigation of Heat Transfer in One Dimensional Triangular Fins</b>
16:20 – 16:40	<b><u>O. Zavila, M. Bojko, M. Kozubkova, P. Danihelka and L. Malerova</u></b>	<b>CFD Analysis of the Influence of Meteorological Conditions on Motion of Gas Ammonia in the Case of Emergency Release in Urban Development</b>
16:40 – 17:00	<b><u>K.Alhussan, K. Delendik, O.Voitik, O. Penyazkov and N. Kolyago</u></b>	<b>Gas Permeation through Membrane on the Base of Anodic Alumina</b>
<b>Coffee Break</b>		





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<b>21 September 2013</b> <b>SESSION: 10-th Symposium on Clifford Analysis and Applications</b> <b>CHAIR: Helmuth Malonek</b> <b>(ROOM 2)</b>		
15:00 – 15:30	<u>Janovska, Drahoslava</u> ; Opfer, Gerhard	Zero points of general quaternionic polynomials
15:30 – 16:00	<u>Morais, Joao Pedro</u>	Quaternion Zernike Spherical Polynomials
16:00 – 16:30	<u>Schneider, Baruch</u> ; Abreu Blaya, Ricardo; Bory Reyes, Juan	On function theory for the Cimmino system
16:30 – 17:00	<u>Nguyen, Manh Hung</u> ; Gürlebeck, Klaus	On $\psi$ -hyperholomorphic functions in $R^3$
17:00 – 17:30	<b>Coffee Break</b>	

<b>21 September 2013</b> <b>SESSION: Dynamic System Analysis with Continuous and Switching input Applied to Mathematical Ecology</b> <b>CHAIR: Magno Enrique Mendoza Meza</b> <b>(ROOM 3)</b>		
15:00 – 15:30	<i>Alessandra De Rossi, Ilaria Ferrua, Emma Perracchione, Giulia Ruatta, <u>Ezio Venturino</u></i>	Competition models with niche for squirrel population dynamics
15:30 – 16:00	<i><u>Magno Enrique Mendoza Meza</u></i>	Variant of Wodarz and Nowak's virus dynamics model subject to switching input
16:00 – 16:30	<i><u>Massimo Materassi, Stefano Focardia, Giacomo Innocenti, Duccio Berzi</u></i>	A Model of Predator-Prey Multi-Trophic System with Klepto-Parasitism



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<b>21 September 2013</b> <b>SESSION: Applied and Numerical Mathematics II</b> <b>CHAIR: V. Ruas</b> <b>(ROOM 5)</b>		
15:00 – 15:30	<i>G. Buscaglia and <u>V. Ruas</u></i>	Finite Element Methods for Viscous Incompressible Flow with Interface Pressure Jumps
15:30 – 16:00	<i><u>Yu Ping Li</u>, Fook Hou Lee, Jiang Tao Yi, Xi Ying Zhang and Siang Huat Goh</i>	Effective-Stress Finite Element Analysis of Spudcan Penetration with Lattice Leg in Clay
16:00 – 16:30	<i>V. Ruas and <u>P. Trales</u></i>	A Hermite Finite Element Method for Convection-diffusion Equations
16:30 – 17:00	<i>Sergey Shindin and <u>Nabendra Parumasur</u></i>	Numerical Solution of a KDV model using Laguerre function

<b>21 September 2013</b> <b>SESSION: Applied and Numerical Mathematics V</b> <b>CHAIR: Jiang Tao Yi</b> <b>(ROOM 6)</b>		
15:00 – 15:30	<i><u>Jiang Tao Yi</u>, Fook Hou Lee, Yu Ping Li, Xi Ying Zhang and Siang Huat Goh</i>	A Two-phase Coupled Eulerian-Lagrangian FEM for Offshore Spudcan Analysis
15:30 – 16:00	<i><u>Ch. Tsitouras</u></i>	Trigonometric fitted Runge-Kutta-Nyström pair of orders 6(4)
16:00 – 16:30	<i><u>Ch. G. Massouros</u> and G. G. Massouros</i>	On Subhypergroups of Fortified Transposition Hypergroups
16:30 – 17:00	<i><u>Ch. G. Massouros</u></i>	Isomorphism Theorems in Fortified Transposition Hypergroups



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<b>21 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Bjorn Engquist</b> <b>(ROOM 1)</b>		
<b>17:30 – 18:30</b>	<b>Gabriel Lord</b>	<b>Numerical Computation of Stochastic Travelling Waves</b>

<b>21 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Gabriel Lord</b> <b>(ROOM 1)</b>		
<b>18:30 – 19:30</b>	<b>Bjorn Engquist</b>	<b>Multiscale simulations of dynamical systems with oscillatory solutions</b>

<b>21 September 2013</b> <b>SESSION: Applied and Numerical Mathematics I</b> <b>CHAIR: Igor Averbakh</b> <b>(ROOM 1)</b>		
<b>19:35 – 20:05</b>	<b><i>Igor Averbakh and Jorge Pereira</i></b>	<b>Network Construction / Restoration Problems</b>



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<b>21 September 2013</b> <b>SESSION: 10-th Symposium on Clifford Analysis and Applications</b> <b>CHAIR: Joao Morais</b> <b>(ROOM 2)</b>		
19:35 – 20:05	<u><i>Abramov, Viktor</i></u>	Graded q-Differential Matrix Algebra
20:05 – 20:35	<u><i>Di Teodoro, Antonio</i></u>	Necessary and Sufficient Conditions for Associated q-generalized Differential Operators in Quaternionic Analysis and Applications to Initial Value Problems
20:35 – 21:05	<u><i>Vanegas, Carmen</i></u> <u><i>Judith</i></u>	Initial value problems in Clifford analysis

<b>21 September 2013</b> <b>SESSION: Quasi-Power Laws in Physics and Elsewhere</b> <b>CHAIR: Z.Wlodarczyk</b> <b>(ROOM 3)</b>		
19:35 – 20:05	<u><i>G. Wilk,</i></u> <i>Z.Wlodarczyk</i>	On possible origins of power-law distributions

<b>21 September 2013</b> <b>SESSION: The Diffusion Equation: Its Basic Aspects and Contemporary Applications</b> <b>CHAIR: F. E. M. Silveira</b> <b>(ROOM 4)</b>		
19:35 – 20:05	<u><i>F. E. M. Silveira</i></u>	Magnetic Diffusion and Current Relaxation



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<b>21 September 2013</b> <b>SESSION: Applied and Numerical Mathematics III</b> <b>CHAIR: Zdeněk Kala</b> <b>(ROOM 5)</b>		
19:35 – 20:05	<i>Samad Gharehdaghi and <u>Samir Moujaes</u></i>	Numerical Characterization of the Hydrodynamics and Thermal Behavior of Air Flow in Flexible Air Distribution System
20:05 – 20:35	<i><u>Zdeněk Kala</u></i>	Stochastic Analysis of the Lateral-Torsional Buckling Resistance of Steel Beams with Random Imperfections
20:35 – 21:05	<i><u>Patrik Nemeč</u>, Milan Malcho, Jozef Jandačka</i>	Experimental Measurement and Mathematical Calculation Evaporator Temperatures of Closed Loop Thermosyphon
21:05 – 21:35	<i><u>M. Gitterman</u> and D. Kessler</i>	Mass-dependent Instability of an Oscillator with Additive and Multiplicative Random Forces

<b>21 September 2013</b> <b>SESSION: Applied and Numerical Mathematics VI</b> <b>CHAIR: Aline C. Soterroni</b> <b>(ROOM 6)</b>		
19:35 – 20:05	<i><u>Feijian Ye</u>, Siang Huat Goh and Fook Hou Lee</i>	Solving the Wave Propagation in Fully Saturated Porous Media Using Dual Mesh Method
20:05 – 20:35	<i><u>Aline C. Soterroni</u> and Fernando M. Ramos (20-27)</i>	Size Segregation in the Brazil Nut Effect
20:35 – 21:05	<i><u>Peter Ďurčanský</u> and Richard Lenhard and Jozef Jandačka</i>	HEAT Exchanger Design for Hot Air Ericsson-Brayton Piston Engine

**END OF THE 1<sup>ST</sup> DAY**



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<b>22 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Luigi Brugnano</b> <b>(ROOM 1)</b>		
<b>09:00 – 10:00</b>	<b><u>Nicola Guglielmi</u></b> <b>and Manuela</b> <b>Manetta</b>	<b>A Novel Method to</b> <b>Approximate Structured</b> <b>Stability Radii as</b>

<b>22 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Gabriel Lord</b> <b>(ROOM 1)</b>		
<b>10:00 – 11:00</b>	<b>Uri Ascher</b>	<b>When <math>\ell_1</math>-based</b> <b>Regularization is Great,</b> <b>and when it's Not</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>22 September 2013</b> <b>SESSION: The 8th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer-Numerical Fluids Symposium 2013</b> <b>CHAIR: Dia Zeidan</b> <b>(ROOM 1)</b>		
<b>11:30 – 12:30</b>	<b>Invited lecture</b> <b>Professor Remi Abgrall</b> <b>On the Numerical Approximation of Some Compressible Multiphase Systems</b>	
<b>12:30 – 12:50</b>	<u><i>M. Kato, Y. Iso, J. Huang and S. Matsuno</i></u>	<b>Effect of Surface Texture and Liquid Property on the Liquid Film Flow on an Inclined Wall</b>
<b>12:50 – 13:10</b>	<u><i>M.L. Niculescu and S. Danaila</i></u>	<b>Comparative Study of Upwind Schemes for Transonic and Supersonic Internal Flows</b>
<b>13:10 – 13:30</b>	<u><i>T. Neustupa</i></u>	<b>Incompressible Viscous Stationary Flow Through a Cascade of Profiles - Existence of a Weak Solution, Transferability of Results From One Period Back to Original Infinite Domain</b>
<b>13:30 – 13:50</b>	<u><i>M. de' MichieliVitturi, G. La Spina and E. Romenski</i></u>	<b>A Compressible Single Temperature Conservative Two-Phase Model with Phase Transitions</b>
<b>Lunch Break</b>		



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<b>22 September 2013</b> <b>SESSION: 10-th Symposium on Clifford Analysis and Applications</b> <b>CHAIR: Eckard Hitzer</b> <b>(ROOM 2)</b>		
<b>11:30 – 12:00</b>	<b><u>Sommen, Frank</u></b>	<b>Clifford Superanalysis</b>
<b>12:00 – 12:30</b>	<b><u>Malonek, Helmuth</u></b>	<b>About Pascal's tetrahedron with hypercomplex entries</b>
<b>12:30 – 13:00</b>	<b><u>McClellan, Gene E.</u></b>	<b>The Legendre Transformation in Geometric Calculus</b>
<b>Lunch Break</b>		

<b>22 September 2013</b> <b>SESSION: Turbulent Flows: Modeling and Solution Algorithms</b> <b>CHAIR: Mine Çağlar</b> <b>(ROOM 2)</b>		
<b>13:00 – 13:30</b>	<b><i><u>Rukiye Kara, Mine Çağlar</u></i></b>	<b>A Statistical Subgrid Scale Model for Large Eddy Simulations</b>
<b>13:30 – 14:00</b>	<b><i><u>Reza Mokhtarpour, Shabrina Virta Inma, Metin Muradoglu</u></i></b>	<b>A New Consistent Hybrid Algorithm for Solution of the PDF Equations of Turbulent Reactive Flow</b>





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<b>22 September 2013</b>		
<b>SESSION: Numerical Optimization and Applications</b>		
<b>CHAIR: Ana I Pereira and M. Fernanda Costa</b>		
<b>(ROOM 3)</b>		
<b>11:30 – 12:00</b>	<b>David Bento, Diana Pinho, <u>Ana I. Pereira</u> and Rui Lima</b>	<b>Genetic Algorithm and Particle Swarm Optimization combined with Powell Method</b>
<b>12:00 – 12:30</b>	<b><u>M. Fernanda P. Costa</u>, Ana Maria A.C. Rocha and Edite M.G.P. Fernandes</b>	<b>Hooke and Jeeves Based Multilevel Coordinate Search to Globally Solving Nonsmooth Problems</b>



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<b>22 September 2013</b> <b>SESSION: 3rd Symposium on Computer Languages, Implementations, and Tools (SCLIT 2013)</b> <b>CHAIR: Zoran Budimac</b> <b>(ROOM 4)</b>		
<b>11:30 – 11:50</b>	<b><u>SCLIT team</u></b>	Welcome talk
<b>11:50 – 12:10</b>	<b><u>Tomas Skersys,</u> <u>Rimantas Butleris</u> <i>and</i> <b><u>Kestutis Kapocius.</u></b></b>	Extracting Business Vocabularies from Business Process Models: SBVR and BPMN Standards-based Approach
<b>12:10 – 12:30</b>	<b><u>Aleksandar</u> <u>Jevremović,</u> <u>Nenad Ristić</u> <i>and</i> <b><u>Mladen Veinović.</u></b></b>	Using Cryptology Models for Protecting PHP Source Code
<b>12:30 – 12:50</b>	<b><u>Dragan Macos</u> <i>and</i> <b><u>Andreas Solymosi.</u></b></b>	ScaMo: Realisation of an OO-functional DSL for Cross Platform Mobile Applications Development
<b>12:50 – 13:10</b>	<b><u>Sasa Tasic,</u> <u>Dejan Mitrovic</u> <i>and</i> <b><u>Mirjana Ivanovic.</u></b></b>	Agent planning in AgScala
<b>13:10 – 13:30</b>	<b><u>Gordana Rakic,</u> <u>Zoran Budimac and</u> <b><u>Klaus Bothe.</u></b></b>	Introducing Recursive Complexity
<b>Lunch Break</b>		



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<b>22 September 2013</b> <b>SYMPOSIUM: Dynamics of Complex Systems &amp; Networks:</b> <b>Modelling, Computational Analysis and Control</b> <b>CHAIR: Constantinos Siettos</b> <b>(ROOM 5)</b>		
<b>11:30 – 12:00</b>	<b><u>Lucia Russo</u> and Erasmus Mancusi</b>	<b>Devil's staircases in loop networks with symmetry locking</b>
<b>12:00 – 12:30</b>	<b><u>Lucia Russo</u>, Silvestro Crescitelli and Antonio Brasiello</b>	<b>Bifurcations of limit cycles in open and closed loop reverse flow reactors</b>
<b>12:30 – 13:00</b>	<b>Foteini Protopapa, Dimitris Mylonas, Nikolaos Smyrnis and <u>Constantinos Siettos</u></b>	<b>A Coarse-grained Analysis of the Functional Brain Connectivity from EEG recordings of a Visuo- Perceptual Discrimination task</b>
<b>Lunch Break</b>		



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<b>22 September 2013</b> <b>SESSION: Symposium on Computational Modeling of Transport Processes in Building Materials and their Multi- Layered Systems</b> <b>CHAIR: Jiří Vala</b> <b>(ROOM 6)</b>		
<b>11:30 – 12:00</b>	<b>Václav Kočí, Jiří Maděra and <u>Robert</u> <u>Černý</u></b>	<b>Deterministic Physical and Mathematical Models of Coupled Heat, Moisture and Salt Transport in Multi- layered Systems of Building Materials</b>
<b>12:00 – 12:30</b>	<b><u>Václav Kočí</u> and Robert Černý</b>	<b>Comparison of Computational Methods for Estimation of Energy Balance of Building Envelopes</b>
<b>12:30 – 13:00</b>	<b>Václav Kočí, <u>Jiří</u> <u>Maděra</u> and Robert Černý</b>	<b>Computational Model of Coupled Heat, Moisture and Salt Transport in Multi- layered Building Structures: Implementation of the Deterministic Physical Model and Example of Application</b>
<b>Lunch Break</b>		



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<b>22 September 2013</b> <b>SESSION: Mathematical Problems in Engineering</b> <b>MPE 2013</b> <b>CHAIR: Cristina Milazzo</b> <b>(ROOM 7)</b>		
<b>11:30 – 12:00</b>	<b><u>V.K. Kukreja and</u></b> <b><u>Ishfaq A. Ganaie</u></b>	<b>A Novel Numerical Scheme of Cubic Hermite Spline Collocation Method for Solving Burgers' Equation</b>
<b>12:00 – 12:30</b>	<b><u>V. Romano and</u></b> <b><u>G. Mascali</u></b>	<b>A macroscopic model for electron transport in silicon using analytic descriptions for both the electron bands and the phonon dispersion relations</b>
<b>12:30 – 13:00</b>	<b><u>V. Romano and</u></b> <b><u>V. D.Camiola</u></b>	<b>Simulation of charge transport in graphene nano-ribbons with a model based on MEP</b>
<b>Lunch Break</b>		



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<b>22 September 2013</b>		
<b>SESSION: State of the Art of Modeling, Numerical Analysis and Design, Optimizing the Performances, Controls of Wind Turbines and Hybrid Renewable Energy Systems</b>		
<b>CHAIR: Alexandru Dumitrache &amp; Florin Frunzulica (ROOM 8)</b>		
<b>11:30 – 12:00</b>	<b><u>Andreea BOBONEA</u></b> <i>M.V.Pricop</i>	<b>Design of Horizontal-Axis Wind Turbine Using Blade Element Momentum Method</b>
<b>12:00 – 12:30</b>	<b><u>S. G. Constantinescu</u>,</b> D. E. Crunteanu and M. L. Niculescu	<b>Aerodynamic Study of a Stall Regulated Horizontal-Axis Wind Turbine</b>
<b>12:30 – 13:00</b>	D.E. Crunteanu, S.G. Constantinescu and <b><u>M.L. Niculescu</u></b>	<b>Aerodynamic Study of a Blade with Sine Variation of Chord Length along the height for Darrieus Wind Turbine</b>
<b>Lunch Break</b>		



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<b>22 September 2013</b>		
<b>SESSION: Finite Volume Formulation and Its Applications</b>		
<b>CHAIR: Shicheng Xue</b>		
<b>(ROOM 9)</b>		
<b>11:30 – 12:00</b>	<b>Gilmar Mompean</b>	<b>Numerical study of a viscoelastic fluid in the output region of curved duct using a finite volume method.</b>
<b>12:00 – 12:30</b>	<b>Shicheng Xue</b>	<b>Incompressible flow simulations without explicit boundary conditions at any open boundary.</b>
<b>12:30 – 13:00</b>	<b>Negar Daemi</b>	<b>Comparison of different schemes for convection modeling of incompressible flow equations on unstructured grids</b>
<b>Lunch Break</b>		



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<b>22 September 2013</b>		
<b>SESSION: Mathematical Modelling of Economic Systems</b>		
<b>CHAIR: David Hampel</b>		
<b>(ROOM 10)</b>		
<b>11:30 – 11:50</b>	<b><u>Jakub Odehnal</u></b>	<b>Application of Classification Methods in Assessment of NATO Member Countries' Economic, Security and Political Risks</b>
<b>11:50 – 12:10</b>	<b><i>Tomas Vanek, Anna Dobesova, <u>David Hampel</u></i></b>	<b>Selected aspects of modelling monetary transmission mechanism by BVAR model</b>
<b>12:10 – 12:30</b>	<b><u>Ladislava Grochova,</u> <i>Klara Plecita</i></b>	<b>On Exchange Rate Misalignments in the Eurozone's Peripheral Countries</b>
<b>12:30 – 12:50</b>	<b><u>Lubos Strelec,</u> <i>Ladislava Grochova,</i> <i>Pavel Kolman</i></b>	<b>On power comparison of normality tests of error terms in regression models</b>
<b>12:50 – 13:00</b>	<b><i>Zuzana Hubnerova,</i> <u>Lucie Doudova</u></b>	<b>Properties of some test of equality of two negative binomial samples</b>
<b>Lunch Break</b>		





