



ICNAAM 2008

Hotel Kypriotis Village-Kypriotis Panorama-Kypriotis International
Conference Center, 16 – 20 September 2008

TUESDAY 16 SEPTEMBER 2008

09:50 – 10:00 (ROOM 1)

OPENING CEREMONY

**Professor Dr. T.E. Simos (Chairman) and
Professor Dr. Ch. Tsitouras (Vice-Chairman)**

PLEASE ATTENTION

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

<u>Monday</u>	15/9/08:	18.00 – 21.00
<u>Tuesday</u>	16/9/08:	09:00 – 13:00, 16:00 – 20:00
<u>Wednesday</u>	17/9/08:	09:00–13:00, 16:00 – 20:00
<u>Thursday</u>	18/9/08:	09:30–13:00, 17:00 – 20:00
<u>Friday</u>	19/9/08:	09:30–13:00, 17:00 – 20:00
<u>Saturday</u>	20/9/08:	09:30–13:00



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Tuesday 16 September 2008

**SESSION: Complex and Hypercomplex Methods in
Applications**

**CHAIR: K. Gürlebeck
(ROOM 1)**

10:00 - 10:20	<u>V.V. Kravchenko</u>	A representation for solutions of Sturm-Liouville equations and its application for solving boundary value and spectral problems
10:20 - 10:40	<u>F. Sommen</u>	Fourier-Borel transforms in Clifford analysis and the dual Fischer decomposition
10:40 - 11:00	<u>N. De Schepper</u>	The cylindrical Fourier transform
Coffee Break		
11:20 - 11:40	<u>A. Schlichting, W. Sprössig</u>	Norm estimations of the modified Teodorescu transform with applications to a multidimensional equation of Airy's type
11:40 - 12:00	<u>S. Bock, K. Gürlebeck</u>	On recurrence Formulae
12:00 - 12:20	<u>S. Bernstein</u>	Clifford continuous wavelet transforms in $Cl_{0,2}$ and $Cl_{0,3}$



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Tuesday 16 September 2008		
SESSION: The 3rd Symposium on Numerical Analysis of Fluid Flow and Heat Transfer		
CHAIR: Pawel Kosinski (ROOM 2)		
10:00 - 10:20	<i><u>J. Felcman</u> and P. Kubera</i>	A Comparison of Adaptation Techniques for the Solution of Non- stationary Flow
10:20 - 10:40	<i><u>Vaclav Kucera</u> and Miloslav Feistauer</i>	DG for compressible inviscid and viscous flows with a large range of Mach numbers
10:40 - 11:00	<i><u>G.J.F. Smit</u> and M. Cloete</i>	Evaluation of Shear Stresses of Generalized Newtonian Fluids in Pore Scale Closure Models
Coffee Break		
11:20 - 11:40	<i><u>Miloslav Feistauer, Vaclav Kucera and Jaroslava Prokopova</u></i>	Numerical simulation of compressible flow in time dependent domains by the DG method
11:40 - 12:00	<i><u>Eric Goncalves, Maxime Champagnac</u> and Regiane Fortes Patella Legi</i>	Numerical Simulations of Cavitating Flows in Venturi
12:00 - 12:20	<i><u>F. Moukalled</u> and M. Darwish</i>	A Coupled Finite Volume Solver for Incompressible Flows



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Tuesday 16 September 2008		
SESSION: Recent Trends in the Numerical Solution of Differential Equations		
CHAIR: L. Brugnano (ROOM 3)		
10:00 - 10:25	<i><u>P.Amodio,</u> L.Brugnano</i>	Recent advances in the parallel solution in time of ODEs
10:25 - 10:50	<i><u>S. Gonzalez-Pinto,</u> D. Hernández- Abreu, J.I. Montijano</i>	Some optimal Runge- Kutta collocation methods for stiff problems and DAEs
10:50 - 11:15	<i><u>D. Hollevoet,</u> M.Van Daele, G.Vanden Berghe</i>	On the leading error term of exponentially fitted Numerov methods
Coffee Break		
11:35 - 12:00	<i><u>F.Iavernaro, B.</u> Pace</i>	Conservative block- Boundary Value Methods for the solution of polynomial Hamiltonian systems
12:00 - 12:25	<i><u>B. Sommeijer, J.</u> Verwer</i>	A two-step RKC method for time-dependent PDEs



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**SESSION: Computation and Analysis in
Coagulation-Fragmentation Equations**

**CHAIR: Fernando P. da Costa
(ROOM 4)**

10:00 - 10:20	<u>Henry van Roessel</u>	Some exact solutions to the coagulation equation with product kernel
10:20 - 10:40	<u>Wilson Lamb</u>	Stability of a class of equilibrium solutions to the coagulation-fragmentation equation
10:40 - 11:00	<u>Flavius Guias</u>	Aggregation processes on networks: deterministic equations, stochastic model and numerical simulation
Coffee Break		
11:20 - 11:40	<u>Jitendra Kumar</u>	A numerical scheme for solving coagulation-fragmentation equations
11:40 - 12:00	<u>Hans Babovsky</u>	Numerical modelling of gelating aerosols
12:00 - 12:20	<u>P. L. W. Man, M. Kraft and J. R. Norris</u>	Coupling algorithms for calculating sensitivities of population balances



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SESSION: Methods for Approximation I

**CHAIR: Annie Cuyt
(ROOM 5)**

10:00 - 10:20	<u>O. Salazar Celis,</u> <i>A. Cuyt and J. Van Deun</i>	Symbolic and Interval Rational Interpolation: the Problem of Unattainable Data
10:20 - 10:40	<u>Grzegorz Rządowski</u>	A formula for the n th order derivative and its applications
10:40 - 11:00	<u>N. A. Baykara,</u> <i>Ercan Gürvit and Metin Demiralp</i>	A Hybridized Finite Taylor Formula by Fluctuation Free Remainder Term for Univariate Function Approximation
Coffee Break		
11:20 - 11:40	<u>Yanwei Wang and Jeff Orchard</u>	Symmetric Discrete Orthonormal Stockwell Transform
11:40 - 12:00	<u>Yilmaz Simsek</u>	Multiple Interpolation Functions of Higher Order (h, q) -Bernoulli Numbers
12:00 - 12:20	<u>İrem Yaman and Metin Demiralp</u>	An Integration Free Universal Approximation Method Based on Orthogonal Polynomials