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<b>22 September 2013</b> <b>SESSION: Computational and Analytical Techniques for Solving Coupled Multiphysics Problems</b> <b>CHAIR: Youhe Zhou</b> <b>(ROOM 11)</b>		
<b>11:30 – 12:00</b>	<b><i>Xiaofan Gou, Justin Schwartz</i></b>	<b>Fractal-based Modeling of the Stress-strain Relation of Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>x</sub>/AgMg Superconducting Round Wires</b>
<b>12:00 – 12:30</b>	<b><i>Linli Zhu, Jie Wang</i></b>	<b>Strain/Stress-Engineering in Phonon Properties of Stressed Semiconductor Nanowires</b>
<b>12:30 – 13:00</b>	<b><i>Huadong Yong, Youhe Zhou</i></b>	<b>On Electromechanical Instability in Semicrystalline Polymer</b>
<b>Lunch Break</b>		

<b>22 September 2013</b> <b>SESSION: Wavelets and related multiscale methods</b> <b>CHAIR: Eugene B. Postnikov</b> <b>(ROOM 12)</b>		
<b>11:30 – 12:00</b>	<b><i>Eugene B. Postnikov</i></b>	<b>Localization of wavelet-spectral components via the spline-smoothing approach</b>
<b>12:00 – 12:30</b>	<b><i>Anastasia I. Lavrova</i></b>	<b>Wavelet analysis of location and intensity of spatial rhythms in hippocampus</b>
<b>12:30 – 13:00</b>	<b><i>Elena A. Lebedeva</i></b>	<b>Localization of Functions Defined on Cantor Group</b>
<b>Lunch Break</b>		



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<b>22 September 2013</b> <b>SESSION: The 8th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer-Numerical Fluids Symposium 2013</b> <b>CHAIR: Robert Woolley</b> <b>(ROOM 1)</b>		
15:00 – 15:20	<b><u>E. Goncalves</u></b>	Numerical Simulation of Cavitating Flows Based on Preconditioning Technique
15:20 – 15:40	<b><u>Jithin M, Shubham, A. De and M.K. Das</u></b>	Unsteady Behavior of High Re Flow in Lid Driven Rectangular Cavities Using LBM
15:40 – 16:00	<b><u>A. Tucs, S. Spitans, A. Jakovics and E. Baake</u></b>	Implementation and Verification of Numerical Model for Gas Bubble Dynamics in Electroconductive Fluid
16:00 – 16:20	<b><u>S. I. Bernad, A. Totorean, A. Bosioc, R. Stanciu and E. S. Bernad</u></b>	Numerical Investigation of Dean Vortices in a Curved Pipe
16:20 – 16:40	<b><u>A. Starostin, B. Krasnopolsky, B. Krasnopolsky and A. Osiptsov</u></b>	Combined Multi-Fluid and Drift-Flux Approaches for Analysis of Pipe Flows
16:40 – 17:00	<b><u>G.S. Paul, C.M. Oishi and M.F. Tome</u></b>	A Numerical Study of the FENE-CR Model Applied to a Jet Flow Problem
<b>Coffee Break</b>		



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<b>22 September 2013</b> <b>SESSION: 10-th Symposium on Clifford Analysis and Applications</b> <b>CHAIR: Carmen Vanegas</b> <b>(ROOM 2)</b>		
<b>15:00 – 15:30</b>	<b><u>Klimek, Mariusz;</u> <b>Schoeps, Sebastian;</b> <b>Weiland, Thomas</b></b>	<b>Discretization of Maxwell's Equations in the Setting of Geometric Algebra</b>
<b>15:30 – 16:00</b>	<b><u>Oviedo Galdeano, Hector;</u> <b>Kravchenko, Vladislav V.;</b> <b>Rabinovich, Vladimir S.</b></b>	<b>Analysis of Electromagnetic fields from moving modulated sources in dispersive chiral media applying quaternionic analysis and the two-dimensional stationary phase method</b>
<b>16:00 – 16:30</b>	<b><u>Hitzer, Eckhard</u></b>	<b>The quest for conformal geometric algebra Fourier transformations</b>
<b>16:30 – 17:00</b>	<b><u>Klaus Gürlebeck</u></b>	<b>Representation formulas for the Lamé-Navier equations</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>22 September 2013</b>		
<b>SESSION: Numerical Optimization and Applications</b>		
<b>CHAIR: Ana I Pereira and M. Fernanda Costa</b>		
<b>(ROOM 3)</b>		
15:00 – 15:20	Florbela P. Fernandes, <u>M. Fernanda P. Costa</u> , Edite M.G.P. Fernandes and Ana Maria A.C. Rocha	Multistart Hooke and Jeeves Filter Method for Mixed Variable Optimization
15:20 – 15:40	<u>Soraia Carvalho</u> and Ana I. Pereira	Characterization of Feet Temperature
15:40 – 16:00	<u>Vânia Rodrigues</u> , Pedro J. Rodrigues, Ana I. Pereira and Rui Lima	Automatic tracking of red blood cells in microchannels using OpenCV
16:00 – 16:20	<u>Ana Curralo</u> , Ana I. Pereira, José Barbosa and Paulo Leitão	Sensibility Study in a Flexible Job Shop Scheduling Problem
16:20 – 16:40	<u>M.F. Teodoro</u>	On the Approximation of a Small Solution from a Forward-Backward Equation
16:40 – 17:00	E. Costa e Silva, J. P. Araújo, D. Machado, <u>M. F. Costa</u> , W. Erhagen and E. Bicho	Generating Human-like Movements on an Anthropomorphic Robot using an Interior Point Method
17:00 – 17:30	<b>Coffee Break</b>	



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<b>22 September 2013</b>		
<b>SESSION: 3rd Symposium on Computer Languages, Implementations, and Tools (SCLIT 2013)</b>		
<b>CHAIR: Mirjana Ivanović (ROOM 4)</b>		
<b>15:00 – 15:20</b>	<b><u>Marcel Jirina,</u> <u>Said Krayem</u> <i>and</i> <b><u>Marcel Jirina Jr.</u></b></b>	<b>Adapting GNU Random Forest program for Unix and Windows</b>
<b>15:20 – 15:50</b>	<b><u>Zalán Szűgyi</u> <i>and</i> <b><u>Attila Góbi.</u></b></b>	<b>STL Conform Infinite Streams</b>
<b>15:50 – 16:10</b>	<b><u>Christos</u> <u>Malliarakis,</u> <i>Maya Satratzemi</i> <i>and</i> <b><u>Stelios Xinogalos.</u></b></b>	<b>Towards optimizing server performance in an educational MMORPG for teaching computer programming</b>
<b>16:10 – 16:30</b>	<b><u>Mirjana Ivanovic</u> <i>and</i> <b><u>Zoran Budimac.</u></b></b>	<b>First Programming Language - Never-ending Story</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>22 September 2013</b>		
<b>SESSION: Highlights in Copula Modeling</b>		
<b>CHAIR: V. A. González-López (University of Campinas - Brazil)</b>		
<b>(ROOM 5)</b>		
<b>15:00 – 15:30</b>	<b><u>M. Fernández</u> and <u>V. A. González-López</u></b>	A copula model to analyze minimum admission scores
<b>15:30 – 16:00</b>	<b><u>M. A. P. Franco</u>, <u>M. L. L. Viola</u> and <u>L. E. B. Salasar</u></b>	Creating new copula models from given distributions
<b>16:00 – 16:30</b>	<b><u>Jesús E. García</u> and <u>M. Fernández</u></b>	Copula based model correction for bivariate Bernoulli financial series
<b>16:30 – 17:00</b>	<b><u>M. Fernández</u> and <u>V. A. González-López</u></b>	A Bayesian approach for convex combination of two Gumbel-Barnett copulas
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>22 September 2013</b>		
<b>SESSION: Symposium on Computational Modeling of Transport Processes in Building Materials and their Multi-Layered Systems</b>		
<b>CHAIR: Jiří Maděra (ROOM 6)</b>		
<b>15:00 – 15:30</b>	<b><u>Jan Kočí</u>, Jiří Maděra and Robert Černý</b>	A method for selection of a critical weather year for hygrothermal simulation based on incomplete weather data
<b>15:30 – 16:00</b>	<b><u>Kamil Ďurana</u>, Lukáš Fiala, Jiří Maděra, Robert Černý</b>	A material database for computational models of heat, moisture, salt and momentum transport: construction of the code as an input module and example of application
<b>16:00 – 16:30</b>	<b><u>J. Vala</u> and P. Jarošová</b>	Identification of the capillary transfer coefficient in porous building materials
<b>16:30 – 17:00</b>	<b><u>L. Škripková</u></b>	Capillary transfer coefficient of polynomial type in the diffusion equation
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>22 September 2013</b> <b>SESSION: Mathematical Problems in Engineering</b> <b>MPE 2013</b> <b>CHAIR: Andrea Alaimo</b> <b>(ROOM 7)</b>		
<b>15:00 – 15:30</b>	<b><u>M. Ruggieri</u></b> <b>and M.P. Speciale</b>	Quasi Self-adjoint Coupled KdV-like Equations
<b>15:30 – 16:00</b>	<b><u>R. E. Barone, V. Salerno</u></b> <b>and S. M. Siniscalchi</b>	An Introductory Study on Deep Neural Networks for High Resolution Aerial Images
<b>16:00 – 16:30</b>	<b><u>V. Artale, M. Collotta,</u></b> <b>G. Pau and A. Ricciardello</b>	Hexacopter trajectory control using a Neural Network
<b>16:30 – 17:00</b>	<b><u>M. Mangiameli,</u></b> <b>G. Muscato and G. Mussumeci</b>	Road Network Modelling In Open Source Gis To Manage The Navigation Of Autonomous Robots
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	





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<b>22 September 2013</b>		
<b>SESSION: New Methods for Modeling and Control of Flexible Structures and Robots</b>		
<b>Chair: Laura Celentano</b>		
<b>(ROOM 8)</b>		
<b>15:00 – 15:20</b>	<b><u>Laura Celentano</u></b>	<b>An Easy and Efficient Method for Flexible Robots Modeling and Simulation</b>
<b>15:20 – 15:40</b>	<b><u>Laura Celentano</u></b>	<b>New Wavelet Functions for Realistic Flexible Robots Modeling</b>
<b>15:40 – 16:00</b>	<b><u>D.P. Coiro,</u> <u>E. Daniele,</u> <u>F. Scherillo</u></b>	<b>Effects of Structure Flexibility on Horizontal Axis Wind Turbine Performances</b>
<b>16:00 – 16:20</b>	<b><u>Fabio De Angelis,</u> <u>Donato Cancellara,</u> <u>Mariano Modano,</u> <u>Mario Pasquino</u></b>	<b>Numerical Issues in the Plastic Behavior of Solids</b>
<b>16:20 – 16:40</b>	<b><u>Cesare Rossi,</u> <u>Sergio Savino</u></b>	<b>Mechanical Model of a Single Tendon Finger</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>22 September 2013</b> <b>SESSION: Finite Volume Formulation and Its Applications</b> <b>CHAIR: Shicheng Xue</b> <b>(ROOM 9)</b>		
<b>15:00 – 15:30</b>	<b>Timur Z. Ismagilov</b>	<b>Second-order scheme for Maxwell's equations with discontinuous dielectric permittivity on structured meshes</b>
<b>15:30 – 16:00</b>	<b>Khoshlessan, Mahzad</b>	<b>Evaluation of a control-volume based finite-element collocated scheme for the solution of external steady and unsteady incompressible flows at low Reynolds Numbers</b>
<b>16:00 – 16:30</b>	<b>Timur Z. Ismagilov</b>	<b>Modeling photonic crystal waveguides using second-order scheme on structured meshes</b>



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<b>22 September 2013</b>		
<b>SESSION: Mathematical Modelling of Economic Systems</b>		
<b>CHAIR: Ladislava Grochova</b>		
<b>(ROOM 10)</b>		
15:00 – 15:20	<i><u>Pavel Kolman,</u></i> <i><u>Lubos Strelec</u></i>	Time minimizing transportation of calamity fallen timber
15:20 – 15:40	<i><u>Katerina Myskova,</u></i> <i><u>Jaroslav Zak</u></i>	Modelling of Wildlife Migrations and its Economic Impacts
15:40 – 16:00	<i><u>Ladislava Grochova,</u></i> <i><u>Lubos Strelec</u></i>	Performance of the OLS estimator in presence of autocorrelation
16:00 – 16:20	<i><u>Martina Zamkova,</u></i> <i><u>Veronika Blaskova</u></i>	Identification of factors affecting birth rate in Czech Republic
16:20 – 16:40	<i><u>Jitka Janova, David</u></i> <i><u>Hampel</u></i>	Optimal control of a harmonic oscillator: economic interpretations
17:00 – 17:30	<b>Coffee Break</b>	



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<b>22 September 2013</b> <b>SESSION: Computational and Analytical Techniques for Solving Coupled Multiphysics Problems</b> <b>CHAIR: Jizeng Wang</b> <b>(ROOM 11)</b>		
<b>15:00 – 15:30</b>	<b><i><u>Zhaoxia Zhang, Wen Chen, Xiaofan Gou</u></i></b>	<b>Analysis of Thermal Residual Strain in Bi2223 Superconductor Composite Tapes</b>
<b>15:30 – 16:00</b>	<b><i><u>Jie Wang, Linli Zhu</u></i></b>	<b>Phase Field Simulation on the Domain Evolution of Ferromagnetic Materials</b>
<b>16:00 – 16:30</b>	<b><i><u>Feng Xue, Youhe Zhou</u></i></b>	<b>Effect of Strain on Critical Current Density in Grain Boundaries of Superconductors</b>
<b>16:30 – 17:00</b>	<b><i><u>Xiaojing Liu, Jizeng Wang, Youhe Zhou</u></i></b>	<b>A Wavelet Method for Solving Coupled Viscous Burgers' Equations</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>22 September 2013</b>		
<b>SESSION: Physical-Chemical Gas-Dynamics: Non-Equilibrium Processes Modeling and Simulation</b>		
<b>CHAIR: Yuriy Gorbachev (ROOM 12)</b>		
<b>15:00 – 15:30</b>	<b>Evgeniy Kolesnichenko, <u>Yuriy Gorbachev</u></b>	Physical-chemical gas-dynamics: challenges and solutions
<b>15:30 – 16:00</b>	<b>Felix G. Tcheremissine</b>	Numerical Analysis of 3D Rarefied Supersonic Jet of Molecular Nitrogen on the Base of the Generalized Boltzmann Equation
<b>16:00 – 16:30</b>	<b><u>Vladimir Aristov</u>, Anna Frolova, Sergei Zabelok</b>	Kinetics with Chemical Reactions and Nonequilibrium Structures in Open Systems
<b>16:30 – 17:00</b>	<b>Nikita Petrov, <u>Alexander Schmidt</u></b>	Non-equilibrium Bubble Nucleation in Underwater Explosion Non-equilibrium Bubble Nucleation in Underwater Explosion
<b>17:00 – 17:30</b>	<b>Alexander A. Shevyrin, Yevgeniy A. Bondar, <u>Mikhail S. Ivanov</u></b>	Validation of DSMC Chemistry Models against RAM-C II Flight Experiment Data
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>22 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Wolfgang Sprößig</b> <b>(ROOM 1)</b>		
<b>17:30 – 18:30</b>	<b>Joao Pedro Morais</b>	<b>A Version of Quaternionic Function Theory Related to Prolate Spheroidal Wave Signals</b>

<b>22 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Joao Pedro Morais</b> <b>(ROOM 1)</b>		
<b>18:30 – 19:30</b>	<b>Paul G. Mezey</b>	<b>Molecular Modeling: An Open Invitation for Applied Mathematics</b>

<b>22 September 2013</b> <b>SESSION: 10-th Symposium on Clifford Analysis and Applications</b> <b>CHAIR: Viktor Abramov</b> <b>(ROOM 2)</b>		
<b>19:35 – 20:05</b>	<u>Bujack, Roxana</u> , Gerik Scheuermann, Eckhard Hitzer	<b>Demystification of the Geometric Fourier Transforms</b>
<b>20:05 – 20:35</b>	<u>Yu, Zhaoyuan</u>	<b>Clifford Algebra-based Spatio- temporal Modelling and Analysis for Complex Geo- simulation</b>
<b>20:35 – 21:05</b>	<u>Legatiuk, Dmitrii</u> ; Bock, Sebastian; Gürlebeck, Klaus	<b>On the convergence of the finite element method with holomorphic function</b>
<b>21:05 – 21:35</b>	<u>Schmeikal, Bernd</u>	<b>Feynman's little arrows in the Clifford algebra of spacetime</b>



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<b>22 September 2013</b> <b>SESSION: Advancing Mathematics for Stochastic Simulations</b> <b>on Extreme Scales</b> <b>CHAIR: Rick Archibald</b> <b>(ROOM 3)</b>		
<b>19:35 – 20:05</b>	<b><u>Guannan Zhang, Dan Lu, Ming Ye, Max Gunzburger, and Clayton Webster</u></b>	<b>An Efficient Surrogate Modeling Approach in Bayesian Uncertainty Analysis</b>
<b>20:05 – 20:35</b>	<b><u>Akil Narayan</u></b>	<b>Sampling high dimensional optimal measures</b>
<b>20:35 – 21:05</b>	<b><u>Rick Archibald</u></b>	<b>Error estimation in high dimensional space for stochastic collocation methods on arbitrary sparse samples</b>



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<b>22 September 2013</b> <b>SESSION: Symposium on Dynamical systems applied to Robotics</b> <b>CHAIR: Cristina P Santos</b> <b>(ROOM 4)</b>		
19:35 – 20:05	<u><i>Miguel Oliveira,</i></u> <u><i>Cristina P. Santos</i></u> <u><i>and Lino Costa</i></u>	Innovization Procedure applied to a Multi-objective Optimization of a biped Robot Locomotion
20:05 – 20:35	<u><i>Pedro Silva, Cristina</i></u> <u><i>P. Santos and</i></u> <u><i>Daniel Polani</i></u>	Optimization of Stable Quadruped Locomotion using Mutual Information
20:35 – 21:05	<u><i>Edgar Lobo, José</i></u> <u><i>Machado, and João</i></u> <u><i>P. Mendonça</i></u>	Development of controller strategies for a robotized filament winding equipment
21:05 – 21:35	<u><i>João André, Cristina</i></u> <u><i>Santos and Lino</i></u> <u><i>Costa</i></u>	Path Integral Learning of Multidimensional Movement Trajectories
21:35 – 22:05	<u><i>Emanuel Miron,</i></u> <u><i>João P.M.A. Silva,</i></u> <u><i>José Machado,</i></u> <u><i>Dumitru Olaru,</i></u> <u><i>Gheorghe Prisacaru</i></u>	Using ICT techniques for improving mechatronic systems' Dependability
22:05 – 22:35	<u><i>C. Teixeira, L. Costa</i></u> <u><i>and C. Santos</i></u>	Self-Improving Biped Locomotion





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<b>22 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXXII</b> <b>CHAIR: So-Jin Park</b> <b>(ROOM 5)</b>		
19:35 – 20:05	<u><i>So-Jin Park, Inyong Jeong</i></u>	Determination and Correlation of Phase Behavior and Physical Properties for Benign Synthetic Process of Diphenylcarbonate
20:35 – 20:35	<u><i>Roman Kozlov</i></u>	On first integrals of discrete equations with symmetries
20:35 - 21:05	<u><i>Nodari Vakhania</i></u>	A heuristic that can give a good approximation for an NP-hard scheduling problem

<b>22 September 2013</b> <b>SESSION: Dependable Mechatronic Systems</b> <b>CHAIR: João Pedro Silva</b> <b>(ROOM 6)</b>		
19:35 – 20:05	Elsa Marcelino-Jesus, Joao Sarraipa, Ricardo Jardim-Goncalves	An Evaluation Approach for Research Project Pilot Technological Applications
20:05 – 20:35	Gheorghe Popan, Gh. Ion Gheorghe, Todoran Gabriel	Testing Command and Control of the Satellites in Formation Flight
20:35 – 21:05	Vasco Delgado-Gomes, José A. Oliveira-Lima, João F. Martins, Ricardo Jardim-Gonçalves	Towards a Service Bus for Distributed Manufacturing
<b>Lunch Break</b>		



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<b>22 September 2013</b> <b>SESSION: Mathematical Problems in Engineering</b> <b>MPE 2013</b> <b>CHAIR: Andrea Alaimo</b> <b>(ROOM 7)</b>		
19:35 – 20:05	<i>V. Artale, G. Barbaraci, C. Milazzo, C. Orlando and <u>A. Ricciardello</u></i>	Dynamic Analysis of a Hexacopter controlled via LQR-PI
20:05 – 20:35	<i>A. Alaimo, V. Artale, <u>C. Milazzo</u> and A. Ricciardello</i>	Comparison between Euler and Quaternion parametrization in UAV dynamics
20:35 – 21:05	A. Alaimo, M. Bruno, A. Milazzo and <u>C. Orlando</u>	Nonlocal model for a magneto-electro-elastic nanoplate

<b>22 September 2013</b> <b>SESSION: Computational and Analytical Techniques for Solving Coupled Multiphysics Problems</b> <b>CHAIR: Xiaofan Gou</b> <b>(ROOM 11)</b>		
19:35 – 20:05	<i><u>Long Li</u>, Jizeng Wang</i>	On DNA Packaging into Elastic Nanoparticles
20:05 – 20:35	<i><u>Zhuojia Fu</u>, Wen Chen</i>	Water Wave Interaction with Multiple Surface-Piercing Porous Cylinders by Singular Boundary Method
20:35 – 21:05	<i>Lei Zhang, Xiaojing Liu, Youhe Zhou, <u>Jizeng Wang</u></i>	Influence of Vanishing Moments on the Accuracy of a Modified Wavelet Galerkin Method for Nonlinear Boundary Value Problems

**END OF THE 2<sup>ND</sup> DAY**



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<b>23 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: M. Gregory Forest</b> <b>(ROOM 1)</b>		
<b>10:00 – 11:00</b>	<b>K. Liu,</b> <b><u>T. Manteuffel</u>, S.</b> <b>McCormick, J.</b> <b>Ruge and L. Tang</b>	<b>Hybrid First-Order</b> <b>System Least Squares</b> <b>(FOSLS/LL*)</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>23 September 2013</b> <b>SESSION: The 8th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer-Numerical Fluids Symposium 2013</b> <b>CHAIR: Evgeniy Romenskiy</b> <b>(ROOM 1)</b>		
<b>11:10 – 12:10</b>	<b>Invited lecture</b>  <b>Professor Fadl Moukalled</b>  <b>A Pressure-Based Framework for the Resolution of Multi-Fluid Flow Problems</b>	
<b>12:10 – 12:30</b>	<u><i>C.J. Wareing, M. Fairweather, J. Peakall, G. Keevil, S.A.E.G. Falle and R.M. Woolley</i></u>	<b>Numerical Modelling of Particle-Laden Sonic CO<sub>2</sub> Jets with Experimental Validation</b>
<b>12:30 – 12:50</b>	<u><i>R. Przekop and L. Gradon</i></u>	<b>Effect of Particles and Fiber Size on the Morphology of Deposits in Fibrous Filters</b>
<b>12:50 – 13:10</b>	<u><i>Z. Chara, B. Kysela and P. Vlasak</i></u>	<b>Analysis of near Bed Particle Movement in an Open Channel</b>
<b>13:10 – 13:30</b>	<u><i>S.G. Constantinescu and M.L. Niculescu</i></u>	<b>Experimental and Numerical Research of Lift Force Produced by Coandă Effect</b>
<b>Lunch Break</b>		



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<b>23 September 2013</b> <b>SESSION: 10-th Symposium on Clifford Analysis and Applications</b> <b>CHAIR: Wolfgang Sprößig</b> <b>(ROOM 2)</b>		
11:30 – 12:00	<b><u>Georgiev, S.;</u></b> Morais, J.	An introduction to the Hilger quaternion numbers
12:00 – 12:30	<b><u>Kamal, Alaa</u></b>	On Lipschitz continuity and properties of composition operators acting on some hyperbolic classes
12:30 – 13:00	<b><u>Bryukhov, Dmitry</u></b>	On Modified Quaternionic Analysis, Irrotational Velocity Fields and New Gradient Dynamical Systems in $R^3$
<b>Lunch Break</b>		

<b>23 September 2013</b> <b>SESSION: Sixth Symposium on “Recent Trends in the Numerical Solution of Differential Equations”</b> <b>CHAIR: E. Weinmueller</b> <b>(ROOM 3)</b>		
11:30 – 12:00	<b><u>P.Burragé</u></b>	Structure-preserving Runge-Kutta methods for Stochastic Hamiltonian equations with additive noise
12:00 – 12:30	<b><u>Y.Sun</u></b>	Enhanced HBVMs for the numerical solution of Hamiltonian problems with multiple invariants
12:30 – 13:00	<b><u>R.Pavani</u></b>	Symmetric block BVMs for the solution of conservative systems
<b>Lunch Break</b>		



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<b>23 September 2013</b> <b>SESSION: Engineering Problems of Plasticity</b> <b>CHAIR: R.I. Nepershin</b> <b>(ROOM 3)</b>		
<b>13:00 – 13:30</b>	<i>R.I. Nepershin</i>	Tube Bending on the Roll Machine

<b>23 September 2013</b> <b>SESSION: Recent advances in theoretical fluid dynamics,</b> <b>hydrodynamic stability theory and biological fluid</b> <b>mechanics</b> <b>CHAIR: J.S.B. Gajjar</b> <b>(ROOM 4)</b>		
<b>11:30 – 12:00</b>	<u><i>C. Davies,</i></u> <i>C.Thomas, A.P.</i> <i>Bassom, and P.J.</i> <i>Blennerhassett</i>	The linear impulse response for disturbances in an oscillatory Stokes layer
<b>12:00 – 12:30</b>	<u><i>U. Ehrenstein and C.</i></u> <i>Eloy</i>	Skin friction enhancement in a model problem of undulatory swimming
<b>12:30 – 13:00</b>	<u><i>S. Chernyshenko, D.</i></u> <i>Huang, P. Goulart,</i> <i>D.Lasagna and O.</i> <u><i>Tutty</i></u>	Nonlinear stability analysis of fluid flow using sum of squares of polynomials
<b>Lunch Break</b>		



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<b>23 September 2013</b> <b>SESSION: The 2nd Symposium on Numerical Methods of Boundary Value Problems (BVPs): Analysis, Algorithms and Real World Applications</b> <b>CHAIR: Ali Sayfy</b> <b>(ROOM 5)</b>		
<b>11:30 – 12:00</b>	<b><i><u>Ali Sayfy,</u></i></b> <b><i><u>Suheil Khoury</u></i></b> <b>&amp;</b> <b><i><u>H. Ibdah</u></i></b>	<b>A Forth Order Spline Collocation Approach for a Business Cycle Model</b>
<b>12:00 – 12:30</b>	<b><i><u>Johnny Henderson</u></i></b> <b>&amp;</b> <b><i><u>Rodica Luca</u></i></b>	<b>Multiple Positive Solutions for a Second-Order Multi- Point Discrete Boundary Value Problem</b>
<b>12:30 – 13:00</b>	<b><i><u>Pius W. M. Chin</u></i></b>	<b>The qualitative behavior of the solution of the wave equation using the Non-standard finite difference and Galerkin methods</b>
<b>13:00 – 13:30</b>	<b><i><u>Thomas Wunderli</u></i></b>	<b>Partial Regularity of Gradient Time Flows for Plasticity and Image Denoising Functionals with <math>L^2</math> Penalty</b>
<b>Lunch Break</b>		



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<b>23 September 2013</b>		
<b>SESSION: Second Symposium on Statistical Inference in Linear Models</b>		
<b>CHAIR: Francisco Carvalho (ROOM 6)</b>		
<b>11:30 – 11:50</b>	<b><u>Adilson da Silva;</u> Francisco Carvalho; João T. Mexia; Miguel Fonseca</b>	<b>One-sided tolerance interval in a two-way balanced nested model with mixed effects</b>
<b>11:50 – 12:10</b>	<b><u>Aníbal Areia;</u> Manuela M. Oliveira</b>	<b>Longitudinal Analysis for Matched Series of Studies</b>
<b>12:10 – 12:30</b>	<b><u>Célia Nunes;</u> Gilberto Capistrano; Dário Ferreira; Sandra S. Ferreira</b>	<b>ANOVA with Random Sample Sizes: An Application to a Brazilian Database on Cancer Registries</b>
<b>12:30 – 12:50</b>	<b><u>Cristina Andrade;</u> João A. Andrade</b>	<b>Climate change projections for precipitation in Portugal</b>
<b>Lunch Break</b>		





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<b>23 September 2013</b>		
<b>SESSION: Workshop on Isomathematics and its Applications</b>		
<b>CHAIR: C. Corda</b>		
<b>(ROOM 7)</b>		
<b>09:00 – 10:00</b>	<b><u>R. M. Santilli</u></b>	<b>Opening Lecture : A recollection of the journey for isomathematics to achieve maturity</b>
<b>10:00 – 11:00</b>	<b><u>A. A. Bhalekar</u></b>	<b>Studies of Santilli's isotopic, genotopic and isodual four directions of time</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	
<b>11:30 – 12:30</b>	<b><u>S. J. Dhoble</u></b>	<b>Theoretical and Experimental Basis of Santilli's IsoRedShift(IRS)</b>
<b>12:30 – 13:30</b>	<b><u>A. S. Muktibodh</u></b>	<b>Foundations of Isomathematics</b>
<b>Lunch Break</b>		



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<b>23 September 2013</b> <b>SESSION: Geometric Methods for Integrable Systems and PDE with Applications to Engineering, Biology and Medicine</b> <b>CHAIR: M. Toda and G. Bornia</b> <b>(ROOM 8)</b>		
<b>11:30 – 12:00</b>	<b><u>Max Gunzburger</u></b>	TBA
<b>12:00 – 12:30</b>	<b><u>Simone Bnà,</u> Antonio Cervone, Vincent Le Chenadec, Sandro Manservisi and Ruben Scardovelli</b>	<b>Review of Split and Unsplit Geometric Advection Algorithms</b>
<b>12:30 – 13:00</b>	<b><u>Giorgio Bornia</u></b>	<b>On a class of constrained boundary control problems treated with a lifting function approach</b>
<b>Lunch Break</b>		



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<b>23 September 2013</b> <b>SESSION: Dispersed Two-Phase Flows : Dispersion, Deposition and Agglomeration</b> <b>CHAIR: A. Tanière A.; B. Arcen, C. Marchioli</b> <b>(ROOM 9)</b>		
<b>08:30 – 09:00</b>	<b><u>A. Tanière A.; B. Arcen, C. Marchioli</u></b>	<b>Introduction to the symposia</b>
<b>09:00 – 10:00</b>	<b><u>Jean-Pierre Minier</u></b>	<b>A modelling approach to colloidal particle deposition and resuspension</b>
<b>10:00 – 10:25</b>	<b><u>J. Zhang, Y. Shao, N. Huang</u></b>	<b>Wind-tunnel experiment for dust dry deposition</b>
<b>10:25 – 11:00</b>	<b><u>A. Kartushinsky, Y. Rudi, D. Stock, M. Hussainov, I. Shcheglov, S. Tisler</u></b>	<b>3d RANS-RSTM numerical simulation of channel turbulent particulate flow with wall roughness</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>23 September 2013</b> <b>SESSION: Dispersed Two-Phase Flows : Dispersion,          Deposition and Agglomeration</b> <b>CHAIR: A. Tanière A.; B. Arcen, C. Marchioli</b> <b>(ROOM 9)</b>		
11:30 – 11:55	<u>A. Chernyshev</u> and A. Schmidt	Bubble column dynamics with bubble induced turbulence and dispersion
11:55 – 12:20	<u>W. Michalek</u> , <u>J.G.M. Kuerten</u> , R. Liew, J.C.H. Zeegers and B.J. Geurts	A hybrid stochastic-deconvolution model for particle-laden LES
12:20 – 13:00	<u>E. Russo</u> , <u>J.G.M. Kuerten</u> , C.W.M. van der Geld and B.J. Geurts	Water circulation in non-isothermal droplet-laden turbulent channel flow
<b>Lunch Break</b>		

<b>23 September 2013</b> <b>SYMPOSIUM: Approximation Theory and Special Functions</b> <b>CHAIR: Oktay Duman</b> <b>(ROOM 10)</b>		
11:30 – 12:00	<u>Mehmet Ünver</u>	Abel transforms of positive linear operators
12:00 – 12:30	<u>Tuğba Yurdakadim</u> , Emre Taş and Özlem Atlıhan Girgin	Statistical approximation properties of convolution operators for multivariables
12:30 – 13:00	<u>Emre Taş</u> , Cihan Orhan and Tuğba Yurdakadim	The Stancu-Chlodowsky operators based on q-calculus
<b>Lunch Break</b>		



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<b>23 September 2013</b> <b>SESSION: Mathematical Optimization in Modern Medicine</b> <b>and Engineering Symposium</b> <b>CHAIR: Flavius Pater, Serban Rosu</b> <b>(ROOM 11)</b>		
<b>11:30 – 12:00</b>	<b><u>Flavius PATER</u></b>	<b>A Shift Algebra Problem with Application to Harmonic Signal Models</b>
<b>12:00 – 12:30</b>	<b><u>Doina CHIORAN,</u></b> <b><u>Adrian NICOARĂ,</u></b> <b><u>Șerban ROȘU, Virgil</u></b> <b><u>CĂRLIGERIU, Emilia</u></b> <b><u>IANEȘ</u></b>	<b>Contours Identification of Elements in a Cone Beam Computed Tomography for Investigating Maxillary Cysts</b>
<b>12:30 – 13:00</b>	<b><u>Mirela Toth-Tascau,</u></b> <b><u>Flavia Balanean and</u></b> <b><u>Mircea Krepelka</u></b>	<b>Assessment and Prediction of Inter-joint Upper Limb Movement Correlations Based on Kinematic Analysis and Statistical Regression</b>
<b>13:00 – 13:30</b>	<b><u>Dana Stoian,</u></b> <b><u>Mihaela</u></b> <b><u>Craciunescu,</u></b> <b><u>Romulus Timar ,</u></b> <b><u>Adalbert Schiller,</u></b> <b><u>Liana Pater, Marius</u></b> <b><u>Craina</u></b>	<b>Age Impact on Autoimmune Thyroid Disease in Females</b>
<b>Lunch Break</b>		



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<b>23 September 2013</b>		
<b>SESSION: 2ND SYMPOSIUM ON METAHEURISTIC AND NUMERICAL ANALYSIS / ENGINEERING APPLICATIONS</b>		
<b>CHAIR: Sinan Melih Nigdeli, Gebrail Bekdaş (ROOM 12)</b>		
<b>11:30 – 12:00</b>	<b>Yusuf Cengiz Toklu</b>	<b>Metaheuristics and Engineering</b>
<b>12:00 – 12:30</b>	<b>Sinan Melih Nigdeli and Gebrail Bekdaş</b>	<b>An Optimization Approach for Design of RC Beams Subjected to Flexural and Shear Effects</b>
<b>12:30 – 13:00</b>	<b>Gebrail Bekdaş and Sinan Melih Nigdeli</b>	<b>Optimization of Tuned Mass Damper for Adjacent Buildings with Equal Properties</b>
<b>13:00 – 13:30</b>	<b>Mustafa Nabi Kocakaya and Osman Hürol Türkakın</b>	<b>Solution of Facility Location Problem in Turkey by Using Fuzzy C-Means Method</b>
<b>Lunch Break</b>		



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<b>23 September 2013</b> <b>SESSION: The 8th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer-Numerical Fluids Symposium 2013</b> <b>CHAIR: Eric Goncalves</b> <b>(ROOM 1)</b>		
14:30 – 14:50	<u>E. Romenski</u> , A. Belozeroz and I. M. Peshkov	Thermodynamically Compatible Hyperbolic Conservative Model of Compressible Multiphase Flow: Application to Four Phase Flow
14:50 – 15:10	A. Sow, A. Chinnayya and A. Hadjadj	Effect of Friction and Heat Losses on the Mean Structure of One-Dimensional Detonations
15:10 – 15:30	J. Halama	Numerical Solution of Two-Phase Flow of Wet Steam with a Given Droplet Size Distribution Function
15:30 – 15:50	<u>S. I. Bernad</u> , A. Bosioc, A. Totorean, R. Stanciu and E.S. Bernad	Vortices in By-pass Graft Flow
15:50 – 16:10	N. Tofighi and <u>M. Yildiz</u>	ISPH Simulation of Droplet Spreading at Different Eotvos Numbers
16:10 – 16:30	<u>A. Bobonea</u> and M.V. Pricop	Numerical and Experimental Study of Blowing Jet on a High Lift Airfoil
16:30 – 16:50	<u>V. K. Sin</u> , J. T. Zhang and S. Cong	Study of Thin Flexible Piezoelectric Membrane for Energy Harvesting
<b>Coffee Break</b>		



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<b>23 September 2013</b> <b>SESSION: '3<sup>rd</sup> Symposium on Distribution Theory, Estimation and Inference'</b> <b>CHAIR: Carlos A. Coelho</b> <b>(ROOM 2)</b>		
15:00 – 15:30	<b><u>Filipe J. Marques</u></b>	The Multisample Block-diagonal Equicorrelation and Equivariance test
15:30 – 16:00	<b><u>Ayana Mateus</u></b>	Comparing Several Tests of Randomness Based on the Difference of Observations
16:00 – 16:30	<b><u>Dora Gomes</u></b>	Reduced bias and threshold choice in the extremal index estimation through resampling techniques
16:30 – 17:00	<b><u>Inês Sequeira</u></b>	Genetic and Statistical Study of HIV Integration in the Human Genome
17:00 – 17:30	<b>Coffee Break</b>	
<b>23 September 2013</b> <b>SESSION: Sixth Symposium on "Recent Trends in the Numerical Solution of Differential Equations"</b> <b>CHAIR: P. Burrage</b> <b>(ROOM 3)</b>		
15:00 – 15:30	<b><u>L. Bru gnano</u></b>	Efficient implementation of geometric integrators for separable Hamiltonian problems
15:30 – 16:00	<b><u>E. Weinmueller</u></b>	Collocation for Singular BVPs in ODEs with Unsmooth Data
16:00 – 16:30	<b><u>G. Settanni</u></b>	Calculations of the Morphology Dependent Resonances
16:30 – 17:00	<b><u>Symposium group photo</u></b>	