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Tuesday 16 September 2008

SESSION: INVITED SPEAKER

**CHAIR: Jeff Cash
(ROOM INV)**

12:30 – 13:15

J. C. Butcher

**Forty-five years of A-
stability**

Lunch



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Tuesday 16 September 2008		
SESSION: Complex and Hypercomplex Methods in Applications		
CHAIR: W. Sprössig (ROOM 1)		
15:30 - 15:50	<i>K. Gürlebeck, <u>I. Morais</u></i>	Hadamard's real part theorem for monogenic functions
15:50 - 16:10	<i><u>D.A. Pinotsis</u></i>	Clifford Analysis, Elliptic PDEs and evaluation of integrals
16:10 - 16:30	<i><u>I. Cação</u>, H.R. Malonek</i>	On complete sets of hypercomplex Apell polynomials
16:30 - 16:50	<i>I. Falcao, <u>H.R. Malonek</u></i>	Clifford analysis between continuous and discrete
Coffee Break		
17:10 - 17:30	<i><u>F. Brackx</u></i>	Differential forms in Hermitean Clifford Analysis
17:30 - 17:50	<i><u>H. De Schepper</u></i>	Explicit formulae for the Hermitean monogenic projection operator
17:50 - 18:10	<i>F. Brackx, H. De Schepper, D. Eelbode, <u>V. Souček</u></i>	Explicit formulae for monogenic projections



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Tuesday 16 September 2008 SESSION: The 3rd Symposium on Numerical Analysis of Fluid Flow and Heat Transfer CHAIR: Miloslav Feistauer (ROOM 2)		
15:30 - 15:50	<i>Bohumir Horeni and <u>Zdenek Chara</u></i>	Adaptive meshing for flow calculation on unstructured meshes with mixed curved elements
15:50 - 16:10	<i><u>Keh-Chin Chang, Jian-Hung Lin and Yi-Mei Liu</u></i>	Applicability Limit of Binary Collision Model in Dense Particle Flow
16:10 - 16:30	<i><u>Miroslav Spano and Vlastimil Stara</u></i>	Application of a 2D Turbulence Model for Estimation of the Discharge Coefficient on Round-shaped Weirs
16:30 - 16:50	<i><u>V. Tosa, Katalin Kovacs, P. Mercea, and O. Piringer</u></i>	A Finite Difference Method For Modeling Migration Of Impurities In Multilayer Systems
<p>Coffee Break</p>		
17:10 - 17:30	<i><u>Vitaly V. Bulatov, Yuriy V. Vladimirov and Vasily A. Vakorin</u></i>	Propagation of non-harmonic wave packets in stratified media
17:30 - 17:50	<i><u>Vai Kuong Sin and Tai Yin Tongb</u></i>	Comparison of Numerical Simulation of 2-D Stagnation-Point Flow with Similarity Solution
17:50 - 18:10	<i><u>A. Fakhari, M. H. Rahimian</u></i>	Droplet Deformation and Breakup by Lattice Boltzmann Method



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**SESSION: Computation and Analysis in
Coagulation-Fragmentation Equations**

**CHAIR: Wilson Lamb
(ROOM 3)**

15:30 - 15:50	<i><u>Rafael Sasportes and Fernando P. da Costa</u></i>	<u>Self-similar behaviour in an addition model with input of monomers</u>
15:50 - 16:10	<i><u>Luis Bonilla</u></i>	<u>Theory of surface deposition from boundary layers containing condensable vapor and particles</u>
16:10 - 16:30	<i><u>Michael Grinfeld</u></i>	<u>Bak-Sneppen type models and coagulation- fragmentation processes</u>
Coffee Break		



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<p>Tuesday 16 September 2008</p> <p>SESSION: Operational Research CHAIR: M. Fernanda P. Costa (ROOM 4)</p>		
15:30 - 15:50	<p><i><u>Marie Lund,</u></i> <i><u>Fredrik Ståhl and</u></i> <i><u>Mårten Gulliksson</u></i></p>	<p>Regularity Aspects in Inverse Musculoskeletal Biomechanics</p>
15:50 - 16:10	<p><i><u>M. Fernanda P.</u></i> <i><u>Costa and Edite M.</u></i> <i><u>G. P. Fernandes</u></i></p>	<p>Efficient solving of engineering design problems by an interior point 3-D filter line search method</p>
16:10 - 16:30	<p><i><u>Ana Isabel P.N.</u></i> <i><u>Pereira and Edite</u></i> <i><u>M.G.P. Fernandes</u></i></p>	<p>An Hyperbolic Penalty Filter Method for Semi- Infinite Programming</p>
16:30 - 16:50	<p><i><u>Alireza</u></i> <i><u>Amirteimoori</u></i></p>	<p>Super efficiency in DEA: An Application to Gas Companies</p>
<p>Coffee Break</p>		
17:10 - 17:30	<p><i><u>Anton A. Penzov,</u></i> <i><u>Ivan T. Dimov and</u></i> <i><u>Vladimir N.</u></i> <i><u>Koylazov</u></i></p>	<p>A New Solution of the Rendering Equation with Stratified Monte Carlo Approach</p>
17:30 - 17:50	<p><i><u>Ata Allah</u></i> <i><u>Taleizadeh,</u></i> <i><u>Hassan Shavandi,</u></i> <i><u>Afshin Riazi</u></i></p>	<p>Optimizing Constrained Single Period Problem under Random Fuzzy Demand</p>



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Tuesday 16 September 2008 SESSION: Mathematical and Computer Modeling I CHAIR: Iva Dostálková (ROOM 5)		
15:30 - 15:50	<i><u>Iva Dostálková</u></i>	Mathematical Model of Synchronization of Behaviour in the Group of N Animals
15:50 - 16:10	<i>B. Dugnol, C. Fernández, G. Galiano and J. Velasco</i>	Evolution nonlinear diffusion-convection PDE models for spectrogram enhancement
16:10 - 16:30	<i>Dimitrios N. Gkritzapis, Elias E. Panagiotopoulos, George Kaimakamis</i>	Modified Linear Theory and 6-DOF Trajectory Model, An application to 7.62mm (M852)
16:30 - 16:50	<i><u>Anna Oleynik</u> and John Wyller</i>	Stability of bumps in a two population neural field model
Coffee Break		
17:10 - 17:30	<i><u>K. Papadopoulos, S. Voliotis, E. Leligou, D. Bargiotas, P. Trakadas, Th. Zahariadis</u></i>	A Lightweight Trust Model for Wireless Sensor Networks
17:30 - 17:50	<i><u>K. Papakonstantinou, C. Belias</u></i>	Mathematical Modeling of Air Flowfield at Urban Environment. The Case of Road Network at the Historical Centre of Kifissia's Municipality
17:50 - 18:10	<i><u>Mehrdad Lotfollahi, Massood Mofid and Mohammad Mehdi Alinia</u></i>	Brace-Frame Interaction in Tension Braced MRFs



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SESSION: INVITED SPEAKER

CHAIR: Peter Deuflhard

(ROOM INV)

18:20 – 19:05	Ralf Hiptmair, Patrick Hugueniot, <u>Rolf Jeltsch</u>, Harish Kumar, Christoph Schwab, Manuel Torrilhon and Vincent Wheatley	Numerical Simulation of Compressible Magnetohydrodynamic Plasma Flow in a Circuit Breaker
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Tuesday 16 September 2008