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<b>23 September 2013</b>		
<b>SESSION: Recent advances in theoretical fluid dynamics, hydrodynamic stability theory and biological fluid mechanics</b>		
<b>CHAIR: S. Chernyshenko (ROOM 4)</b>		
<b>15:00 – 15:30</b>	<b><i><u>S. Braun, S. Scheichl, and A. Kluwick</u></i></b>	<b>Adjoint operator approach in marginal separation theory</b>
<b>15:30 – 16:00</b>	<b><i><u>B. Scheichl</u></i></b>	<b>On the Euler stage of turbulent separation near the trailing edge of a bluff body</b>
<b>16:00 – 16:30</b>	<b><i><u>A. Kluwick and M. Kornfeld</u></i></b>	<b>Triple deck analysis of transonic high Reynolds number flows through slender nozzles</b>
<b>16:30 – 17:00</b>	<b><i><u>S. Scheichl and S. Braun</u></i></b>	<b>On blow-up solutions in marginally separated triple-deck flows</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>23 September 2013</b> <b>SESSION: Numerical Optimization and Applications</b> <b>CHAIR: M. Margarida Ferreira</b> <b>(ROOM 5)</b>		
15:00 – 15:20	<u>M. M. A. Ferreira,</u> A.F. Ribeiro and G.V. Smirnov	Sufficient Conditions of Optimality for Control of Hydro-Electric Power Stations
15:20 – 15:40	V. A. Bushenkov, M. M. A. Ferreira, <u>A. F. Ribeiro</u> and G. V. Smirnov	Numerical Approach to a Problem of Hydroelectric Resources Management
15:40 – 16:00	<u>M H A Biswas</u> and MdR de Pinho	Maximum Principle for State and Mixed Constrained Problems with Equality and Inequality Mixed Constraints: Convex Case
16: 00 – 16:20	<u>L.T. Paiva</u> and F.A.C.C. Fontes	Mesh Refinement Strategy for Optimal Control Problems
16:20 – 16:40	Sofia O. Lopes, Fernando A. C. C. Fontes, Rui M. S. Pereira, <u>A. Manuela</u> <u>Gonçalves</u> and Gaspar J. Machado	Irrigation Planning: An Optimal Control Approach
16:40 – 17:00	Sofia O. Lopes, Fernando A. C. C. Fontes, <u>M. Fernanda</u> <u>P. Costa</u> , Rui M. S. Pereira, A. Manuela Gonçalves and Gaspar J. Machado	Irrigation Planning: Replanning and Numerical Solution
17:00 – 17:20	<u>Gisela C.V. Ramadas</u> and Edite M.G.P. Fernandes	Combined Mutation Differential Evolution to Solve Systems of Nonlinear Equations
17:00 – 17:30	<b>Coffee Break</b>	



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<b>23 September 2013</b>		
<b>SESSION: Workshop on Isomathematics and its Applications</b>		
<b>CHAIR: C. Corda</b>		
<b>(ROOM 7)</b>		
<b>15:00 – 16:00</b>	<b><u>P. S. Muktibodh</u></b>	<b>Introduction to Isodual Mathematics and its Application to Special Relativity</b>
<b>16:00 – 17:00</b>	<b><u>S. P. Zodape</u></b>	<b>The Magnehydrogen in hadronic Chemistry</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	
<b>17:30 – 18:30</b>	<b><u>V. M. Tangde</u></b>	<b>Elementary and Brief Introduction of Hadronic Chemistry</b>
<b>18:30 – 19:30</b>	<b><u>P. Rowlands</u></b>	<b>Rowlands' IsoNilpotency</b>
<b>19:30 – 20:30</b>	<b><u>S. Georgiev</u></b>	<b>Isoordinary isodifferential isoequations</b>
<b>20:30 – 21:30</b>	<b>Projection of Prof. Santilli's Lecture IIA of the World Lecture Series</b>	



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<b>23 September 2013</b>		
<b>SESSION: Second Symposium on Statistical Inference in Linear Models</b>		
<b>CHAIR: Dário Ferreira</b>		
<b>(ROOM 6)</b>		
<b>15:00 – 15:20</b>	<b><u>Dário Ferreira;</u> <i>Sandra S. Ferreira;</i> <i>Célia Nunes; Sónia</i> <i>Inácio</i></b>	<b>Inducing pivot variables and non-centrality parameters in elliptical distributions</b>
<b>15:20 – 15:40</b>	<b><u>Dina Salvador;</u> <i>Sandra Monteiro;</i> <i>João T. Mexia</i></b>	<b>Adjusting models for symmetric stochastic matrices using <i>vec</i> type operators</b>
<b>15:40 – 16:00</b>	<b><i>Aníbal Areia;</i> <u>Francisco Carvalho</u></b>	<b>Perfect Families: an application to Orthogonal and Error Orthogonal Models</b>
<b>16:00 – 16:20</b>	<b><i>Francisco Carvalho;</i> <i>João T. Mexia;</i> <u>Ricardo Covas</u></b>	<b>Models with homoscedastic orthogonal partition, BQUE and mixed models</b>
<b>16:20 – 16:40</b>	<b><u>Sandra Monteiro;</u> <i>Dina Salvador; João</i> <i>T. Mexia</i></b>	<b>Advances in Structured Stair Nesting</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>23 September 2013</b>		
<b>SESSION: Geometric Methods for Integrable Systems and PDE with Applications to Engineering, Biology and Medicine</b>		
<b>CHAIR: M. Toda and G. Bornia</b>		
<b>(ROOM 8)</b>		
<b>15:00 – 15:30</b>	<b><u>Alex Solynin</u></b>	<b>Few Etudes on Continuous Symmetrization</b>
<b>15:30 – 16:00</b>	<b><u>Simone Bna</u>, Sandro Manservisi, Eugenio Aulisa</b>	<b>A MultiLevel Domain Decomposition solver for Monolithic Fluid-Structure Interaction problems</b>
<b>16:00 – 16:30</b>	<b><u>Magdalena Toda</u></b>	<b>Forchheimer-type equations in conjunction with constant mean curvature graphs</b>
<b>16:30 – 17:00</b>	<b><u>Magdalena Toda</u>, Bhagya Athukoralage</b>	<b>Geometry of Biological Membranes and Willmore Energy</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>23 September 2013</b> <b>SESSION: Dispersed Two-Phase Flows : Dispersion, Deposition and Agglomeration</b> <b>CHAIR: A. Tanière A.; B. Arcen, C. Marchioli</b> <b>(ROOM 9)</b>		
<b>15:00 – 15:25</b>	<b><u>A. Bukhvostova,</u> <u>J.G.M. Kuertent, and</u> <u>B.J. Geurts</u></b>	Low-Mach algorithm for heated droplet-laden turbulent channel flow including phase transition
<b>15:25 – 15:50</b>	<b><u>D. Swailes and Y.</u> <u>Ammar</u></b>	The numerical treatment of pdf-based models for the distribution of particle-pair variables
<b>15:50 – 16:15</b>	<b><u>A. Tanière and B.</u> <u>Arcen</u></b>	Prediction of turbulent particle laden channel flow: GLM and normalized Stochastic models
<b>16:15 – 17:00</b>	<b><u>A. Mehel</u></b>	Comparison of nanoparticles deposition in turbulent flows using electrophoresis and two different charging mechanisms



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<b>23 September 2013</b> <b>SYMPOSIUM: Approximation Theory and Special Functions</b> <b>CHAIR: Esra Erkuş-Duman</b> <b>(ROOM 10)</b>		
<b>15:00 – 15:30</b>	<b><u>Rabia Aktaş</u></b>	A new multivariable extension of Humbert matrix polynomials
<b>15:30 – 16:00</b>	<b><u>Bayram Çekim</u></b>	Generalized Euler's beta matrix and related functions
<b>16:00 – 16:30</b>	<b><u>Recep Şahin</u></b>	An extension of some Lauricella hypergeometric functions
<b>16:30 – 17:00</b>	<b><u>Nejla Özmen</u> and Esra Erkuş-Duman</b>	Some results for a family of multivariable polynomials
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>23 September 2013</b> <b>SESSION: Mathematical Optimization in Modern Medicine and Engineering Symposium</b> <b>CHAIR: Flavius Pater, Serban Rosu</b> <b>(ROOM 11)</b>		
15:00 – 15:30	<i>Daniela Pîslea, Marius Boldea and Florin Sala</i>	Assessing the Gluten Content in Wheat as an Expression of the Nutrition Deficit, through Beta Distribution
15:30 – 16:00	<i>C. Bota, B. Caruntu and O. Bundau</i>	Fibre stability of closed sets of a global monotone dynamical system
16:00 – 16:30	<i><u>Clara Beatrice VÎLCEANU, Ioan Sorin HERBAN, Carmen GRECEA</u></i>	Creating 3D Models of Heritage Objects Using Photogrammetric Image Processing
16:30 – 17:00	<i><u>Alina Lascutoni, Erika Ardelean, Ana Socalici and Marius Ardelean</u></i>	Mathematical Modeling of Micro-coolers Added in the Continuous Casting Tundish
17:00 – 17:30	<b>Coffee Break</b>	





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<b>23 September 2013</b>		
<b>SESSION: 2ND SYMPOSIUM ON METAHEURISTIC AND NUMERICAL ANALYSIS / ENGINEERING APPLICATIONS</b>		
<b>CHAIR: Yusuf Cengiz Toklu and Şemsi Burhanettin Altan (ROOM 12)</b>		
<b>15:00 – 15:30</b>	<b>Sinan Melih Nigdeli and M. Hasan Bodurođlu</b>	<b>Active Tendon Control of Reinforced Concrete Frame Structures Subjected to Near-Fault Effects</b>
<b>15:30 – 16:00</b>	<b>Gebrail Bekdař</b>	<b>Effect of the Long Wall Assumption on Analysis of Axially Symmetric Cylindrical Shell Walls</b>
<b>16:00 – 16:30</b>	<b>Gebrail Bekdař and Namık Kemal Oztorun</b>	<b>A Comparative Study on Cylindrical Shell Walls</b>
<b>16:30 – 17:00</b>	<b>Azadeh Noktehdan, Seyedmohammad Seyedhosseini, Ali Husseinzadeh Kashan and Farnaz Barzinpour</b>	<b>A group based league championship algorithm for the manufacturing cell formation problem</b>



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<b>23 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Tom Manteuffel</b> <b>(ROOM 1)</b>		
<b>17:30 – 18:30</b>	<b><u>M. Gregory Forest,</u></b> <b>Paula A. Vasquez</b>	<b>Mathematical and Numerical Challenges in Living Biological Materials</b>

<b>23 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Felice Iavernaro</b> <b>(ROOM 1)</b>		
<b>18:30 – 19:30</b>	<b><u>Michael Dumbser</u></b>	<b>Recent Advances in High-Order WENO Finite Volume Methods for Compressible Multiphase Flows</b>



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<b>23 September 2013</b> <b>SESSION: Sparse Matrix Inverse Related Algorithms</b> <b>CHAIR: Dr. Song Li</b> <b>(ROOM 1)</b>		
<b>19:35 – 20:05</b>	<b><u>Song Li</u>, Eric Darve</b>	Accuracy in one-way and two-way algorithms for computing desired entries in the inverse of sparse matrices
<b>20:05 – 20:35</b>	<b><u>J. Kent Poots</u></b>	Image Deblurring Applied to Infrared Tongue Position Imaging: Initial Simulation Results

<b>23 September 2013</b> <b>SESSION: Numerical Calculations on Theoretical Magnetism</b> <b>CHAIR: Dr. Gülistan Mert</b> <b>(ROOM 2)</b>		
<b>19:35 – 20:05</b>	<b><u>Gülistan Mert</u></b>	Numerical Study of a Two-Sublattice Heisenberg Ferrimagnetic Model: Green's Function Method
<b>20:05 – 20:35</b>	<b><u>H. Şevki Mert</u> and Gülistan Mert</b>	Phase Diagram of a Three-Sublattice Mixed Ferro-Ferrimagnetic Heisenberg System



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<b>23 September 2013</b> <b>SESSION: On the Validity of the Batch Quantile Method for Markov Chains</b> <b>CHAIR: David F. Muñoz</b> <b>(ROOM 3)</b>		
19:35 – 19:55	<b><u>Adrián Ramírez-Nafarrate</u></b> and David F. Muñoz	Empirical Comparison of Replication and Batch Approaches for Estimating Steady-State Mean, Variance and Quantile
19:55 – 20:15	<b><u>Adrián Ramírez-Nafarrate</u></b> and David F. Muñoz	Quantile Estimation for a Non-Geometric Ergodic Markov Chain
20:15 – 20:35	<b><u>David F. Muñoz</u></b> and Adán Ramírez-López	A Note on Bias and Mean Squared Error in Steady-State Quantile Estimation

<b>23 September 2013</b> <b>SESSION: Operational Research and Applications</b> <b>CHAIR: Fernanda A. Ferreira</b> <b>(ROOM 4)</b>		
19:00 – 19:20	<b><u>Fernanda A. Ferreira</u></b> and Flávio Ferreira	Privatization in a mixed duopoly with environmental taxes
19:20 – 19:40	<b><u>Fernanda A. Ferreira</u></b> and Flávio Ferreira	Environmental and international tariffs in a mixed duopoly
19:40 – 20:00	<b>A. Kosarev, A. Nepp, O. Nikonov, and O. Rushitskaja</b>	Development of Insurance Terms Based on Risk Assessment
20:00 – 20:20	<b>Oleg I. Nikonov, Vladimir E. Vlasov and Marina A. Medvedeva</b>	Operational Risk Economic Capital Allocation
20:20 – 20:40	<b><u>Luís António de Almeida Vieira</u></b> and Vasco Moço Mano	Euclidean Jordan Algebras, Maclaurin Series and Inequalities on Strongly Regular Graphs



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<b>23 September 2013</b> <b>SESSION: Numerical Optimization and Applications</b> <b>CHAIR: Ana I Pereira and M. Fernanda Costa</b> <b>(ROOM 5)</b>		
19:35 – 19:55	Ana I. Pereira, <u>José Lima</u> and Paulo Costa	Humanoid Robot Gait Optimization: Stretched Simulated Annealing and Genetic Algorithm a Comparative Study
19:55 – 20:15	<u>M. Fernanda P. Costa</u> and C. Ribeiro	A Modified Fractional Zener Model to Describe the Behaviour of a Carbon Fibre Reinforced Polymer
20:15 – 20:35	<u>Paula Odete Fernandes</u> and Ângela Paula Ferreira	Wind Farms Model Aggregation Using Probabilistic Clustering

<b>23 September 2013</b> <b>SESSION: 1st Symposium on Computational Mathematics and its Applications</b> <b>CHAIR: Waheed K. Zahra, M. A. Bek and Manal M. Hikal</b> <b>(ROOM 6)</b>		
19:35 – 20:05	<u>M. M. Hikal</u> and M. M. A. El-Sheikh	Stability of A General SEIV Epidemic Model With Time Delay
20:05 – 20:35	W. K. Zahra , <u>W. A. Ouf</u> and M. S. El-Azab	B-Spline Soliton Solution of the Fifth Order KdV Type Equations
20:35 – 21:05	D.M. Atwa, <u>N.Aboulfotoh</u> , A. Abo El-magd, Y. Badr	Spectroscopic Study of PbS Nano-Structured layer Prepared by PLD Utilized as a Hall-Effect magnetic sensor



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<b>23 September 2013</b> <b>SESSION: First Symposium on Pure and Applied Mathematics (2013)</b> <b>CHAIR: Manish Kumar (ROOM 8)</b>		
19:35 – 20:05	Manish Kumar	Image encryption using TSRMSC associated with DWT
20:05 – 20:35	<u>Narsimhulu Dunna</u> , Addepalli Ramu and Dipak Kumar Satpathi	Similarity Solutions To Shock Waves In Non-Ideal Magnetogasdynamics
20:35 – 21:05	Akhilesh Prasad, Manoj Kumar Singh and <u>Manish Kumar</u>	The continuous fractional wave packet transform
21:05 – 21:35	Sunil Mukhi and <u>Rahul Nigam</u>	Constraints on “Rare” Dyon Decays

<b>23 September 2013</b> <b>SESSION: Latest advances in inverse problem and its application in physical science</b> <b>CHAIR: Jun Liu (ROOM 9)</b>		
19:35 – 20:05	<u>Kiwoon Kwon</u>	Born Expansion and Numerical Implementation of Diffuse Optical Tomography
20:05 – 20:35	<u>Jun Liu</u>	Data driven analytic continuation for one particle spectral functions



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<b>23 September 2013</b> <b>SESSION: The Symposium on Grey System</b> <b>CHAIR: Liu Si-feng</b> <b>(ROOM 10)</b>		
19:35 – 20:05	<i>Liu Si-feng, Fang Zhi-geng</i>	The progress of grey system and its application
20:05 – 20:35	<i>Jian Li-rong</i>	The Restriction Mechanism of Chinese Universities R&D performance Based on the Hybrid of VPRS and Optimal GM(1,1)
20:35 – 20:55	<i>Hu Ming-li</i>	A new Incidence Decision Making Model of interval Grey Number
20:55 – 21:15	<i>Dang Yao-guo</i>	Constructing and Solving the Whitenization Weight Function with Interval Grey Number
21:15 - 21:30	<i>Zhu Jian-jun</i>	Improvement on Grey correlation degree based on visual angle of nearness
21:30 - 21:35	<i>Hu Ming-li</i>	The introduction of The 4th IEEE International Conference on Grey Systems and Intelligent Services(Macau, China, November 15-17, 2013)



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<b>23 September 2013</b>		
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<b>CHAIR: Flavius Pater, Serban Rosu (ROOM 11)</b>		
<b>19:35 – 20:05</b>	<b><i>Adina Păucă, Teodor Hepuț, Erika Ardelean and Eugen Crișan</i></b>	<b>Mathematical Modeling of the Influence of Chemical Composition on the Characteristics of Resistance</b>
<b>20:05 – 20:35</b>	<b><i>Diana Stoica, Mihail Megan and Dan Ludovic Lemle</i></b>	<b>Polynomial stability in mean square of stochastic cocycles in Hilbert spaces</b>
<b>20:35 – 21:05</b>	<b><i><u>Laura Strugariu,</u> <u>Eugen Crisan,</u> <u>Virginia Socalici,</u> <u>Teodor Heput</u></i></b>	<b>Mathematical Modeling Based on Qualitative Characteristics of Briquettes Depending on the Composition of Recipes</b>
<b>21:05 – 21:35</b>	<b><i><u>Mirela Toth-Tascau,</u> <u>Oana Pasca,</u> <u>Cosmina Vigaru and</u> <u>Lucian Rusu</u></i></b>	<b>Assessment of Gait Symmetry for Talus Valgus Children Based on Experimental Kinematic Analysis</b>

**END OF THE 3<sup>RD</sup> DAY**





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<b>24 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: María Paz Calvo</b> <b>(ROOM 1)</b>		
<b>09:00 – 10:00</b>	<b>Pierluigi Amodio, Luigi Brugnano and <u>Felice Iavernaro</u></b>	<b>Line Integral Methods for Conservative Problems</b>

<b>24 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Luigi Brugnano</b> <b>(ROOM 1)</b>		
<b>10:00 – 11:00</b>	<b>S. Blanes, F. Casas and <u>J.M. Sanz-Serna</u></b>	<b>Beating the Verlet Integrator in Monte Carlo Simulations</b>

<b>24 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: J.M. Sanz-Serna</b> <b>(ROOM 1)</b>		
<b>11:00 – 12:00</b>	<b><u>M.P. Calvo</u>, I. Rodrigo and J.M. Sanz-Serna</b>	<b>A Simplified Variable Metric Hybrid Monte Carlo Method</b>



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**24 September 2013**

**12:30**

**Photo of the Conference**

**24 September 2013**

**13:00**

**Excursion**



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**20:30**

**Central Dinner**

- **Introduction by Professor Dr. Theodore E. Simos**
- **Honouring Professor Dr. J.M. Sanz-Serna on the occasion of his 60<sup>th</sup> birthday. Introduction by Prof. Dr. María Paz Calvo**
- **Presentation of the Honorary Fellowship Awards of the European Society of Computational Methods in Sciences, Engineering and Technology**
- **Dinner**

**END OF THE 4<sup>TH</sup> DAY**



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<b>25 September 2013</b> <b>SESSION: INVITED SPEAKER</b> <b>CHAIR: Bjorn Engquist</b> <b>(ROOM 1)</b>		
<b>10:00 – 11:00</b>	<b><u>Kevin Burrage</u></b>	<b>Fractional Diffusion Models For Electrical Propagation In Heterogeneous Cardiac Tissue</b> <b>Alfonso Bueno-Orovio, David Kay, Vicente Grau, Blanca Rodriguez and Kevin Burrage</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>25 September 2013</b> <b>SESSION: The 8th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer-Numerical Fluids Symposium 2013</b> <b>CHAIR: Ashoke De</b> <b>(ROOM 1)</b>		
<b>11:10 – 12:10</b>	<b>Invited lecture</b> <b>Professor Sergei Sazhin</b> <b>Droplet Heating and Evaporation:</b> <b>Hydrodynamic, Kinetic and Molecular</b> <b>Dynamics Models</b>	
<b>12:10 – 12:30</b>	<i>A. I. Bosioc, S. Muntean, R. F. Susan-Resiga, L. Vékás, <u>S. Bernad</u></i>	<b>Numerical Simulation of the Swirl Generator Discharge Cone at Lower Runner Speeds</b>
<b>12:30 – 12:50</b>	<u><i>J. Oder and I. Tiselj</i></u>	<b>Chebyshev Collocation Benchmark for Natural Convection Flow in Differentially Heated Cavity</b>
<b>12:50 – 13:10</b>	<i>J.M. Floryan</i>	<b>On The Super-ThermoHydrophobic Effect</b>
<b>13:10 – 13:30</b>	<u><i>M. Ozbulut, M. Yildiz and O. Goren</i></u>	<b>SPH Modeling of Sway-Sloshing Notion in a Partially Filled Rectangular Tank</b>
<b>Lunch Break</b>		



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<b>25 September 2013</b> <b>SESSION: '3<sup>rd</sup> Symposium on Distribution Theory, Estimation and Inference'</b> <b>CHAIR: Carlos A. Coelho</b> <b>(ROOM 2)</b>		
11:30 – 12:00	<u><i>Frederico Caeiro</i></u>	On the Selection of the Tuning Parameter of a Moment Estimator of the Extreme Value Index
12:00 – 12:30	<u><i>Luís M. Grilo</i></u>	Near-exact distributions for the likelihood ratio statistic used to test the reality of a covariance matrix
12:30 – 13:00	<u><i>Carlos A. Coelho</i></u>	The exact distribution of the likelihood ratio test statistic used to test simultaneously the equality of means and circularity of the covariance matrix
<b>Lunch Break</b>		

<b>25 September 2013</b> <b>SESSION: Sixth Symposium on "Recent Trends in the Numerical Solution of Differential Equations"</b> <b>CHAIR: Y. Sun</b> <b>(ROOM 3)</b>		
11:30 – 12:00	<u><i>A.Pedas</i></u>	Numerical solution of an initial value problem for nonlinear fractional differential equation
12:00 – 12:30	<u><i>M.Rebello</i></u>	A Stokeslets approach for the numerical solution of Brinkman systems
12:30 – 13:00	<u><i>G.Vainikko</i></u>	A Smooth Solution to a Nonlinear System of Singular ODEs
<b>Lunch Break</b>		



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<b>25 September 2013</b>		
<b>SESSION: Advances in Nonlinear Estimation for Distributed Parameter and Robotic Systems</b>		
<b>CHAIR: Gerasimos Rigatos (ROOM 4)</b>		
<b>11:30 – 12:00</b>	<b>G. Rigatos and E. Rigatou</b>	<b>A Derivative-free nonlinear Kalman Filtering approach to estimation of wave-type dynamics in neurons' membrane</b>
<b>12:00 – 12:30</b>	<b>G. Rigatos and P. Siano</b>	<b>Control of quadrotors using Differential Flatness theory and the Derivative-free nonlinear Kalman Filter</b>
<b>12:30 – 13:00</b>	<b>G. Rigatos</b>	<b>Adaptive fuzzy control of underactuated robotic systems with the use of differential flatness theory</b>
<b>13:00 - 13:30</b>	<b>G. Rigatos and N. Zervos</b>	<b>Channel equalization and synchronization in chaotic communications using a dual Kalman Filtering scheme</b>
<b>Lunch Break</b>		



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<b>25 September 2013</b>		
<b>SESSION: Dispersed Two-Phase Flows : Dispersion, Deposition and Agglomeration</b>		
<b>CHAIR: A. Tanière A.; B. Arcen, C. Marchioli (ROOM 5)</b>		
<b>09:00 – 10:00</b>	<b><u>Fredrik Lundell</u></b>	Fluid vs. particle inertia: motions of non-spherical particles in shear
<b>10:00 – 10:25</b>	<b><u>M. Wilkinson</u></b>	Alignment of microscopic rods in complex flows
<b>10:25 – 11:00</b>	<b><u>J.-C. Roux and J.-F. Bloch</u></b>	Lubrication theory explains the modification of fiber properties in the refining process
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	





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<b>25 September 2013</b>		
<b>SESSION: Dispersed Two-Phase Flows : Dispersion, Deposition and Agglomeration</b>		
<b>CHAIR: A. Tanière A.; B. Arcen, C. Marchioli (ROOM 5)</b>		
<b>11:30 – 11:55</b>	<b><u>A. A. Hoseini</u>, Z. Zavareh, F. Lundell, H. I. Anderson</b>	Fiber tracking algorithm in combined piv/ptv measurement of fiber suspension flow
<b>11:55 – 12:20</b>	<b><u>C. Marchioli</u> and A. Soldati</b>	Rotation statistics of rigid fibers in turbulent channel flow
<b>12:20 – 12:45</b>	<b><u>J. Ravnik</u>, C. Marchioli, M. Hriberšek and A. Soldati</b>	On shear lift force modelling for non-spherical particles in turbulent flows
<b>12:45 – 13:30</b>	<b><u>C. Knoop</u> and U. <u>Fritsching</u></b>	Numerical derivation of Forces on Particles and Agglomerates in a Resonant Acoustic field.
<b>Lunch Break</b>		



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<b>25 September 2013</b> <b>SYMPOSIUM: Approximation Theory and Special Functions</b> <b>CHAIR: Tamaz S. Vashakmadze</b> <b>(ROOM 6)</b>		
<b>11:30 – 12:00</b>	<b><u>Alexander P. Buslaev</u>,</b> <b>A.G. Tatashev and</b> <b>Marina V. Yashina</b>	<b>Qualitative properties of</b> <b>dynamical system on</b> <b>toroidal chainmail</b>
<b>12:00 – 12:30</b>	<b>Tamaz S.</b> <b>Vashakmadze,</b> <b><u>Yusuf F. Gü lver</u> and</b> <b>Archil R.</b> <b>Papukashvili</b>	<b>Application of projective</b> <b>methods for solving BVPs of</b> <b>DEs with a small parameter</b>
<b>12:30 – 13:00</b>	<b>Tamaz S.</b> <b>Vashakmadze and</b> <b><u>Aliki Muradova</u></b>	<b>To problem of approximate</b> <b>solution of BVPs for ODEs</b> <b>with boundary layers by</b> <b>multipoint methods</b>
<b>Lunch Break</b>		



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<b>25 September 2013</b>		
<b>SESSION: Application of the Boltzmann Kinetic Equation to Study Instabilities, the Eddy Problems and Turbulence</b>		
<b>CHAIR: T. Vougiouklis</b>		
<b>(ROOM 7)</b>		
<b>09:00 – 10:00</b>	<b><u>R. M. Santilli</u></b>	Recollections on the birth of the isotopies and isodualities achieve maturity
<b>10:00 – 11:00</b>	<b><u>A. A. Bhalekar</u></b>	Santilli's Lie-Admissible Mechanics. The Only Option Commensurate with Irreversibility and Nonequilibrium Thermodynamics
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	
<b>11:30 – 12:30</b>	<b><u>C. Corda</u></b>	Introduction to Santilli Iso-Mathematics
<b>12:30 – 13:30</b>	<b><u>R. L. Kohale</u></b>	Santilli's IsoRedShift and IsoBlueShift. A Brief Review
<b>Lunch Break</b>		



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<b>25 September 2013</b> <b>SESSION: Symposium on the grid-based quantum many-body problem</b> <b>CHAIR: Toby D. Young</b> <b>(ROOM 8)</b>		
<b>11:30 – 12:30</b>	<b><u>T. Ono</u></b>	<b>Plenary: First-principles electronic-structure and transport calculation formalism using real-space grid based methods</b>
<b>12:30 – 13:00</b>	<b><u>R. O. Esquivel,</u> <u>M. Molina-Espíritu,</u> <u>J. S. Dehesa,</u> <u>J. C. Angulo,</u> <u>S. López-Rosa</u></b>	<b>Grid-based quantum information chemistry: Chemical reactions</b>
<b>Lunch Break</b>		



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<b>25 September 2013</b> <b>SESSION: Statistical tools and models for applications</b> <b>CHAIR: M. Rosário Ramos</b> <b>(ROOM 9)</b>		
11:30 – 11:50	<u>A. Manuela</u> <u>Gonçalves, Marco</u> <u>Costa</u>	Assessing the performance of Change-point detection based on the SIC procedure for non Gaussian and correlated data - a simulation study
11:50 – 12:10	<u>Helena Mouriño</u>	Ordinal Regression Models to Describe Tourist Satisfaction with Sintra's World Heritage
12:10 – 12:30	<u>Lucie Doudová, F.</u> <u>Buňka, J. Michálek,</u> <u>M. Sedlačík and L.</u> <u>Buňková</u>	Risk Analysis of Tyramine Concentration in Food Production
12:30 – 12:50	<u>Marina A. P.</u> <u>Andrade, Hugo F.V.</u> <u>Cardoso</u>	The Problem of Age Determination in Living Individuals
12:50 – 13:10	<u>Martina Mikušková,</u> <u>Jaroslav Michálek,</u> <u>Pavel Mikuška,</u> <u>Todor Ivanov</u>	Statistical analysis of chemical composition of PM1 aerosols
13:10 – 13:30	<u>M. J. Costa, M. Pires,</u> <u>C. Neves, D. Tavares,</u> <u>A. M. Quintas, A. I.</u> <u>Ferreira, M. J.</u> <u>Espirito Santo, A.</u> <u>Castro, M.S. Cabral,</u> <u>João J.F Gomes</u>	Supracondylar Fracture in Children. Rehabilitation in Occupational Therapy. Yes or No?
13:30 – 13:50	<u>M. Rosário Ramos,</u> <u>Clara Cordeiro</u>	Trend Tests in Time Series with Missing Values: a Case Study with Imputation.
<b>Lunch Break</b>		



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<b>25 September 2013</b>		
<b>SESSION: Mathematical Optimization in Modern Medicine and Engineering Symposium</b>		
<b>CHAIR: Flavius Pater, Serban Rosu (ROOM 10)</b>		
<b>11:30 – 12:00</b>	<b><u>Cosmin Blidariu,</u> <u>Marius Boldea,</u> <u>Florin Sala</u></b>	<b>Aspects of Modeling Regarding the Contribution of Nitrogen to the Formation of Grape Yields</b>
<b>12:00 – 12:30</b>	<b><u>C. Bota, B. Caruntu</u> <u>and O. Bundau</u></b>	<b>Aplication of He's Homotopy Perturbation Method for a nonlinear functional equation in Banach spaces</b>
<b>12:30 – 13:00</b>	<b><u>Mihalea</u> <u>Craciunescu, Dana</u> <u>Stoian, Romulus</u> <u>Timar, Adalbert</u> <u>Schiller, Flavius</u> <u>Pater, Marius Craina</u></b>	<b>Female Sexual Dysfunction in Young Adult Women – Impact of Age and Lifestyle</b>
<b>13:00 – 13:30</b>	<b><u>Doina CHIORAN,</u> <u>Adrian NICOARĂ,</u> <u>Șerban ROȘU, Virgil</u> <u>CĂRLIGERIU, Emilia</u> <u>IANEȘ</u></b>	<b>3D Reconstruction on CBCT in The Cystic Pathology of The Jaws</b>
<b>Lunch Break</b>		



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<b>25 September 2013</b> <b>SESSION: The 8th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer-Numerical Fluids Symposium 2013</b> <b>CHAIR: Alexander Starostin</b> <b>(ROOM 1)</b>		
15:00 – 15:20	<i><b><u>A. Zemitis</u>, O. Iliev, K. Steiner, W. Klein-Hessling, M. Sonnenkalb and M. Freitag</b></i>	Simulation of Multiphysics in a NPP Containment using Combined Codes with Different Spatial Resolution
15:20 – 15:40	<i><b><u>Jithin M</u>, Shubham, A. De and M. K. Das</b></i>	Study of Lid Driven Rectangular Cavities Using LBM
15:40 – 16:00	<i><b><u>K. Straka</u>, B. Praher and G. Steinbichler</b></i>	Analyzing Melt Homogeneity in a Single Screw Plasticizing Unit of an Injection Molding Machine
16:00 – 16:20	<i><b><u>Y. Bae</u>, Y. I. Kim and Y. J. Moon</b></i>	Numerical Modeling of Anisotropic Drag for Flow across a Perforated Plate
16:20 – 16:40	<i><b><u>R.M. Woolley</u>, C. Proust, M. Fairweather, S.A.E.G. Falle, C.J. Wareing, J. Hebrard and D. Jamois</b></i>	Measurement and RANS Modelling of Large-scale Underexpanded CO2 Releases for CCS Applications
16:40 – 17:00	<i><b><u>A. Fancello</u>, R.J.M. Bastiaans and L.P.H. de Goey</b></i>	Towards Numerical Simulation of Turbulent Hydrogen Combustion based on Flamelet Generated Manifolds in OpenFOAM
<b>Coffee Break</b>		



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<b>25 September 2013</b> <b>SESSION: Advances in Sampling Theory and Applications</b> <b>CHAIR: Nursel Koyuncu</b> <b>(ROOM 2)</b>		
15:00 – 15:30	<b><u>Emrah Altun,</u></b> <b><i>Hüseyin Tatlıdil</i></b>	A Comparison of Portfolio Selection Models via Application on ISE 100 Index Data
15:30 – 16:00	<b><u>Hatice O. Cekim,</u></b> <b><i>Cem Kadilar, Gamze Özel</i></b>	Characterizing Forest Fire Activity in Turkey by Compound Poisson and Time Series Models
16:00 – 16:30	<b><u>Selen Cakmakyapan,</u></b> <b><i>Gamze Özel</i></b>	On The Expected Value and Distribution Function of The First Exit Time for The Polya-Aeppli Process
16:30 – 17:00	<b><u>Jana Kaderova,</u></b> <b><i>Miroslav Vorechovsky</i></b>	Correlation Process Resulting from Random Swapping of the Order of Elements
17:00 – 17:30	<b><u>Semra Turkan</u></b>	Examination of Influential Observations in Penalized Spline Regression

<b>27 September 2013</b> <b>Advances in Sampling Theory and Applications</b> <b>Poster Session</b>	
<b><i>Nursel Koyuncu &amp; Gamze Özel</i></b>	Exponential Estimators using Characteristics of Poisson Distribution: An Application to Earthquake Data





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<b>25 September 2013</b> <b>SESSION: Advances in Nonlinear Estimation for Distributed          Parameter and Robotic Systems</b> <b>CHAIR: Gerasimos Rigatos</b> <b>(ROOM 3)</b>		
15:00 – 15:30	<u>G. Rigatos</u> and <u>P. Siano</u>	Control of underactuated robotic systems with the use of the Derivative-free nonlinear Kalman Filter
15:30 – 16:00	<u>G. Rigatos</u>	A Kalman Filtering approach for validation of sensor networks monitoring distributed parameter systems
	<u>Gerasimos G. Rigatos</u> and <u>Efthymia G. Rigatou</u>	A Kalman Filtering approach to robust synchronization of coupled neural oscillators

<b>25 September 2013</b> <b>SESSION: Recent advances in theoretical fluid dynamics,          hydrodynamic stability theory and biological fluid          mechanics</b> <b>CHAIR: A. Kluwick</b> <b>(ROOM 4)</b>		
15:00 – 15:30	<u>A.H. White, P.Hall</u> and <u>M.S. Mughal</u>	Numerical and asymptotic analysis of Görtler vortices generated by surface roughness
15:30 – 16:00	<u>X. Wu</u>	The role of acoustic feedback in boundary-layer instability
16:00 – 16:30	<u>S. Farid and J.S.B. Gajjar</u>	Liquid layer flow over convex corners in the presence of an electric field
16:30 - 17:00	<u>K.Liu and F.T. Smith</u>	Collisions, Rebounds and Skimming



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<b>25 September 2013</b>		
<b>SESSION: State of the Art of Modeling, Numerical Analysis and Design, Optimizing the Performances, Controls of Wind Turbines and Hybrid Renewable Energy Systems</b>		
<b>CHAIR: Alexandru Dumitrache &amp; Florin Frunzulica (ROOM 5)</b>		
<b>15:00 – 15:30</b>	<b><i><u>Aurelian Crăciunescu,</u> Claudia Popescu, Mihai Popescu and Leonard Marin Florea</i></b>	<b>Stand-alone hybrid wind-photovoltaic power generation systems optimal sizing</b>
<b>15:30 – 16:00</b>	<b><i><u>Florin FRUNZULICĂ,</u> Horia DUMITRESCU, Alexandru DUMITRACHE and Bogdan SUATEAN</i></b>	<b>Control of Dynamic Stall Phenomenon for Vertical Axis Wind Turbine</b>
<b>16:00 – 16:30</b>	<b><i><u>Alexandru Dumitrache,</u> Horia Dumitrescu and Florin Frunzulica</i></b>	<b>Reynolds Number and Pitch Blade Effects on Aerodynamic Performances of Small VAWTs in Starting Phase.</b>