SESSION: INVITED SPEAKER

CHAIR: Brynjulf Owren

(ROOM INV)

19:05 – 19:50	<u>Martin Berzins</u>, Lethuy Tran, Todd Harmon, Jim Guilkeyu, Justin Luitjens	Multiscale Parallel Adaptive Engineering Simulations of Fires and Explosions using the Material Point Method
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Tuesday 16 September 2008

SESSION: INVITED SPEAKER

CHAIR: W. Sprössig

(ROOM INV)

19:50 – 20:35	<u>Richard Delanghe</u>	On Moisil- Théodoresco Systems in Euclidean Space
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20:45

Welcome Drink

END OF THE 1ST DAY



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Wednesday 17 September 2008 SESSION: Complex and Hypercomplex Methods in Applications CHAIR: W. Sprössig (ROOM 1)		
09:00 - 09:20	<i>I. Fu Yuhual, Fu Anjie</i>	Variable dimension fractals in hypercomplex spaces and practical applications
09:20 - 09:40	<i>V. Garant-Pelletier</i>	On a generalized Fatou-Julia theorem in multicomplex spaces
09:40 - 10:00	<i>D. Rochon</i>	Normal families of bicomplex holomorphic functions
10:00 - 10:20	<i>V.G. Kravchenko, V.V. Kravchenko, S. Tremblay</i>	Zakharov-Shabat system and hyperbolic pseudoanalytic function theory
10:20 - 10:40	<i>R. Lávicka</i>	Examples of finely monogenic functions
Coffee Break		
11:00 - 11:20	<i>J. Keller, P. Anglès</i>	Representations of the Clifford algebra $Cl_{-}(1,4)$ and their relevance for physics
11:20 - 11:40	<i>J. Tolksdorf</i>	Dirac versus Majorana equation and Pauli type first order differential operators
11:40 - 12:00	<i>A. Fichtner</i>	Seismic waveform tomography in the time-frequency domain with applications to the Australien upper mantle



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<p style="text-align: center;">Wednesday 17 September 2008 SESSION: The 3rd Symposium on Numerical Analysis of Fluid Flow and Heat Transfer CHAIR: Jiri Felcman (ROOM 2)</p>		
09:00 - 09:20	<i><u>N. Nishikawa and F. Mikami</u></i>	Numerical Simulation of Flow around rotating disk with mixing of injected component
09:20 - 09:40	<i><u>C.G. Ilea, P. Kosinski, A.C. Hoffmann</u></i>	Influence of collision algorithm parameters on statistical results of dust lifting simulations
09:40 - 10:00	<i><u>Adrian Lungu and Costel Ungureanu</u></i>	Numerical Study of a 3-D Juncture Flow
10:00 - 10:20	<i><u>Pawel Kosinski and Anna Kosinska</u></i>	A Eulerian-Lagrangian Simulation of Particle Transport in Fluids
10:20 - 10:40	<i><u>Riccardo Luchi, Simone Salvadori, Francesco Martelli</u></i>	Heat Transfer Prediction of Film Cooling in Supersonic Flow
Coffee Break		
11:00 - 11:20	<i><u>Ana-Maria Tocu and Adrian Lungu</u></i>	Free-Surface Flow Features in the Stern Region of a Propelled Ship
11:20 - 11:40	<i><u>Mariko Nakamura</u></i>	Two-Dimensional Direct Numerical Simulations of Jet Spray under High Pressure
11:40 - 12:00	<i><u>P. Movahed and M. H. Rahimian</u></i>	Parametric Study of Mixed Convection in Channels with a Convex Surface
12:00 - 12:20	<i><u>Mohsen Pirmohammadi, Majid Ghassemi, Ghanbar Ali Sheikhzadeh and Asghar Keshtkar</u></i>	Numerical Study of Magneto-Convection of an Electrically Conducting Fluid with Variable Properties



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Wednesday 17 September 2008		
SESSION: Recent Trends in the Numerical Solution of Differential Equations		
CHAIR: B. Sommeijer (ROOM 3)		
09:00 - 09:25	<i>L. Aceto, P. Ghelardoni, C. Magherini</i>	A generalization of Numerov's method using the BVM approach for Sturm-Liouville eigenvalue estimates
09:25 - 09:50	<i>L. Brugnano, C. Magherini</i>	Blended General Linear Methods based on Generalized BDF
09:50 - 10:15	<i>M. Calvo, J.I. Montijano, L. Rández</i>	On the long time error of first integrals of some numerical integrators
10:15 - 10:40	<i>M. Van Daele, D. Hollevoet, G. Vanden Berghe</i>	Exponentially-fitted methods applied to fourth-order boundary value problems
10:40 - 11:05	<i>J. Wensch, O. Knoth, A. Galant</i>	Multirate time integration for compressible atmospheric flow
Coffee Break		



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Wednesday 17 September 2008		
SESSION: Numerical Methods for Parallel Computers		
CHAIR: Susumu Nakata		
(ROOM 3)		
11:20 - 11:40	<u>Stefan Engblom</u>	Time-parallel Simulation of Stochastic Chemical Kinetic
11:40 - 12:00	<u>Michael L. Minion and Sarah A. Williams</u>	Parallel and Parareal Spectral Deferred Corrections
12:00 - 12:20	<u>Susumu Nakata</u>	Acceleration of Meshfree Radial Point Interpolation Method on Graphics Hardware



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Wednesday 17 September 2008 SESSION: Mathematical and Computer Modeling II CHAIR: D.S. Vlachos (ROOM 4)		
09:00 - 09:20	<u>Hans Babovsky</u>	A numerical model for micro flows
09:20 - 09:40	<u>I. A. Boguslavskiy</u>	Method for the Non-Linear Identification of Aircraft Parameters by Testing Maneuvers
09:40 - 10:00	<u>M. Boulakia, M.A. Fernández, J.F. Gerbeau and N. Zenzemi</u>	Direct and Inverse problems in Electrocardiography
10:00 - 10:20	<u>Lubor Buřič and Vladimir Janovský</u>	On periodic patterns in the traffic flow
10:20 - 10:40	<u>Monica Burlică</u>	Viability for semi-multi-valued reaction-diffusion systems
Coffee Break		
11:00 - 11:20	<u>Ioana Chiorean, Liana Lupşa and Luciana Neamţiu</u>	Markov Models for the Simulation of Cancer Screening Process
11:20 - 11:40	<u>Pierluigi Colli</u>	Modelling and analysis of a class of phase field systems
11:40 - 12:00	<u>Vladimir S. Aslanov</u>	The Oscillations of a Spacecraft under the Action of the Tether Tension Moment and the Gravitational Moment
12:00 - 12:20	<u>Daniela Roşu</u>	Viability for Nonlinear Multi-Valued Reaction-Diffusion Systems