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<b>25 September 2013</b> <b>SYMPOSIUM: Approximation Theory and Special Functions</b> <b>CHAIR: Oktay Duman</b> <b>(ROOM 6)</b>		
15:00 – 15:30	<b><u>Ceylan Turan and</u></b> <b><u>Oktay Duman</u></b>	Convergence methods on time scales
15:30 – 16:00	<b><u>İsmet Yüksel</u></b>	Approximation by q-Baskakov-Schurer-Szasz type operators
16:00 – 16:30	<b><u>Özlem Öksüzer,</u></b> <b><u>Harun Karanlı and</u></b> <b><u>Fatma Taşdelen</u></b> <b><u>Yeşildal</u></b>	Convergence rates of Bezier variant of an operator involving Laguerre polynomials of degree $n$
16:30 – 17:00	<b><u>Tamaz S.</u></b> <b><u>Vashakmadze,</u></b> <b><u>Rezo Chikashua and</u></b> <b><u>Gela Manelidze</u></b>	To problem of reliable calculation of coefficients of secular equation by special functions
17:00 – 17:30	<b>Coffee Break</b>	



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<b>25 September 2013</b> <b>SESSION: Application of the Boltzmann Kinetic Equation to</b> <b>Study Instabilities, the Eddy Problems and Turbulence</b> <b>CHAIR: A. Aringazin</b> <b>(ROOM 7)</b>		
15:00 – 16:00	<u><i>I. B. Das Sarma</i></u>	Santilli's New Fuels as Sources of Clean Combustion
16:00 – 17:00	<u><i>Mr. N. Schmidt and</i></u> <u><i>Mr. R. Katebi</i></u>	Applying Santillian iso-mathematics to the triplex numbers and the Inopin holographic ring: preliminary assessment and new hypothesis
17:00 – 17:30	<b>Coffee Break</b>	
17:30 – 18:30	<u><i>C. S. Burande</i></u>	On the conceptual aspects and experimental verification of the Rutherford-Santilli neutron model
18:30 – 19:30	<u><i>S. S. Dhondge</i></u>	Hadronic Chemistry and Binding Energies
19:30 – 20:30	<u><i>Yun Yang</i></u>	TBA
20:30 – 21:30	Projection of Prof. Santilli's Lecture IIB of the World Lecture Series	



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<b>25 September 2013</b> <b>SESSION: Dependable Mechatronic Systems</b> <b>CHAIR: João Sarraipa</b> <b>(ROOM 8)</b>		
<b>15:00 – 15:30</b>	<b>Diogo Lemos, José Machado, Graça Minas, Filomena Soares, Carla Barros, Celina Pinto Leão</b>	<b>Reinterpreting the Cardiovascular System as a mechanical model</b>
<b>15:30 – 16:00</b>	<b>João Almeida, Maria José Ferreira, Pedro Lobarinhas, Luís F. Silva, Abílio Leite, Alfredo Araújo, Fernando Sousa</b>	<b>Development Of An Artificial Multifunctional Foot: A Project Review</b>
<b>16:00 – 16:30</b>	<b>Gheorghe Ion Gheorghe, Gheorghe Popan</b>	<b>Technological and Cross-Border Mixture Value Chain of Science and Engineering of Multi-Integrative Mechatronics-Integronics-Adaptronics</b>
<b>16:30 – 17:00</b>	<b>Camelia Avram, José Machado, Adina Astilean</b>	<b>Modeling and Formal Analysis of Urban Road Traffic</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>25 September 2013</b>		
<b>SESSION: Symposium on the grid-based quantum many-body problem</b>		
<b>CHAIR: Toby D. Young</b>		
<b>(ROOM 9)</b>		
<b>15:00 – 15:30</b>	<b><u>J. Garza</u>, E. García-Hernández, C. Díaz-García, R. Vargas</b>	Four-index integral transformation in many-body perturbation theory and electron propagator to second order for confined atoms on GPUs
<b>15:30 – 16:00</b>	<b>J. Vackar, O. Certik, R. Cimrman, M. Novak, O. Sipr, J. Plesek, <u>M. Tuma</u></b>	Solving the eigenvalue problem in electronic structure calculations
<b>16:00 – 16:30</b>	<b><u>K. Rupp</u>, Ph. Tillet, B. F. Smith T. Grasser, A. Jünger</b>	A note on the GPU acceleration of eigenvalue computations
<b>16:30 – 17:00</b>	<b><u>T. D. Young</u></b>	Afterword: Grid-based analysis in quantum mechanics
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>25 September 2013</b> <b>SESSION: The 4th Symposium on Variational Inequalities  and Equilibrium Problems</b> <b>CHAIR: Annamaria Barbagallo and Maria Alessandra Ragusa  (Room 10)</b>		
15:00 – 15:30	<u><i>A. Barbagallo</i></u>	Dynamic elastic Cournot-Nash principle with memory term
15:30 – 16:00	<i>A. Barbagallo, P. Daniele, <u>M. Lorino</u>, A. Maugeri, C. Mirabella</i>	Recent results on a general financial equilibrium problem
16:00 – 16:30	<i>C. Bianca, F. Pappalardo, M. Pennisi, <u>M.A. Ragusa</u></i>	Persistence Analysis in a Kolmogorov-type Model for Cancer-Immune System Competition
16:30 – 17:00	<u><i>M. Ruggieri</i></u> , <i>M.P. Speciale</i>	On a hierarchy of traveling wave solutions in a shallow stratified fluid
17:00 – 17:30	<b>Coffee Break</b>	
17:30 – 18:00	<u><i>G. Cardone</i></u>	Asymptotic analysis of an eigenvalue in the discrete spectrum of a quantum waveguide
18:00 – 18:30	<u><i>T. Durante</i></u>	Asymptotic behaviour of eigenfunctions in a thin cylinder with distorted ends



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<b>25 September 2013</b> <b>SESSION: Mathematical Optimization in Modern Medicine</b> <b>and Engineering Symposium</b> <b>CHAIR: Flavius Pater, Serban Rosu</b> <b>(ROOM 11)</b>		
15:00 – 15:30	<i>Samfira Ionel, Ghica Andreea, Boldea Marius, Butnariu Monica, Sendroni Marius, M-Kiss Andrei</i>	<b>Mathematical Modeling of Biological Growth for Some <i>Vicia faba</i> Varieties</b>
15:30 – 16:00	<i>Samfira Ionel, Ghica Andreea, Boldea Marius, Butnariu Monica, Sendroni Marius, M-Kiss Andrei</i>	<b>Comparative Interpretation of the Development of Species <i>Phalaris Arundinacea</i></b>
16:00 – 16:30	<u><i>C. Bota, B. Caruntu and O. Bundau</i></u>	<b>Approximate polynomial solutions for Riccati differential equations using the squared remains minimization method</b>
16:30 – 17:00	<u><i>Mihalea Craciunescu, Dana Stoian, Romulus Timar, Adalbert Schiller, Flavius Pater, Marius Craina</i></u>	<b>Hormonal Profile Impact on Female Sexual Function in Young Women</b>
17:00 – 17:30	<b>Coffee Break</b>	





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<b>25 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXVI</b> <b>CHAIR: Josep Ferrer</b> <b>(ROOM 1)</b>		
17:30 – 18:00	<u>Josep Ferrer, M. Dolors Magret and Marta Peña</u>	Differentiable Families of Stabilizers for Planar Bimodal Linear Control Systems
18:00 – 18:30	<u>R. Gelves</u>	CFD Simulation of Liquid-liquid Dispersions in a Stirred Tank Bioreactor
18:30 – 19:00	<u>R. Farina, S. Dobricic and S. Cuomo</u>	Some Numerical Enhancements in a Data Assimilation Scheme
19:00 – 19:30	<u>Josep Ferrer, Marta Peña and Antoni Susín</u>	Structural Stability of Planar Bimodal Linear Systems

<b>25 September 2013</b> <b>SESSION: Advances in Sampling Theory and Applications</b> <b>CHAIR: Nursel Koyuncu</b> <b>(ROOM 2)</b>		
17:30 – 18:00	<u>Esra Polat, Suleyman Gunay</u>	The Comparison of Robust Partial Least Squares Regression with Robust Principal Component Regression on a Real Data
18:00 – 18:30	<u>Gamze Ozel, Nihal Ata</u>	Lindley Frailty Model for a Class of Compound Poisson Processes
18:30 – 19:00	<u>Nursel Koyuncu</u>	Efficient Combined Estimators of Population Mean using Auxiliary Attribute under Stratified Random Sampling
19:00 – 19:30	<u>Nilgun Ozgul, Hülya Cingi</u>	A New Mean Estimator using Auxiliary Variables for Randomized Response Models



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<b>25 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXIX</b> <b>CHAIR: Hulya Kodal Sevindir</b> <b>(ROOM 3)</b>		
17:30 – 18:00	<i>F. Pratesi, S. Sorace and <u>G. Terenzi</u></i>	Damped Interconnection- Based Mitigation of Seismic Pounding between a R/C Tower and a Masonry Church
18:00 – 18:30	<i>S. Sorace and <u>G. Terenzi</u></i>	Passive Energy Dissipation Enhancement of Linear Frame Structures by the Damped Cable System
18:30 – 19:00	<i><u>M.C. Gouveia</u></i>	Khatri-inverse of Factorized Structured Matrices

<b>25 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXX</b> <b>CHAIR: Gintaris Kaklauskas</b> <b>(ROOM 4)</b>		
17:30 – 18:00	<i><u>Gintaris Kaklauskas,</u> Viktor Gribniak, Adas Meskenas, Arvydas Rimkus, Arturas Kaklauskas, Rimantas Kupliauskas</i>	Determination of the Residual Stress-Crack Opening Relationship of SFRC Flexural Members
18:00 – 18:30	<i><u>F. E. M. Silveira</u></i>	Magnetic Diffusion and Current Relaxation
18:30 – 19:00	<i><u>Mantas Landauskas</u> and Minvydas Ragulskis</i>	Clocking Convergence to Arnold Tongues - The H-rank Approach
19:00 – 19:30	<i><u>M. Michaeli, F. Assous</u> and A. Golubchik</i>	Numerical Method for Stress Fields Calculation in Dissimilar Elastic Material with Initial Crack in Axially Symmetrical Geometry



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<b>25 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXXI</b> <b>CHAIR: Hiroyuki Kisu</b> <b>(ROOM 5)</b>		
17:30 – 18:00	<i>Sebastian Feller, Yavor Todorov, <u>Daniel Jaroszewski</u> and Roger Chevalier</i>	Taming Anomaly Detection for Industrial Applications through Spatial Ponderation
18:00 – 18:30	<i><u>Hiroyuki Kisu</u>, Guiming Rong and Yoshihiro Kondo</i>	Formulation of SPH for Discretizing the Fractional Differentiation
18:30 – 19:00	<i><u>Lan Peng</u> and Huan Gong</i>	3D Simulation of the Melt Flow in Detached Solidification under a Cusp-Magnetic Field
19:00 – 19:30	<i><u>Quan Liao</u> and Zhihai Tan</i>	Numerical Investigations of Cold Gas Dynamic Spray with a Novel Convergent-Divergent Nozzle

<b>25 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXXII</b> <b>CHAIR: Alex C. Gonzaga</b> <b>(ROOM 6)</b>		
17:30 – 18:00	<i><u>Reinaldo Astudillo</u> and Martin B. van Gijzen</i>	An Induced Dimension Reduction Algorithm to Approximate Eigenpairs of Large Nonsymmetric Matrices
18:00 – 18:30	<i><u>Alex C. Gonzaga</u></i>	Seasonal Long-memory Stochastic Volatility
18:30 – 19:00	<i><u>Sunil Bhat</u> and S. Narayanan</i>	Numerical Investigation of the Effect of Delaminations on Fracture Characteristics of Glare
19:00 – 19:30	<i><u>M. Afshar Kermani</u></i>	Numerical Method for Solving Fuzzy Wave Equation



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<b>25 September 2013</b> <b>SESSION: Dependable Mechatronic Systems</b> <b>CHAIR: José Machado</b> <b>(ROOM 8)</b>		
<b>17:30 – 18:00</b>	<b>Fernando Luis-Ferreira, Ricardo Jardim-Goncalves</b>	<b>A Behavioral Framework for capturing Emotional Information in an Internet of Things Environment</b>
<b>18:00 – 18:30</b>	<b>Ruben Costa, Celson Lima, João Sarraipa, Ricardo Jardim-Gonçalves</b>	<b>Semantic Enrichment of Building and Construction Knowledge Sources using a Domain Ontology for Classification</b>
<b>18:30 – 19:00</b>	<b>Adina Cretan, Carlos Coutinho, Ben Bratuc, Ricardo Jardim-Goncalves</b>	<b>Multi-Agent Framework for Negotiation in a Closed Environment</b>



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<b>25 September 2013</b> <b>SESSION: Mathematical Optimization in Modern Medicine</b> <b>and Engineering Symposium</b> <b>CHAIR: Flavius Pater, Serban Rosu</b> <b>(ROOM 11)</b>		
17:30 – 18:00	<i>Dana Stoian,</i> <i>Mihaela</i> <i>Craciunescu,</i> <i>Romulus Timar ,</i> <i>Adalbert Schiller,</i> <i>Liana Pater, Marius</i> <i>Craina</i>	<b>Need of Tetraiodothyronine</b> <b>Supplemental Therapy in</b> <b>Pregnant Women</b>
18:00 – 18:30	<i>Adina Budiul-</i> <i>Berghian, Teodor</i> <i>Vasiu, Cristian</i> <i>Abrudean and Diana</i> <i>Stoica</i>	<b>Mathematical Model to</b> <b>Determine the</b> <b>Acceleration to the Elements</b> <b>of the</b> <b>Laboratory Model to the</b> <b>8000kn Shears</b>
18:30 – 19:00	<u><i>Mirela Toth-Taşcău,</i></u> <u><i>Flavius Pater and</i></u> <u><i>Dan Ioan Stoia</i></u>	<b>A Model of Flexion-</b> <b>Extension Movement in Hip</b> <b>Joint using Polynomial</b> <b>Interpolation</b>
19:00 – 19:30	<u><i>Mirela Toth-Taşcău,</i></u> <u><i>Flavius Pater and</i></u> <u><i>Dan Ioan Stoia</i></u>	<b>Interpolation Function for</b> <b>Approximating Knee Joint</b> <b>Behavior in Human Gait</b>

**END OF THE 5<sup>TH</sup> DAY**



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<b>26 September 2013</b> <b>SESSION: The 8th Symposium on Numerical Analysis of Fluid Flow and Heat Transfer-Numerical Fluids Symposium 2013</b> <b>CHAIR: Sandor Bernad</b> <b>(ROOM 1)</b>		
11:00 – 11:20	<i><u>D.O. Njobuenwu</u> and M. Fairweather</i>	Non-Spherical Particle Translation and Orientation in Wall-Bounded Turbulence
11:20 – 11:40	<i><u>A. Donini</u>, S.M. Martin, R.J.M. Bastiaans, J.A. van Oijen &amp; L.P.H. de Goey</i>	High Pressure Jet Flame Numerical Analysis of CO Emissions by Means of the Flamelet Generated Manifolds Technique
11:40 – 12:00	<i><u>A.F. Widodo</u> and L.R. Zuhail</i>	Simulation of Moving Flat Plate with Unsteady Translational Motion Using Vortex Method
12:00 – 12:20	<i>R. Merejoli, <u>G.S. Paulo</u> and M.F. Tome</i>	Application of the PTT Model to Axisymmetric Free Surface Flows
12:20 – 12:40	<i><u>D. Zeidan</u>, R. Touma and A. Slaouti</i>	Using Gas-Solid Mixture Conservation Laws For Volcanic Eruptions
12:40 – 13:00	<i><u>D. Zeidan</u>, E. Goncalve and A. Slaouti</i>	Computer Simulations of Cavitating Two-Phase Flows
<b>Lunch Break</b>		



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<b>26 September 2013</b> <b>SESSION: "Statistics and Modelling IV"</b> <b>CHAIR: Katharina Proksch</b> <b>(ROOM 2)</b>		
<b>09:00 – 09:30</b>	<i>Christine Duller</i>	<i>Numbers, diagrams and other secrets</i>
<b>09:30 – 10:00</b>	Karl Moder	<i>About Robustness of Some Sequential Tests under Several Violations of Prerequisites</i>
<b>10:00 – 10:30</b>	Katharina Proksch	<i>Statistical inference for inverse problems</i>

<b>26 September 2013</b> <b>SESSION: Symposium on Computational Modeling of Transport Processes in Building Materials and their Multi-Layered Systems</b> <b>CHAIR: Jaroslav Kruis</b> <b>(ROOM 3)</b>		
<b>09:00 – 09:30</b>	<u>T. Krejci</u> , T. Koudelka and M. Broucek	Numerical Modelling of Moisture Transfer in Saturated and Non-saturated Porous Media
<b>09:30 – 10:00</b>	<u>Pavel Beran</u>	The Impact of the Coefficient of Absorption of Solar Radiation on the State of Stress in Heterogeneous Masonry
<b>10:00 – 10:30</b>	<u>P. Jarošová</u> and S. Štátník	Modelling of thermal transfer for energy saving buildings
<b>10:30 – 11:00</b>	<u>Pavel Beran</u>	Thermal fatigue: the Impact of the Length of Time Step on the Amount of Stress Cycles
<b>Coffee Break</b>		



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<b>26 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XIX</b> <b>CHAIR: Hartmut Schwandt</b> <b>(ROOM 4)</b>		
09:00 – 09:30	<i><u>Dorota Aniszewska</u> and Marek Rybczuk</i>	Modelling Elastic and Plastic Material Properties with the Movable Cellular Automata
09:30 – 10:00	<i><u>Hsiu-Chuan Wei,</u> Shin-Feng Hwang, Yuh-Yih Chen and Tze-Jang Chen (24-27)</i>	Numerical Simulation of a Mathematical Model of Combination of Immunotherapy and Chemotherapy of Cancer
10:00 – 10:30	<i>Neil Armour, Farid Mechigel and <u>Sadik</u> <u>Dost</u></i>	Numerical Simulation of the Dissolution Process of Silicon into Germanium Melt
10:30 – 11:00	<i><u>Hartmut Schwandt,</u> Frank Huth, Günter Bärwolff</i>	A Macroscopic Model for Intersecting Pedestrian Streams with Tactical and Strategical Redirection
11:00 – 11:30	<b>Coffee Break</b>	