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Wednesday 17 September 2008 SESSION: Numerical Methods I CHAIR: Wouter Hamelinck (ROOM 5)		
09:00 - 09:20	<i><u>Anders Andersson</u> and <u>Börje Nilsson</u></i>	Acoustic transmission in ducts of various shapes with an impedance condition
09:20 - 09:40	<i><u>M. Farhloul</u> and <u>A. M. Zine</u></i>	A dual mixed formulation for non-isothermal Stokes-Oldroyd problem
09:40 - 10:00	<i><u>Wouter Hamelinck</u></i>	The influence of variational crimes on the finite element approximation of a Maxwell eigenvalue problem
10:00 - 10:20	<i><u>Karel Houfek</u></i>	Efficient numerical solution of coupled radial differential equations in multichannel scattering problems
10:20 - 10:40	<i><u>Azadeh Jafari</u>, <u>Michel O. Deville</u> and <u>Nicolas Fiéter</u></i>	Spectral Elements Analysis for Viscoelastic Fluids at High Weissenberg Number Using Logarithmic conformation Tensor Model
Coffee Break		
11:00 - 11:20	<i><u>Thorsten Kattelans</u> and <u>Wilhelm Heinrichs</u></i>	A least-squares spectral collocation scheme with improved stability for the Stokes and the Navier-Stokes equations
11:20 - 11:40	<i><u>Vladislav Kozák</u></i>	Cohesive Zone Modelling
11:40 - 12:00	<i><u>Janja Kramer</u>, <u>Renata Jecl</u> and <u>Leopold Škerget</u></i>	Boundary Domain Integral Method for double diffusive natural convection in porous media saturated with compressible fluid
12:00 - 12:20	<i><u>Jafar Biazar</u>, <u>Zainab Ayati</u>, <u>Hamideh Ebrahimi</u></i>	Comparing Homotopy perturbation method and Adomian decomposition method



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Wednesday 17 September 2008		
SESSION: INVITED SPEAKER		
CHAIR: Annie Cuyt (ROOM INV)		
12:30 - 13:15	G. Alefeld	Complementarity Problems: Error Bounds for Approximate Solutions
Lunch		



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SESSION: Complex and Hypercomplex Methods in Applications		
CHAIR: K.Gürlebeck (ROOM 1)		
15:30 - 15:50	<u>R.Aulaskari</u> , <u>S.Mak</u> <u>hmutov</u> , <u>J.Rättyä</u>	On a -normal and a -Yosida functions
15:50 - 16:10	<u>I.F.Reséndis</u> , <u>I.M.Tovar</u>	Weighted Bergman spaces: Characterizations, series, metrics and inclusions
16:10 - 16:30	<u>A.Perotti</u>	An application of biregularity to quaternionic Lagrange interpolation
16:30 - 16:50	<u>G.Sommer</u> , <u>L.</u> <u>Wietzke</u>	Signal analysis by generalized Hilbert transform
Coffee Break		
17:10 - 17:30	<u>L. Krump</u>	The generalized Dolbeault complex for four Dirac operators in the stable rank
17:30 - 17:50	<u>S. Krýsl</u>	Symplectic Dirac operator and its higher spin analogues
17:50 - 18:10	<u>Guangbin Ren</u> , <u>Liang Liu</u>	Berezin transform in Clifford analysis



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**SESSION: The 3rd Symposium on Numerical Analysis
of Fluid Flow and Heat Transfer**

**CHAIR: Adrian Lungu
(ROOM 2)**

15:30 - 15:50	<i><u>Boris V. Balakin,</u> <u>Alex C. Hoffmann,</u> <u>Pawel Kosinski</u> <u>and Lee D. Rhyne</u></i>	Eulerian-Eulerian simulation of sedimentation of uniformly-sized, non-Brownian spheres in viscous fluids
15:50 - 16:10	<i><u>Fabien Méry</u> and <u>Grégoire Casalis</u></i>	Global instability of an inviscid compressible flow over a cavity
16:10 - 16:30	<i><u>H. Trabelsi, M.</u> <u>Ferchichi</u> and <u>M.S.</u> <u>Guellouz</u></i>	Compliance Mismatch Effects on a Pulsatile Flow in a Stented Artery
16:30 - 16:50	<i><u>Catalin</u> <u>Marculescu</u> and <u>Corneliu Balan</u></i>	Theoretical, Experimental and Numerical Investigations of the Flow Generated by a 3D Spinning Disk
Coffee Break		
17:10 - 17:30	<i><u>Javad Amini, Ali</u> <u>A. Dehghan</u></i>	Two-Dimensional Numerical Modeling of a Salt Gradient Solar Pond
17:30 - 17:50	<i><u>Mansour Nikkha-</u> <u>Bahrani, Masih</u> <u>Loghmani,</u> <u>Mostafa</u> <u>Pooyanfar</u></i>	Wave Propagation In Exponentially Varying Cross-Section Rods And Vibration Analysis
17:50 - 18:10	<i><u>Mihaela</u> <u>Amoraritei</u></i>	Prediction of Marine Propeller Performances using RANS Approaches



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Wednesday 17 September 2008 SESSION: Mathematical Applications in Ecoepidemiology and Medicine CHAIR: Ezio Venturino (ROOM 3)		
15:30 - 15:50	<i><u>Quatember, Mayr and Recheis</u></i>	Simulation of Flow Patterns within the Human Respiratory System
15:50 - 16:10	<i><u>Cavoretto and De Rossi</u></i>	A local IDW Transformation Algorithm for Medical Image Registration
16:10 - 16:30	<i><u>Korol and Foresto</u></i>	Nonlinear Parameters a Powerful Tool on Analyzing Mammalian Erythrocytes Subjected to Mechanical Stress
16:30 - 16:50	<i><u>Stiefs Gross, Venturino, Feudel</u></i>	Computing 3D Bifurcation Diagrams
Coffee Break		
17:10 - 17:30	<i><u>Chatterjee and Venturino</u></i>	The paradox of enrichment in ratio-dependent ecoepidemic models
17:30 - 17:50	<i><u>Venturino and Gersi</u></i>	Modelling crop biocontrol by wanderer spiders
17:50 - 18:10	<i><u>Ajraldi, Costamagna and Venturino</u></i>	A simple model for vector- borne ecoepidemics



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Wednesday 17 September 2008

**SESSION: Numerical Methods for Differential
Equations I**

**CHAIR: Ch. Tsitouras
(ROOM 4)**

15:30 - 15:50	<i>Vanessa Avansini Botta and Messias Meneguette Jr.</i>	Concerning the stability of BDF methods
15:50 - 16:10	<i>Ioannis Th. Famelis, Foivos Xanthos and George Papageorgiou</i>	Runge Kutta families for Additive Noise Stochastic Differential Equations
16:10 - 16:30	<i>Roberto Garrappa</i>	A comparison of some explicit methods for fractional differential equations
16:30 - 16:50	<i>Yoshio Komori</i>	Weak Order Drift-implicit Runge-Kutta Methods for Stochastic Differential Equations
Coffee Break		
17:10 - 17:30	<i>Jiří Kunovský, Václav Šátek and Michal Kraus</i>	25 th Anniversary of TKSL
17:30 - 17:50	<i>Hongli Yang, Xinyuan Wu, Yonglei Fang and Xiong You</i>	RKN Methods Based on Exact Flows of Both Internal Stages and Update for Solving Perturbed Oscillators
17:50 - 18:10	<i>Paulo B. Brito, M. Fátima Fabião and António G. St. Aybyn</i>	A Tree combinatorial structure on the solution of a delay differential equation: a generating function approach



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Wednesday 17 September 2008 SESSION: Numerical Methods II CHAIR: Günter Bärwolff (ROOM 5)		
15:30 - 15:50	<i><u>Günter Bärwolff</u></i>	Convergence analysis of pressure-velocity iteration methods for solving unsteady Navier-Stokes equations
15:50 - 16:10	<i><u>James V. Lambers</u></i>	Enhancement of Krylov Subspace Spectral Methods by Block Lanczos Iteration
16:10 - 16:30	<i><u>T. Bodnár, L. Beneš</u> and K. Kozel</i>	Numerical Simulation of Flow and Pollution Dispersion in the Area of Opencast Coal Mine
16:30 - 16:50	<i><u>Sanoë Koonprasert</u> and Rilrada Sangsawang</i>	Analytical Solution and Symbolic Computation for the Temperature Distribution of the Annular Fin under Fully Wet-Surface Condition
Coffee Break		
17:10 - 17:30	<i><u>Valeriu Savcenco and</u> <u>Eugeniu Savcenco</u></i>	Multirate Numerical Integration for Parabolic PDEs
17:30 - 17:50	<i><u>Sribudh Waewcharoen,</u> <u>Supachai</u> <u>Boonyapibanwong and</u> <u>Sanoë Koonprasert</u></i>	Applications of 2D-Nonlinear Shallow Water Model of Tsunami by Using Adomian Decomposition Method
17:50 - 18:10	<i><u>Werapong</u> <u>Sakdanupaph and</u> <u>Elvin J. Moore</u></i>	A Delay Differential Equation Model for Dengue Fever Transmission in Selected Countries of South-East Asia



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Wednesday 17 September 2008 SESSION: Numerical Methods III CHAIR: Metin Demiralp (ROOM 6)		
15:30 - 15:50	<i><u>Nejla Altay and Metin Demiralp</u></i>	Application of Fluctuationlessness Theorem on the Numerical Solution of Higher Order Linear Ordinary Differential Equations
15:50 - 16:10	<i><u>R. Durán Díaz and J. Muñoz Masqué</u></i>	Algorithmic and Experimental Computation of Higher-Order Safe Primes
16:10 - 16:30	<i><u>Fernanda A. Ferreira</u></i>	Licensing in an international market
16:30 - 16:50	<i><u>Fernanda A. Ferreira and Flávio Ferreira</u></i>	Bertrand oligopoly when rivals' costs are unknown
Coffee Break		
17:10 - 17:30	<i><u>Fernanda A. Ferreira and Alberto A. Pinto</u></i>	Bertrand model under incomplete information
17:30 - 17:50	<i><u>Marek Szczesny</u></i>	Complexity of Initial-Value Problems for Ordinary Differential Equations of Order k - Different Models of Computation



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Wednesday 17 September 2008

SESSION: INVITED SPEAKER

CHAIR: Adrian Hill

(ROOM INV)

18:20 – 19:05	K. Burrage, <u>Z. Jackiewicz</u> and B.D. Welfert	Spectral Approximation of Time Windows in Waveform Relaxation
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Wednesday 17 September 2008

SESSION: INVITED SPEAKER

CHAIR: Z. Jackiewicz

(ROOM INV)

19:05 – 19:50	Peter Deuflhard	Conformation Dynamics in Computational Drug Design
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Wednesday 17 September 2008

SESSION: INVITED SPEAKER

CHAIR: K. Gürlebeck

(ROOM INV)

19:50 – 20:35	<u>L. L. Bonilla</u> and M. Carretero	Nonlinear Electron Transport in Nanostructures
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END OF THE 2nd DAY



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Thursday 18 September 2008

SESSION: Numerical Methods IV

**CHAIR: Marcus Weber
(ROOM 1)**

09:00 - 09:20	<i>Susanna Kube and <u>Marcus Weber</u></i>	Computation of equilibrium densities in metastable dynamical systems by domain decomposition
09:20 - 09:40	<i><u>A. Schröder</u> and H. Blum</i>	Projective SOR-Procedures for Signorini Problems
09:40 - 10:00	<i>Markus Weber and <u>Susanna Kube</u></i>	Preserving the Markov Property of Reduced Reversible Markov Chains

Thursday 18 September 2008

SESSION: INVITED SPEAKER

**CHAIR: Annie Cuyt
(ROOM INV)**

10:05 - 10:50	Daniel W. Lozier	Numerical Analysis in the Digital Library of Mathematical Functions
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Thursday 18 September 2008		
SESSION: INVITED SPEAKER		
CHAIR: Jeff Cash (ROOM INV)		
10:50 – 11:35	Christian Lubich	Computing semi-classical quantum dynamics using Hagedorn wave packets
Coffee Break		

Thursday 18 September 2008		
SESSION: INVITED SPEAKER		
CHAIR: Martin Berzins (ROOM INV)		
11:35 – 12:20	Brynjulf Owren	Energy conserving integrators

Friday 19 September 2008		
SESSION: INVITED SPEAKER		
CHAIR: W. Sprössig (ROOM INV)		
12:20 – 13:05	E. Sanchez Palencia	



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13:15

Excursion

Thursday 18 September 2008

19:00 – 20:00

**Signing by the author of books:
“Numerical Methods for Ordinary Differential Equations”
by Honorary Research Professor
John Butcher**

A special event organized by Wiley-Blackwell



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Thursday 18 September 2008

20:15

Central Dinner

- **Introduction by Professor Theodore E. Simos**
- **Honouring Professor Dr. John Butcher on the occasion of his 75th birthday. Introduction by Professor Dr. Jeff Cash**
- **Presentation of the Honorary Fellowship Awards of the European Society of Computational Methods in Sciences and Engineering**
- **Dinner**

END OF THE 3rd DAY



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Friday 19 September 2008 SESSION: Complex and Hypercomplex Methods in Applications CHAIR: W. Sprössig (ROOM 1)		
09:00 - 09:20	<u>V.F. Piven</u>	Methods of the generalized analytical functions and their appendices to boundary value problems of a filtration
09:20 - 09:40	<u>T. Hajjari</u>	Fuzzy metric and fuzzy ordering
09:40 - 10:00	<u>R. de Almeida,</u> <u>H.R. Malonek</u>	On a Higher Dimensional Analogue of the Joukowski Transformation
10:00 - 10:20	<u>Klaus Guerlebeck,</u> <u>Zhang Zhongxiang</u>	On some Riemann Boundary Value Problems