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<b>26 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XX</b> <b>CHAIR: Tetsuya Kanagawa</b> <b>(ROOM 5)</b>		
<b>09:00 – 09:30</b>	<b><u>Tetsuya Kanagawa</u></b> <b>and <u>Ryu Egashira</u></b>	<b>Numerical Study on Acoustics in Bubbly Liquids Based on Weakly Nonlinear Wave Equations</b>
<b>09:30 – 10:00</b>	<b><u>M. Hadrava, M. Feistauer, J. Horáček and A. Kosík</u></b>	<b>Discontinuous Galerkin Method for the Problem of Linear Elasticity with Applications to the Fluid-Structure Interaction</b>
<b>10:00 – 10:30</b>	<b><u>A. Kosík, M. Feistauer, M. Hadrava and J. Horáček</u></b>	<b>Discontinuous Galerkin Method for Coupled Problems of Compressible Flow and Elastic Structures</b>
<b>10:30 – 11:00</b>	<b><u>Lina von Sydow</u></b>	<b>On Discontinuous Galerkin for Time Integration in Option Pricing Problems with Adaptive Finite Differences in Space</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>26 September 2013</b>		
<b>SESSION: Applied and Numerical Mathematics XXI</b>		
<b>CHAIR: Ricardo C. Barros</b>		
<b>(ROOM 6)</b>		
<b>09:00 – 09:30</b>	<i><b>Frederico P. Santos, Hermes Alves Filho, <u>Ricardo C. Barros</u></b></i>	<b>Coarse-mesh Diffusion Synthetic Acceleration of the Scattering Source Iteration Scheme for One-Speed Slab- Geometry Discrete Ordinates Problems</b>
<b>09:30 – 10:00</b>	<i><b><u>D. de Niem</u></b></i>	<b>A Finite Strain Method in 2D Cylindrical Coordinates</b>
<b>10:00 – 10:30</b>	<i><b><u>Paweł Ocłoń,</u> Marzena Nowak, Karol Majewski</b></i>	<b>Numerical Simulation of Water Evaporation inside Vertical Circular Tubes</b>
<b>10:30 – 11:00</b>	<i><b>Sixu Chen, <u>Longjian</u> <u>Li</u>, Anjie Hu</b></i>	<b>Simulation of Bubble Growing with Lattice Boltzmann Method</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>26 September 2013</b> <b>SESSION: Workshop on Genomathematics for Matter and its Isodual for Antimatter</b> <b>CHAIR: A. A. Bhalekar</b> <b>(ROOM 7)</b>		
<b>09:00 – 10:00</b>	<b><u>R. M. Santilli</u></b>	Recollections on the birth of the Lie-admissible formulations
<b>10:00 – 11:00</b>	<b><u>T. Vougiouklis</u></b>	The hypernumbers (e- hypernumbers) in Santilli's sense
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	
<b>11:30 – 12:30</b>	<b><u>P. Nikolaidou</u></b>	The Lie-Santilli admissible hyperalgebras of type $A_n$
<b>12:30 – 13:30</b>	<b><u>N. Lygeros</u></b>	Notes on Hv-groups
<b>Lunch Break</b>		



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<b>26 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXII</b> <b>CHAIR: Inna Elyukhina</b> <b>(ROOM 8)</b>		
<b>09:00 – 09:30</b>	<b><i><u>Sepideh Afshar and</u></i> <i><u>Madoc Sheehan</u></i></b>	<b>CFD and Experimental Study of Convective Heat Transfer in Free Falling Particle Curtains</b>
<b>09:30 – 10:00</b>	<b><i><u>O. Raizer, H. Smaoui, A. Ouahsine and P. Sargent</u></i></b>	<b>Body Force Term Comparison in Lattice Boltzmann Method for Shallow Water Equations</b>
<b>10:00 – 10:30</b>	<b><i><u>Inna Elyukhina and Rafail Apakashev</u></i></b>	<b>Identification of Weakly non-Newtonian Properties at Small Shear Rates</b>
<b>10:30 – 11:00</b>	<b><i><u>Wenzhi Cui, Hongxiang Li, Longjian Li, Quan Liao</u></i></b>	<b>Thermal Stress Analysis of DSG Solar Absorber Tube in Stratified Two-Phase Regime</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>26 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXVI</b> <b>CHAIR: Andrey K. Gorshenin</b> <b>(ROOM 9)</b>		
09:00 – 09:30	<u>Andrey K. Gorshenin</u> , Victor Yu. Korolev, Nina N. Skvortsova and Dmitry V. Malakhov	<b>On Non-parametric Methodology of the Plasma Turbulence Research</b>
09:30 – 10:00	<u>Andrey K. Gorshenin</u> , Victor Yu. Korolev, German M. Batanov, Nina N. Skvortsova and Dmitry V. Malakhov	<b>On Investigation of the Fine Structure of Processes in Low-frequency Plasma Turbulence</b>
10:00 – 10:30	<u>Andrey K. Gorshenin</u> , Victor Yu. Korolev, Alexander I. Zeifman, Sergey Ya. Shorgin, Andrey V. Chertok, Artem I. Evstafyev and Alexander Yu. Korchagin	<b>Modelling Stock Order Flows with Non-homogeneous Intensities from High-frequency Data</b>
10:30 – 11:00	<u>Ivana Ivanovic</u> , Aleksandar Sedmak and Vukic Lazic	<b>Numerical Analysis of Thermal Conditions for Planning and Further Improvements of Hard Surfacing Experiment</b>
11:00 – 11:30	<b>Coffee Break</b>	



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<b>26 September 2013</b> <b>SESSION: Sequence spaces, Summability and Applications</b> <b>CHAIR: Jeff CONNOR</b> <b>(ROOM 1)</b>		
11:30 – 12:00	<u><i>Ekrem Savas</i></u>	On Asymptotically Generalized Statistical Equivalent Set Sequences
12:00 – 12:30	<u><i>Maria Zeltser</i></u>	The Hahn Property of Bounded Domains of Some Matrix Methods
12:30 – 13:00	<u><i>Nimet Pancaroglu</i></u>	On Asymptotically Lacunary Invariant Statistical Equivalent Set Sequences
<p style="font-size: 1.2em;"><b>Lunch Break</b></p>		

<b>26 September 2013</b> <b>SESSION: Boundary value Problems and Integral Equations with Applications</b> <b>CHAIR: P. A. Krutitskii</b> <b>(ROOM 2)</b>		
11:30 – 12:00	<u><i>P.A.Krutitskii</i></u>	On the Dirichlet problem for the dissipative Helmholtz equation in the exterior of non-closed Lipschitz surfaces
12:00 – 12:30	<u><i>Gleb V. Ryzhakov</i></u>	On Estimate of the Gradient of the Hypersingular Integral Equation Solution with use of Some Numerical Scheme
12:30 – 13:00	<u><i>G.V. Alekseev and A.V. Lobanov</i></u>	Analysis of 2-D cloaking problem using wave flow method
13:00 – 13:30	<u><i>Arvet Pedas and Gennadi Vainikko</i></u>	On the regularity of solutions of nonlinear integral equations



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<b>26 September 2013</b> <b>SESSION: Symposium on Computational Modeling of Transport Processes in Building Materials and their Multi- Layered Systems</b> <b>CHAIR: Tomáš Krejčí</b> <b>(ROOM 3)</b>		
<b>11:30 – 12:00</b>	<b><u>Jaroslav Kruis</u></b>	<b>Heat Transfer in Damaged Material</b>
<b>12:00 – 12:30</b>	<b><u>T. Koudelka</u>, T. Krejci and M. Broucek</b>	<b>Modelling of Coupled Hydro- Mechanical Problem for Porous Media</b>
<b>12:30 – 13:00</b>	<b><i>Tomáš Vavřiník, <u>Jan</u> <u>Zatloukal</u>, Jindřich Fornůšek, Petr Konvalinka</i></b>	<b>Numerical Analysis of Projectile Impact on Cementitious Composite</b>
<b>Lunch Break</b>		



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<b>26 September 2013</b>		
<b>SESSION: Application of Fuzzy Logic and Neural Networks in Construction Management</b>		
<b>CHAIR: Edyta Plebankiewicz (ROOM 4)</b>		
<b>11:30 – 12:00</b>	<b><i>M. Kużawa, J. Bień, M. Gładysz</i></b>	<b>Hybrid Knowledge Expert Tool for Load Capacity Assessment of Railway Plate Girders with Defects</b>
<b>12:00 – 12:30</b>	<b><i>N. Ibadov, J. Kulejewski, M. Krzemiński</i></b>	<b>Fuzzy Ordering of the Factors Affecting the Implementation of Construction Projects in Poland</b>
<b>12:30 – 13:00</b>	<b><i>M. Juszczak</i></b>	<b>The Use Of Artificial Neural Networks For Residential Buildings Conceptual Cost Estimation</b>
<b>13:00 – 13:30</b>	<b><i>K. Zima</i></b>	<b>The Concept Of Investment Decision Support Model Using Fuzzy Set Theory</b>
<b>13:30 – 14:00</b>	<b><i>A. Leśniak</i></b>	<b>The application of artificial neural networks in indirect cost estimation</b>
<b>Lunch Break</b>		





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<b>26 September 2013</b>		
<b>SESSION: Applied and Numerical Mathematics XXIII</b>		
<b>CHAIR: Rostislav I. Nepershin</b>		
<b>(ROOM 5)</b>		
<b>11:30 – 12:00</b>	<b><i>A.I. Fedotov</i></b>	<b>Convergence of the Quadrature-differences Method for Singular Integro- differential Equations on the Interval</b>
<b>12:00 – 12:30</b>	<b><i>Rostislav I. Nepershin</i></b>	<b>Tube Bending on the Roll Machine</b>
<b>12:30 – 13:00</b>	<b><u><i>Vladimir Popov</i></u></b>	<b>Multi-Robot Forest Coverage for Unweighted Terrain</b>
<b>13:00 – 13:30</b>	<b><u><i>Anna Gorbenko</i></u></b>	<b>Automatic Generation of Modules of Object Categorization for Autonomous Mobile Robots</b>
<b>Lunch Break</b>		



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<b>26 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXIV</b> <b>CHAIR: Kenji Miyazaki</b> <b>(ROOM 6)</b>		
<b>11:30 – 12:00</b>	<b><u>Martin Kalina</u></b>	<b>Static Task of Von Mises Planar Truss Analyzed Using the Potential Energy</b>
<b>12:00 – 12:30</b>	<b><u>Kenji Miyazaki</u></b>	<b>Animal Spirits, Competitive Markets, and Endogenous Growth</b>
<b>12:30 – 13:00</b>	<b><u>S. A. David, D. D. Quintino, J. Soliani</u></b>	<b>Fractional-Order in a Macroeconomic Dynamic Model</b>
<b>13:00 – 13:30</b>	<b><u>Eduardo Restrepo, Francisco Moreno and Fernando Sánchez Lasheras</u></b>	<b>Identification of Frequent Touristic Routes Using the SMoT Algorithm</b>
<b>Lunch Break</b>		



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<b>26 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXV</b> <b>CHAIR: Manish Kumar</b> <b>(ROOM 8)</b>		
<b>11:30 – 12:00</b>	<b><i>Akhilesh Prasad, Manoj Kumar Singh and <u>Manish Kumar</u></i></b>	<b>The Continuous Fractional Wave Packet Transform</b>
<b>12:00 – 12:30</b>	<b><i><u>Yue Qiu</u>, Martin B. van Gijzen, Jan- Willem van Wingerden and Michel Verhaegen</i></b>	<b>A Class of Efficient Preconditioners with Multilevel Sequentially Semiseparable Matrix Structure</b>
<b>12:30 – 13:00</b>	<b><i><u>Maharavo Randrianarivony</u></i></b>	<b>On Space Enrichment Estimator for Nonlinear Poisson-Boltzmann</b>
<b>13:00 – 13:30</b>	<b><i><u>Nabil M. Naqy</u></i></b>	<b>Numerical Analysis of Soft Clay Performance Reinforced by Geosynthetics Encased Stone Columns</b>
<b>Lunch Break</b>		



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<b>26 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXVII</b> <b>CHAIR: Zhixin Yan</b> <b>(ROOM 9)</b>		
11:30 – 12:00	<i><u>Yuma Ieshiro</u> and Toshiaki Itoh</i>	Verification of RRA and CMC in OpenSim
12:00 – 12:30	<i>Chi-Ta Yang, Yu-Shiang Hung and Guang-Feng Deng</i>	Time Series Clustering Analysis of Health-Promoting Behavior
12:30 – 13:00	<i>Ningbo Peng, <u>Zhixin Yan</u>, Bo Sun, and Le Gao</i>	Dynamic Responses of a Grotto under Strong Earthquake, Yungang Grottoes, Shanxi Province, China
13:00 – 13:30	<i><u>Zhi-xin Yan</u>, Le Gao, Ningbo Peng and Gang Gao</i>	Influence of Ground Parameters on the Dynamic Responses of Anchored Bedding Rock Slope
<b>Lunch Break</b>		

<b>26 September 2013</b> <b>SESSION: Sequence spaces, Summability and Applications</b> <b>CHAIR: Ekrem SAVAS</b> <b>(ROOM 1)</b>		
15:00 – 15:30	<i>Jeff Connor</i>	Lacunary Statistical and Sliding Window Convergence for Measurable Functions
15:30 – 16:00	<i>Hafize Gumus</i>	Lacunary Strongly $(A, \varphi)$ Convergent Sequences Defined by a Modulus Function
16:00 – 16:30	<i><u>Mustafa Kemal Özdemir</u></i>	On Some New Double Spaces of $\lambda$ -convergent and $\lambda$ -bounded Sequences Defined by Orlicz Function



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<b>26 September 2013</b> <b>SESSION: The 2nd Symposium on Numerical Methods of</b> <b>Boundary Value Problems (BVPs): Analysis, Algorithms and</b> <b>Real World Applications</b> <b>CHAIR: Suheil Khoury</b> <b>(ROOM 2)</b>		
15:00 – 15:30	<u><i>Kahar El-Hussein</i></u> <i>Invited Speaker</i>	Functions and numerical solutions of partial differential equation with variables coefficients
15:30 – 16:00	<u><i>Jan Lamac</i></u>	Asymptotic expansion of the solution of the singularly perturbed convection-diffusion equation in the 2D convex polygonal domain
16:00 – 16:30	<u><i>Diana Alina Bistran</i></u>	Parallel Processing Numerical Method for Confined Vortex Dynamics and Applications
16:30 – 17:00	<u><i>Suheil Khoury,</i></u> <u><i>Hussain Ibdah</i></u> & <u><i>Ali Sayfy</i></u>	ABCs and Fourth-Order Spline Collocation for the Solution of Two-Point Boundary Value Problems over an Infinite Domain
17:00 – 17:30	<b>Coffee Break</b>	

<b>26 September 2013</b> <b>SESSION: Boundary value Problems and Integral Equations</b> <b>with Applications</b> <b>CHAIR: P. A. Krutitskii</b> <b>(ROOM 3)</b>		
15:00 – 15:30	<u><i>Nikolay Makarenko</i></u> <u>and <i>Janna Maltseva</i></u>	Nonlinear Lee Waves over Combined Obstacles
15:30 – 16:00	<u><i>SASAMOTO Akira</i></u> and <u><i>P. A. Krutitskii</i></u>	Integral representation of surface voltage on half-plane conductor with embedded crack by D.C. potential difference method



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<b>26 September 2013</b> <b>SESSION: 2013 - Symposium on Numerical Optimization</b> <b>Techniques for Mitigating the Hydrodynamic and</b> <b>Aerodynamic Turbulence with Applications</b> <b>CHAIR: Diana Alina Bistran</b> <b>(ROOM 4)</b>		
15:00 – 15:15	<i>Marcel Topor and Diana Alina Bistran</i>	Solutions for accelerating the numerical algorithms in hydrodynamic problems
15:15 – 15:30	<i>Florica Ioana Dragomirescu, Romeo Susan-Resiga and Sebastian Muntean</i>	Proper orthogonal decomposition method in swirling flows applications
15:30 – 15:45	<i>Loredana Ghiormez, Octavian Prostean, Manuela Panoiu and Caius Panoiu</i>	Numerical modelling of some nonlinear processes in electric arc furnace operation
15:45 – 16:00	<i>Cristian Abrudean</i>	Numerical simulation of phase transitions in heating or refrigeration processes
16:00 – 16:15	<i>Alina Lascutoni, Erika Diana Ardelean, Viorel Liviu Pascu and Teodor Heput</i>	Mathematical model regarding at addition of microcoolers in tundish of continuous casting machines
16:15 – 16:30	<i>Manuela Panoiu, Loredana Ghiormez, Caius Panoiu and Anca Iordan</i>	A numerical modelling of nonlinear load behaviour using artificial neural networks
16:30 – 16:45	<i>Cristian Abrudean</i>	Optimization of iterative calculus over large arrays in multiprocessor systems
16:45 – 17:00	<i>Raluca Rob and Cezara Rat</i>	Mathematical model for studying the variation of the electrical parameters in functioning of nonlinear loads



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<b>Poster Session</b>	
<b>26 September 2013: 15:00 – 17:00</b>	
<b>SESSION (107): 2013 - Symposium on Numerical Optimization Techniques for Mitigating the Hydrodynamic and Aerodynamic Turbulence with Applications</b>	
<b><i>Luiza Zavalan, Delia Teleaga and Marius Stoia-Djeska</i></b>	<b>Estimated order of accuracy of a Finite- Volume-Particle scheme for artificial compressibility Euler equations</b>



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<b>26 September 2013</b> <b>SESSION: Second Minisymposium on Mathematical Modeling  in Hydrology: Novel Insight in Hydrological Modeling</b> <b>CHAIR: Ubertini Lucio and Fabio Russo</b> <b>(ROOM 5)</b>		
15:00 – 15:18	<i>Di Francesco</i>	Wall roughness effect in the Lattice Boltzmann method <i>S. Di Francesco, A. Zarghami, C. Biscarini, P. Manciola</i>
15:19 – 15:37	<i>Russo</i>	Comparison of different fittings of experimental DSD <i>E. Adirosi, L. Baldini, F. Lombardo, F. Russo, F. Napolitano</i>
15:38 – 15:55	<i>Vertommen</i>	Joint Probabilities of Demands on a Water Distribution Network: A Non-Parametric Approach <i>E. Ridolfi, I. Vertommen, R. Magini</i>
15:56 – 16:14	<i>Spina</i>	Data selection to assess bias in rainfall radar estimates: an entropy based method <i>S. Spina, S. Sebastianelli, E. Ridolfi, F. Russo, F. Napolitano, L. Baldini, L. Alfonso</i>
16:15 – 16:23	<i>Spina</i>	IDF relationships for short duration rainfall <i>V. Montesarchio, S. Spina, F. Russo, F. Napolitano</i>
16:24 – 16:42	<i>Orlando</i>	Long Term Discharge Simulation through a Geomorphological Model <i>D. Orlando, M. Rianna, M. Giglioni, V. Baiocchi, F. Russo, F. Napolitano</i>
16:43 – 17:00	<i>Orlando</i>	Identification of Independent Storm Events: Seasonal and Spatial Variability of Times between Storms in Alpine Area <i>C. Iadanza, M. Rianna, D. Orlando, F. Napolitano, L. Ubertini</i>





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<b>26 September 2013</b>		
<b>SESSION: Symposium on the Numerical Solution of Differential Equations and their Applications</b>		
<b>CHAIR: Zacharoula Kalogiratos and Theodore Monovasilis (ROOM 6)</b>		
<b>15:00 – 15:30</b>	<b><u>Z. Kalogiratos</u>, Th. Monovasilis, T.E.Simos</b>	<b>A Trigonometrically Fitted Modified Symplectic Runge- Kutta-Nystrom Methods of Order Four</b>
<b>15:30 – 16:00</b>	<b><u>Th. Monovasilis</u>, Z. Kalogiratos, T.E.Simos</b>	<b>Exponentially Fitted Symplectic Runge Kutta Nystrom Methods Derived by Partitioned Runge Kutta methods.</b>
<b>16:00 – 16:30</b>	<b><u>Josef Rebenda</u>, Zdenek Smarda</b>	<b>Comparison of differential transformation method with Adomian decomposition method for functional differential equations with proportional delays</b>
<b>16:30 – 17:00</b>	<b><u>D.F. Papadopoulos</u> and T.E. Simos</b>	<b>TBA</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	