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Friday 19 September 2008

**SESSION: Tensor approximation methods for
multidimensional problems**

**CHAIR: Boris Khoromskij
(ROOM 1)**

11:00 - 11:20	<i><u>B. N. Khoromskij</u></i> <i>and A. Litvinenko</i>	Data Sparse Computation of the Karhunen-Loève Expansion
11:20 - 11:40	<i><u>Mariya Ishteva,</u></i> <i>Lieven De</i> <i>Lathauwer, P.-A.</i> <i>Absil and Sabine</i> <i>Van Huffel</i>	The best rank-(R_1, R_2, R_3) approximation of tensors by means of a geometric Newton method
11:40 - 12:00	<i><u>M. Espig</u></i>	Efficient best approximation of tensor- sums and applications



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Friday 19 September 2008

**SESSION: The 3rd Symposium on Numerical Analysis
of Fluid Flow and Heat Transfer**

**CHAIR: Pawel Kosinski
(ROOM 2)**

09:00 - 09:20	<i>A. Rouboa, A. Silva, A. J. Freire, A. Borges, J. Ribeiro, P. Silva, J. L. Alexandre</i>	Numerical analysis of convective heat transfer in nanofluid
09:20 - 09:40	<i><u>C. D. Dritselis</u> and N. S. Vlachos</i>	DNS/LES study of fluid- particle interaction in a turbulent channel flow at a low Reynolds number
09:40 - 10:00	<i><u>Jacek Smolka</u> and Andrzej J. Nowak</i>	Numerical Analysis of Heat Transfer Processes within Dry-Type and Cast Resin Electrical Transformers Involving CFD, Electromagnetic and Mechanical Analyses
10:00 - 10:20	<i>H.P. Rani</i>	Unsteady natural convection micropolar flow over vertical cylinder
10:20 - 10:40	<i>Resul Dilsiz and <u>Y. Onur Devres</u></i>	Graphical Solution of the Transient Heat Transfer Problem
Coffee Break		
11:00 - 11:20	<i>Abbas Khalghani and <u>Mohammad Hassan Rahimian</u></i>	Effect of Air Passages on Natural Convection in Electronic Enclosures



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<p align="center">Friday 19 September 2008</p> <p align="center">SESSION: Symposium on the Numerical Solution of IVPs and their Applications</p> <p align="center">CHAIR: Zacharias A. Anastassi</p> <p align="center">(ROOM 3)</p>		
09:00 - 09:20	<u>G. Vanden Berghe</u> and <u>M. Van Daele</u>	Trigonometric Polynomial or Exponential Fitting Approach?
09:20 - 09:40	<u>M. Rizea</u>	On the Numerical Solution of the Time-Dependent Schrödinger Equation with Time-Dependent Potentials
09:40 - 10:00	<u>A. París and L. Rández</u>	Embedded Pairs of Exponentially Fitted Explicit Runge-Kutta Methods for the Numerical Integration of Oscillatory Problems
10:00 - 10:20	<u>A. Teixeira and F. Bastos</u>	Influence of Initial Solutions and Step-Lengths in the Resolution of Some Classes of Semidefinite Programming Problems with a Predictor-Corrector Variant that uses the HKM Direction
10:20 - 10:40	<u>J.C. Cortés, L. Jódar and L. Villafuerte</u>	Numerical Solution of Random Differential Initial Value Problems: Multistep Methods
Coffee Break		
11:00 - 11:20	<u>Z.A. Anastassi,</u> <u>D.S. Vlachos and</u> <u>T.E. Simos</u>	The Use of Phase-Lag Derivatives in the Numerical Integration of ODEs with Oscillating Solutions



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Friday 19 September 2008 SESSION: Mathematical and Numerical Methods II CHAIR: Erkki Laitinen (ROOM 3)		
11:20 - 11:40	<i>Igor V. Konnov, Olga A. Kashina and <u>Erkki Laitinen</u></i>	Optimization Problems for Control of Distributed Resources
11:40 - 12:00	<i><u>A.Siadatan</u>, H. Shokri-Razaghi, E. Afjei, H.Torkaman</i>	Magnetic Field Estimation Using Weighted Multi- Grid Algorithm
12:00 - 12:20	<i>E.Afjei, H.Shokri- Razaghi, H.Torkaman, <u>A.Siadatan</u></i>	Solution of time varying Magnetic field by applying absorbing boundary condition



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Friday 19 September 2008
SESSION: Numerical Methods V
CHAIR: Hidenori Ogata
(ROOM 4)

09:00 - 09:20	<i><u>Tobias Jahnke</u> and <u>Steffan Galan</u></i>	Solving chemical master equations by an adaptive wavelet method
09:20 - 09:40	<i><u>Hidenori Ogata</u></i>	Complex Variable Boundary Element Method for Two-Dimensional Potential Problems with One-Dimensional Periodicity
09:40 - 10:00	<i><u>Cidália Neves</u>, <u>Adérito Araújo</u>, <u>Ercília Sousa</u></i>	Numerical approximation of a transport equation with a time-dependent dispersion flux
10:00 - 10:20	<i><u>Jörg Frochte</u></i>	An Adaptive Higher Order Method in Time for Partial Integro-Differential Equations
10:20 - 10:40	<i><u>Wang Ying</u> and <u>Günter Bärwolff</u></i>	Low dimensional flow control using Gaterkin POD
Coffee Break		
11:00 - 11:20	<i><u>J. Rogava</u> and <u>M. Tsiklauri</u></i>	The Fourth Order of Accuracy Decomposition Scheme for Nonhomogeneous Multidimensional Hyperbolic Equation
11:20 - 11:40	<i><u>Mikhail V. Popov</u> and <u>Sergey D. Ustyugov</u></i>	Piecewise Parabolic Method on a Local stencil for gas dynamics and MHD
11:40 - 12:00	<i><u>M. A. Jafari</u>, <u>A. Aminataei</u></i>	Numerical solution of problems in calculus of variations by Homotopy Perturbation Method
12:00 - 12:20	<i><u>M. Ramšak</u>, <u>Z. Žunič</u>, <u>L. Škerget</u> and <u>T. Jurejevčič</u></i>	Numerical analysis of thermo hydraulic conditions in car fog lamp



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<p align="center">Friday 19 September 2008 SESSION: Mathematical and Computer Modeling III CHAIR: Stephen J. Sugden (ROOM 5)</p>		
09:00 - 09:20	<u>Glória Cravo</u>	Termination of Workflows: A Matricial Approach
09:20 - 09:40	<u>Ewa Magnucka-Blandzi</u>	Vibrations and dynamic stability of cellular plate
09:40 - 10:00	<u>Barbara Szyszka and Klaudyna Rozmiarek</u>	Mathematical Modeling of Primary Wood Processing
10:00 - 10:20	<u>N. Parumasur</u>	Mathematical and numerical analysis of model equations on interactions of the HIV/AIDS virus and the immune system
10:20 - 10:40	<u>Stephen J. Sugden</u>	The Subset Sum Problem in Keno Modelling
<p>Coffee Break</p>		
11:00 - 11:20	<u>Jérôme Pousin</u>	Kantorovich-Wasserstein distance for Identifying the dynamic of some Compartment Models in Biology
11:20 - 11:40	<u>Günther R. Raidl and Martin Gruber</u>	A Lagrangian Relax-and-Cut Approach for the Bounded Diameter Minimum Spanning Tree Problem
11:40 - 12:00	<u>Jurate Ragulskiene, Edita Sakyte, Minvydas Ragulskis</u>	Traveling Wave Electrophoresis - Construction of Numerical Model
12:00 - 12:20	<u>M. Moghiman, M. Javadi, M.H. Ghodsirad, N. Hosseini, M. Soleimani</u>	Numerical Analysis of Carbon Black Production from Sub-Quality Natural Gas



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Friday 19 September 2008		
SESSION: INVITED SPEAKER		
CHAIR: Guido Vanden Berghe (ROOM INV)		
12:30 – 13:15	Stefan Vandewalle	Multigrid methods for stationary and timedependent partial differential equations with stochastic coefficients
Lunch		



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Friday 19 September 2008 SESSION: Numerical Methods VI CHAIR: D.S. Vlachos (ROOM 1)		
15:30 - 15:50	<i><u>Zdeněk Kala</u></i>	Sensitivity Analysis of Carrying Capacity of Steel Plane Frames to Imperfections
15:50 - 16:10	<i><u>Hendra J. Tarigan</u></i>	Simultaneous Modeling of Waveforms Associated With Backscattered He-Ne Laser Light From a Fluid Filled Capillary Tube By Use of Geometrical Optics and Wave Theories
16:10 - 16:30	<i><u>Burcu Tunga and Metin Demiralp</u></i>	Fluctuationlessness Approximation Based Multivariate Integration In Hybrid High Dimensional Model Representation
16:30 - 16:50	<i><u>Sevda Üsküplü and Metin Demiralp</u></i>	Univariate integration via space extension based no fluctuation approximation
Coffee Break		



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Friday 19 September 2008 SESSION: Numerical Methods for Differential Equations II CHAIR: Ch. Tsitouras (ROOM 2)		
15:30 - 15:50	<u>A. Aydin and B. Karasözen</u>	Multisymplectic Schemes for the Complex Modified Korteweg-de Vries Equation
15:50 - 16:10	<u>M. F. Teodoro, N. J. Ford, P. M. Lima, P. M. Lumb</u>	The Numerical Modelling of a Functional Differential Equation with Deviating Argument Using a Collocation Method
16:10 - 16:30	<u>Ch. Tsitouras</u>	Using Neural Networks for the Derivation of Runge-Kutta-Nyström Pairs
16:30 - 16:50	<u>Z. Kalogiratou, Th. Monovasilis and T.E.Simos</u>	Exponentially-Fitted Runge-Kutta-Nyström Methods for the Solution of the Schrödinger Equation
Coffee Break		
17:10 - 17:30	<u>Th. Monovasilis, Z. Kalogiratou and T.E.Simos</u>	Symplectic Partitioned Runge-Kutta Methods with Minimal Phase-Lag



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Friday 19 September 2008 SESSION: Mathematical Methods I CHAIR: K. Erleben (ROOM 3)		
15:30 - 15:50	<u>Huaitang Chen</u>	New double periodic solutions of the classical Drinfel'd-Sokolov-Wilson equation
15:50 - 16:10	<u>Metin Demiralp</u>	Finite Subspace Matrix Representation of the Multiplication Operator's Resolvent in Terms of Fluctuation Matrices
16:10 - 16:30	<u>K. Erleben and R. Ortiz</u>	A Non-smooth Newton Method for Multibody Dynamics
16:30 - 16:50	<u>P. A. Krutitskii</u>	The Helmholtz Equation In Domains Bounded By Closed Curves and Open Arcs
Coffee Break		
17:10 - 17:30	<u>Edita Janíková and Marián Slodička</u>	Solution to the eddy-current problem for type-II superconductors by relaxation method



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Friday 19 September 2008 SESSION: Numerical Methods VII CHAIR: Vittoria Demichelis (ROOM 4)		
15:30 - 15:50	<i>Catterina Dagnino and <u>Vittoria Demichelis</u></i>	Spline quasi-interpolants with boundary interpolation properties for Cauchy principal value integrals
15:50 - 16:10	<i><u>Jiří Horáček</u></i>	On a class of variational principles for solving the Lippmann - Schwinger equation
16:10 - 16:30	<i><u>Johan H de Klerk</u></i>	Evaluating supersingular integrals
16:30 - 16:50	<i><u>S. M. Hashemiparast</u> and <u>L. Avazpour</u></i>	Using Multiple Nodes to Improve the Solution of Integral Equation
Coffee Break		
17:10 - 17:30	<i><u>Rémi Léandre</u></i>	Large Deviations Estimates in Semi-Group Theory



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Friday 19 September 2008		
SESSION:		
CHAIR:		
(ROOM 5)		
15:30 - 15:50	<i><u>Ioan Goleţ and Ionuţ Goleţ</u></i>	On Fixed Point Theorems in Probabilistic Metric Spaces and Applications
15:50 - 16:10	<i><u>Catherine C. Marinagi and Vassilis G. Kaburlasos</u></i>	Bayesian Decision Theory for multi-category adaptive testing
16:10 - 16:30	<i><u>Marc Gerritsma, Peter Vos and Jan-Bart van der Steen</u></i>	Time-Dependent Polynomial Chaos
16:30 - 16:50	<i><u>Marianna Sibiceanu</u></i>	Differential Techniques for the Identification of the Rate Function in the Large Deviation Principle
Coffee Break		
17:10 - 17:30	<i><u>Yashar Tavakoli, H. Haj Seyyed Javadi and Hossein Erfani</u></i>	A Probabilistic Analysis for Greedy Paths



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Friday 19 September 2008		
SESSION: INVITED SPEAKER		
CHAIR: Ronald Cools (ROOM INV)		
17:30 – 18:15	William F. Mitchell	Strategies for adaptive Refinement <i>hp</i> –

Friday 19 September 2008		
SESSION: INVITED SPEAKER		
CHAIR: W. Sprössig (ROOM INV)		
18:15 – 19:00	<u>Jacek Banasiak,</u> Amartya Goswami and Sergey Shindin	Asymptotic Analysis of Structured Population Models