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<b>26 September 2013</b> <b>SESSION: Workshop on Genomathematics for Matter and its</b> <b>Isodual for Antimatter</b> <b>CHAIR: V. M. Tangde</b> <b>(ROOM 7)</b>		
15:00 – 16:00	<u><i>A. K. Aringazin</i></u>	Special orthogonal and unitary Lie-Santilli groups, their relationship and action on linear spaces
16:00 – 17:00	<u><i>S. Georgiev</i></u>	Isofunctions and their properties
17:00 – 17:30	<b>Coffee Break</b>	
17:30 – 18:30	<u><i>J. T. Gbolahan</i></u>	Quasigroup, Loops and their applications
18:30 – 19:30	<u><i>T. Vougiouklis</i></u>	Geno-hyper-fields and geno-hyper-numbers for a matter and antimatter model
19:30 – 20:30	<u><i>N. Lygeros</i></u>	From Hv-groups to e-hyperstructures and e-hyperfields

<b>26 September 2013</b> <b>SESSION: Advanced Topics in Solid Mechanics</b> <b>CHAIR: Prof. Simona ROATESI</b> <b>(ROOM 8)</b>		
16:00 – 16:30	<u><i>Simona ROATESI</i></u>	Analytical Approach of the Tunnel Face Effect on the Rock-Support Interface in Viscoelastic Rock Mass
16:30 – 17:00	<u><i>Iuliana SPRINTU,</i></u> <i>S. ROATESI</i>	Experimental Validation Of New Mathematical Solutions For Orthotropic Plates With Clamped Edges



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<b>26 September 2013</b>		
<b>SESSION: Applied and Numerical Mathematics XXVIII</b>		
<b>CHAIR: Daniel Kovach</b>		
<b>(ROOM 9)</b>		
<b>15:00 – 15:30</b>	<b><u>Daniel Kovach</u></b>	<b>The Computational Theory of Intelligents</b>
<b>15:30 – 16:00</b>	<b><u>A. Ramírez-López,</u> <u>D. Muñoz-Negron,</u> <u>V. Cruz-Morales, S.</u> <u>Romero-Hernández</u></b>	<b>Comparison between Stochastic Simulation of Metallic Grain Structures (Random Vertexes Creation and Random Nucleation and Growth)</b>
<b>16:00 – 16:30</b>	<b><u>Marcin Molski</u></b>	<b>Mapping Method in Life Sciences and Beyond</b>
<b>16:30 – 17:00</b>	<b><u>Thao Nguyen, Jiho Han</u> and <u>Dong-Chul Park</u></b>	<b>Satellite Image Classification Using Convolutional Learning</b>
<b>17:00 – 17:30</b>	<b>Coffee Break</b>	

**END OF THE 6<sup>TH</sup> DAY**



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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics VII</b> <b>CHAIR: Julius Reiss</b> <b>(ROOM 1)</b>		
<b>09:00 – 09:30</b>	<b><u>Anush Martirosyan</u></b>	<b>Equivalence of Absolute and Unconditional Convergences for Wavelet Systems</b>
<b>09:30 – 10:00</b>	<b><i>Mathias Lemke, <u>Julius Reiss</u> and Jörn Sesterhenn</i></b>	<b>Adjoint-based Analysis of Thermoacoustic Coupling</b>
<b>10:00 – 10:30</b>	<b><i>Włodzimierz Bielski, Adam Idzik, <u>Piotr Kowalczyk</u>, El'zbieta Czerwosz and Joanna Rymarczyk</i></b>	<b>Numerical Modelling of Electric Current Flow in Nanocrystalline 2D Carbon-Palladium Structures via Homogenization Method</b>
<b>10:30 – 11:00</b>	<b><u>Robert Lewtak</u></b>	<b>Numerical Simulation of Air and Oxy-fuel Combustion of Single Coal Particles using the Reactive Implicit Continuous-fluid Eulerian (RICE) Method</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics VIII</b> <b>CHAIR: Barbara Szyszka</b> <b>(ROOM 2)</b>		
09:00 – 09:30	<u><b>Nikolaos P. Karagiannakis,</b></u> <b>George C. Bourantas,</b> <b>Alexandros N. Kalarakis, Eugene D. Skouras,</b> <b>and Vasilis N. Burganos</b>	<b>Efficiency of the Meshless Local Petrov-Galerkin Method with Moving Least Squares Approximation for Thermal Conduction Applications</b>
09:30 – 10:00	<u><b>Barbara Szyszka</b></u>	<b>Chosen Interval Methods for Solving Linear Interval Systems with Special Type of Matrix</b>
10:00 – 10:30	<u><b>Ewa Magnucka-Blandzi and Leszek Wittenbeck</b></u>	<b>Approximate Solutions of Equilibrium Equations of Sandwich Circular Plate</b>
10:30 – 11:00	<u><b>Rafayel Barkhudaryan</b></u>	<b>Finite Difference Method for Two-Phase Obstacle Problem</b>
11:00 – 11:30	<b>Coffee Break</b>	



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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics IX</b> <b>CHAIR: Vaclav Skala</b> <b>(ROOM 3)</b>		
<b>09:00 – 09:30</b>	<b><u>Vaclav Skala</u></b>	<b>Modified Gaussian Elimination without Division Operations</b>
<b>09:30 – 10:00</b>	<b><u>Vaclav Skala</u></b>	<b>Fast <math>O_{\text{expected}}(N)</math> Algorithm for Finding Exact Maximum Distance in <math>E^2</math> Instead of <math>O(N^2)</math> or <math>O(N \lg N)</math></b>
<b>10:00 – 10:30</b>	<b><u>Vaclav Skala</u></b>	<b>New Geometric Continuity Solution of Parametric Surfaces</b>
<b>10:30 – 11:00</b>	<b><u>Miroslaw Głowacki,</u> <i>Tomasz Dębiński</i> <i>and Izabela Olejarczyk- Woźeńska</i></b>	<b>Fast Parallel Computation Algorithm in Application to Simulation of Semi-Solid Steel Rolling and Inverse Analysis of its Properties</b>



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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics X</b> <b>CHAIR: R. Guirardello</b> <b>(ROOM 4)</b>		
<b>09:00 – 09:30</b>	<b><u>R. Guirardello</u></b>	<b>Numerical Solution for the Diffusion Equation using a Variational Formulation</b>
<b>09:30 – 10:00</b>	<b><u>B. A. Jacobs and C. Harley</u></b>	<b>A Comparison of Two Hybrid Methods for Applying the Time-Fractional Heat Equation to a Two Dimensional Function</b>
<b>10:00 – 10:30</b>	<b><u>R. Guirardello</u></b>	<b>Numerical Solution for Adsorption in Porous Spheres Using a Variational Formulation</b>
<b>10:30 – 11:00</b>	<b><u>R. Guirardello</u></b>	<b>An Asymptotic Variational Formulation for the Diffusion Equation</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>27 September 2013</b>		
<b>SESSION: Applied and Numerical Mathematics XI</b>		
<b>CHAIR:</b>		
<b>(ROOM 5)</b>		
<b>09:00 – 09:30</b>	<b><i>Václav Valenta, Václav Šátek, <u>Jirí Kunovský</u> and Patricia Humenná</i></b>	<b>Adaptive Solution of Laplace Equation</b>
<b>09:30 – 10:00</b>	<b><i><u>A. Hussein</u> and M. C. Santos</i></b>	<b>On the Numerical Integration of Hill's Problem</b>
<b>10:00 – 10:30</b>	<b><i>Jan Kopriva, <u>Jirí Kunovský</u>, Václav Šátek, Martina Drozdová and Alexander Schirrer</i></b>	<b>Parallel Computations Based on Automatic Transformation of Ordinary Differential Equations</b>
<b>10:30 – 11:00</b>	<b><i>Václav Šátek, <u>Jirí Kunovský</u>, Filip Kocina and Jan Chaloupka</i></b>	<b>Taylor Series Based Computations and MATLAB ODE Solvers Comparisons</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	





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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XII</b> <b>CHAIR: Juanfang Liu</b> <b>(ROOM 6)</b>		
<b>09:00 – 09:30</b>	<b><u>Athanasios V. Nesiadis,</u> John S. Anagnostopoulos and Dimitris E. Papantonis</b>	<b>Study of the Injector Design in Impulse Hydro Turbines</b>
<b>09:30 – 10:00</b>	<b><u>Raymon White,</u> Matthias Heil and Milan Mihajlovi</b>	<b>Preconditioning of the Navier-Stokes Equations With Multiple Constraints</b>
<b>10:00 – 10:30</b>	<b><u>Ioannis Kassanos,</u> John Anagnostopoulos and Dimitris Papantonis</b>	<b>Development of a Hydraulic Turbine Design Method</b>
<b>10:30 – 11:00</b>	<b><u>Juanfang Liu and</u> Qinghua Chen</b>	<b>Thermodynamic Analysis on one Isothermal Expansion Process</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXXIII</b> <b>CHAIR: Ryo Kobayashi</b> <b>(ROOM 7)</b>		
<b>09:00 – 09:30</b>	<b><u>Mizuhiko Saeki</u></b>	<b>Transverse Susceptibilities of Ferromagnetic Spin System Interacting with Phonon Reservoir in the Spin-wave Approximation</b>
<b>09:30 – 10:00</b>	<b><u>Ryo Kobayashi,</u> <i>Toshiyuki Nakagaki,</i> <i>and Akio Ishiguro</i></b>	<b>A Design Principle of the Decentralized Control and its Applications</b>
<b>10:00 – 10:30</b>	<b><u>B. S. Kashkari and</u> <i>H. O. Bakodah</i></b>	<b>New Modification of Laplace Decomposition Method for Seventh Order KdV Equation</b>
<b>10:30 – 11:00</b>	<b><u>Yue Wu, Babatunde</u> <i>A. Bamgbade, Ward</i> <i>A. Burgess, Deepak</i> <i>Tapriyal, Hseen O.</i> <i>Baled, Robert M.</i> <i>Enick, Mark A.</i> <i>McHugh</i></b>	<b>Equation of State Density Models for Hydrocarbons in Ultradeep Reservoirs at Extreme Temperature and Pressure Conditions</b>
<b>11:00 – 11:30</b>	<b>Coffee Break</b>	



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<b>27 September 2013</b> <b>SESSION: Theoretical and numerical modeling of systems</b> <b>with long range interactions</b> <b>CHAIR: Sergio Curilef</b> <b>(ROOM 1)</b>		
11:30 – 12:00	<b><u>S Curilef</u></b>	Analytical solutions for a nonlinear reaction-diffusion equation
12:00 – 12:30	<b><u>L Velazquez</u></b>	Remarks on thermo-statistical description of gravitational clustering phenomenon in cosmology
12:30 – 13:00	<b><u>S Davis</u></b>	Estimation of Tsallis' q-index in non-extensive systems
13:00 – 13:30	<b><u>N Kalogeropoulos</u></b>	Tsallis entropy and hyperbolicity

<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XIII</b> <b>CHAIR: Jan Kočí</b> <b>(ROOM 2)</b>		
11:30 – 12:00	<b><u>Jan Kočí, Jiří Maděra and Robert Černý</u></b>	<b>A Verification of the Genetic Programming Method in the Inverse Analysis of Moisture Transport in Building Materials</b>
12:00 – 12:30	<b><u>Hamdy Hassan, Souad Harmand</u></b>	<b>Optimization the Regions Thickness of Flat Heat Pipe</b>
12:30 – 13:00	<b><u>Hamdy Hassan, Souad Harmand</u></b>	<b>Effect of Cu-water Nanofluid on the Heat Transfer by Rotating Heat Pipe</b>
13:00 – 13:30	<b><u>Václav Kočí, Jan Kočí, Kamil Ďurana, Jiří Maděra and Robert Černý</u></b>	<b>Determination of Moisture-Dependent Moisture Diffusivity Using Smoothed Experimental Data</b>



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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XIV</b> <b>CHAIR: Hussein Mustapha</b> <b>(ROOM 3)</b>		
11:30 – 12:00	<i><u>Hussein Mustapha,</u></i> <i><u>Mael Rouxel-Labbé,</u></i> <i><u>and Hicham Abbas</u></i>	An Efficient Modified Gabriel Method for Triangulating Complex Fractured Media for Multiphase Flow Simulations
12:00 – 12:30	<i><u>Reza Mokhtarpour,</u></i> <i><u>Shabrina Virta Inmas</u></i> <i><u>and Metin Muradoglu</u></i>	A New Consistent Hybrid Algorithm for Solution of the PDF Equations of Turbulent Reactive Flow
12:30 – 13:00	<i><u>Filip Kolarík and</u></i> <i><u>Borek Patzák</u></i>	Modeling of Fiber Orientation in Viscous Fluid Flow with Application to Self-Compacting Concrete
13:00 – 13:30	<i><u>Hussein Mustapha</u></i>	Multiphase Flow Simulations in Heterogeneous Fractured Media through Hybrid Grid Method

<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XV</b> <b>CHAIR: Faisal AL-Malki</b> <b>(ROOM 4)</b>		
11:30 – 12:00	<i><u>Mohamed S.</u></i> <i><u>Mohamed, Faisal AL-</u></i> <i><u>Malki and Khaled A.</u></i> <i><u>Gepreel</u></i>	Approximate Solution for Fractional Zakharov-Kuznetsov Equation using the Fractional Complex Transform
12:00 – 12:30	<i><u>Dai Xiaoqiang, Wang</u></i> <i><u>Yue, Zhao Lin and Xu</u></i> <i><u>Runzhang</u></i>	Comparative Analysis on Convexity Methods for Proving Blowup
12:30 – 13:00	<i><u>Wu Weipeng, Xu</u></i> <i><u>Zhengsheng and Xu</u></i> <i><u>Runzhang</u></i>	Quenching Phenomenon for Nonlinear Parabolic Problems with Opposite Absorption Sources
13:00 – 13:30	<i><u>Gao Songa, Wu</u></i> <i><u>Senyangb, Xu</u></i> <i><u>Runzhang</u></i>	Study of System Dynamics and its Application in Water Resources Estimation



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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XVI</b> <b>CHAIR: M. Gitterm</b> <b>(ROOM 5)</b>		
11:30 – 12:00	<u>S. A. David and C. A. Valentim Jr.</u>	On Fractional Order of an Oscillatory System
12:00 – 12:30	<u>Toshiaki Itoh</u>	Correspondence between Schwarzian Derivative of ODE and Cross-ratio of Ordinary Difference Equation
12:30 – 13:00	<u>Hulya Kodal Sevindir and Cuneyt Yazici</u>	An Image Denoising Application Using Shearlets
13:00 – 13:30	<u>Hulya Kodal Sevindir, Cuneyt Yazici Abul Hasan Siddiqi And Zafer Aslan</u>	On Analysis of Electroencephalogram by Multiresolution-based Energetic Approach

<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XVII</b> <b>CHAIR: Filip Fedorik</b> <b>(ROOM 6)</b>		
11:30 – 12:00	<u>Filip Fedorik</u>	Efficient Design of a Truss Beam by Applying First Order Optimization Method
12:00 – 12:30	<u>Calin Cirstea, Octavian Prostean and Cosmin Cirstea</u>	DOAF – Optimizer Module
12:30 – 13:00	<u>János Rudan, Gábor Szederkényi and Katalin M. Hangos</u>	Computing Dynamically Equivalent Realizations of Biochemical Reaction Networks with Mass Conservation
13:00 – 13:30	<u>Filip Fedorik</u>	Gradient vs. Approximation Design Optimization Techniques in Low-Dimensional Convex Problems



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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XVIII</b> <b>CHAIR: Hugo de la Cruz</b> <b>(ROOM 7)</b>		
<b>11:30 – 12:00</b>	<b><i><u>Hugo de la Cruz, C.</u></i></b> <b><i>H. Olivera and J. P.</i></b> <b><i>Zubelli</i></b>	<b>On the Numerical</b> <b>Integration of a Random</b> <b>Integral Equation Arising in</b> <b>the Simulation of Stochastic</b> <b>Transport Equations</b>
<b>12:00 – 12:30</b>	<b><i><u>Cuneyt Yazici and</u></i></b> <b><i>Hulya Kodal</i></b> <b><i>Sevindir</i></b>	<b>A Correction for Computing</b> <b>Matrix-Valued Nevanlinna-</b> <b>Pick Interpolation Problem</b>
<b>12:30 – 13:00</b>	<b><i><u>K.G. Subramanian,</u></i></b> <b><i>Pradeep Isawasan,</i></b> <b><i>Ibrahim Venkat and</i></b> <b><i>Ahamad Tajudin</i></b> <b><i>Khader</i></b>	<b>Parikh Matrices of Words</b> <b>under a Generalized Thue</b> <b>Morphism</b>



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<b>27 September 2013</b> <b>Applied and Numerical Mathematics Poster Session</b>	
<b><i>Anant Kant Shukla, T. R. Ramamohan and S. Srinivas</i></b>	<b>Analytical Solutions for Limit Cycles of the Forced Van Der Pol Duffing Oscillator</b>
<b><i>Lev Ryashko</i></b>	<b>Numerical Analysis of Noise-Induced Oscillating Bistability in a Prey-Predator Plankton System</b>
<b><i>Irina Bashkirtseva</i></b>	<b>Analysis of Stochastic Equilibria for Nonlinear Discrete Systems with Parametrical Noise</b>
<b><u><i>Lev Ryashko</i></u></b>	<b>Approximation of Stochastic Attractors for Nonlinear SDEs via Confidence Domains</b>
<b><u><i>Ibraheem Alolyan and T.E. Simos</i></u></b>	<b>Four-Step Hybrid type Methods with Vanished Phase-Lag and its Derivatives for Each Level for the Numerical Solution of the Schrödinger Equation and Related Problems</b>



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<b>27 September 2013</b> <b>SESSION: Applied and Numerical Mathematics XXXIV</b> <b>CHAIR: Hideaki Suzuki</b> <b>(ROOM 8)</b>		
<b>11:30 – 12:00</b>	<b><u>Hideaki Suzuki</u> and</b> <b><u>Yoh Iwasa</u></b>	<b>A Network-based Evolutionary Method to Solve Inconsistent Simultaneous Equations Approximately</b>
<b>12:00 – 12:30</b>	<b><u>Martin Čížek</u> and</b> <b><u>Lukáš Gráf</u></b>	<b>Model of Electron Tunneling through Molecular Junction: Numerically Exact Solution and Performance of Approximation Methods</b>
<b>12:30 – 13:00</b>	<b><u>Oleg Gorshkov</u></b>	<b>Estimation of the largest Lyapunov Exponent for Longrange Correlated Stochastic Time Series</b>
<b>13:00 – 13:30</b>	<b><u>Chanyapat</u></b> <b><u>Wiphatthanantha</u></b> <b><u>kul</u></b>	<b>TBA</b>

**END OF THE 7<sup>th</sup> DAY**  
**END OF THE CONFERENCE**