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Friday 19 September 2008

SESSION: INVITED SPEAKER

**CHAIR: K. Gürlebeck
(ROOM INV)**

19:00 – 19:45

Brian Straughan

Friday 19 September 2008

POSTER SESSION

10:00 – 12:00

Principal matrix of a linear system symbolically computed

Juan F. Navarro and Antonio Pérez

**Symbolic Derivation Of Order Conditions For Two-Stage Complex
Rosenbrock Scheme**

A.B. Alshin, E.A. Alshina and A.G. Limonov

END OF THE 4th DAY



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Saturday 20 September 2008		
SESSION: Mathematical and Numerical Methods I		
CHAIR: Vjeran Hari		
(ROOM 1)		
09:00 - 09:20	<u>Coşar Gözükirmizi</u> <i>and Metin Demiralp</i>	Evaluation of fluctuation coefficients for three consecutive term recursive basis functions
09:20 - 09:40	<u>Vjeran Hari</u>	Convergence to Diagonal Form of Block Jacobi-type Process
09:40 - 10:00	<u>Drahoslava Janovská,</u> <i>Vladimir Janovský</i> <i>and Kunio Tanabe</i>	Computation of pseudospectra via a continuation
Coffee Break		
10:20 - 10:40	<u>Ercan Gürvit, N. A. Baykara</u> <i>and Metin Demiralp</i>	Evaluation of Univariate Integrals via Fluctuationlessness Theorem
10:40 - 11:00	<u>V. N. Katsikis</u>	Methods on computing positive bases in finite-dimensional vector sublattices. Applications in completion of security markets and in the theory of efficient funds
11:00 - 11:20	<u>Vasile Istratie</u>	Optimal Skip Entry into Atmosphere with Constraints in Minimum Time



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Saturday 20 September 2008

SESSION: Numerical Methods VIII

CHAIR: Stefan Vandewalle

(ROOM 2)

09:00 - 09:20	<u>Ścibór Sobieski</u> and Paulina Puścian	Two Numerical Methods for Searching the Equilibria in Large Game
09:20 - 09:40	<u>H. Torres-Silva</u>	SAR Simulation with Magneto Chiral Effects for Human Head Radiated from Cellular Phones
09:40 - 10:00	<u>Tatiana V. Voitovich</u> and Stefan Vandewalle	Barycentric Interpolation and Exact Integration Formulas for the Finite Volume Element Method
Coffee Break		
10:20 - 10:40	<u>Viera Zemanová</u> and Marián Slodička	Full Discretization Scheme for Linearized Quasi-Static Maxwell's Equations with a Non- linear Boundary Condition
10:40 - 11:00	<u>Abdelhakim Lotfi</u>	Domain decomposition method with an interface preconditioner for frictionless contact problem
11:00 - 11:20	<u>S. Berres</u> (presentation by Tatiana V. Voitovich)	Identification of Piecewise Linear Diffusion Function in Convection-Diffusion Equation with Overspecified_Boundary
11:20 - 11:40	<u>A. Safarzadeh, A.A Salehi</u> <u>Neyshabouri</u> and <u>A. N.Dehkordi</u>	2D Numerical Simulation of Fluvial Hydrodynamics and Bed Morphological Changes



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SESSION: Mathematical and Computer Modeling IV

**CHAIR: Susanna Kube
(ROOM 3)**

09:00 - 09:20	<u>Hartmut Schwandt</u> , <u>Minjie Chen</u> , <u>Günter Bärwolff</u>	A variable cell size concept for grid based models for the simulation of pedestrian flow
09:20 - 09:40	<u>I. Vala</u> and <u>S. Štastník</u>	On Two-Scale Modelling of Heat and Mass Transfer
09:40 - 10:00	<u>Jobu Watanabe</u>	Time Delayed Mutual Information Analysis of fMRI Data to Investigate Network Dynamics of Human Brain Activation
Coffee Break		
10:20 - 10:40		
10:40 - 11:00	<u>Qin Lian</u> , <u>Jue Wang</u> , <u>Hongzhong Liu</u> , <u>DiChen Li</u>	Optimal Geometry and Stimulating Mechanism of Deep-brain Electrode
11:00 - 11:20	<u>Gong Haibo</u> , <u>Li Dichen</u> , <u>He Jiankang</u> , <u>Liu Yaxiong</u> , <u>Lian Qin</u> , <u>Zhao Jinna</u>	Modeling and reconstruction of micro-structured 3D chitosan/gelatin porous scaffolds using Micro-CT
11:20 - 11:40	<u>Chuangxin Zhao</u> , <u>Ian M Richardson</u> , <u>Chris Kleijn</u> , <u>Sasa Kenjeres</u> , <u>Zaki Saldi</u>	Stereo vision visualization in welding
11:40 - 12:00	<u>Andrei Borisovich</u>	Chaine Bifurcation for Helicoid



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Saturday 20 September 2008		
SESSION: Mathematical Methods II		
CHAIR: Gheorghe Moroşanu (ROOM 4)		
09:00 - 09:20	<u>Ch. G. Massouros</u> and G. G. Massouros	Operators and Hyperoperators Acting on Hypergroups
09:20 - 09:40	<u>Mihai Mihăilescu</u> and <u>Gheorghe</u> <u>Moroşanu</u>	Quasilinear Elliptic Equations Involving Variable Exponents
09:40 - 10:00	<u>Ebru Ozbilge</u>	An Application of Semigroup Method in a Parabolic Equation with Mixed Boundary Conditions
Coffee Break		
10:20 - 10:40	<u>Irina Shlykova,</u> <u>Arcady Ponosov,</u> <u>Andrei Shindiapin</u> and <u>Yury</u> <u>Nepomnyashchikh</u>	Stability analysis of systems with logoid nonlinearities and distributed delays
10:40 - 11:00	<u>Arpad Takači,</u> <u>Djurdjica Takači</u> and <u>Mirjana</u> <u>Štrboja</u>	On the Solutions of the Time-Fractional Diffusion Equation
11:00 - 11:20	<u>Hacer Ozden,</u> <u>Ismail Naci</u> <u>Cangul, Yilmaz</u> <u>Simsek</u>	" Hurwitz type multiple genocchi zeta functions"
11:20 - 11:40	<u>Xiong You,</u> <u>Xinyuan Wu,</u> <u>Zhaoxia Chen,</u> <u>Hongli Yang and</u> <u>Yonglei Fang</u>	On Existence and Uniqueness Results for Nonsmooth Implicit Differential Equations



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Saturday 20 September 2008		
SESSION: Computations of stochastic systems		
CHAIR: Magdy A. El-Tawil		
(ROOM 4)		
11:25 - 11:45	<u>A. Tocino</u>	A Comparison Among Several Numerical Integrators to Solve a Linear Stochastic Oscillator
11:45 - 12:05	<u>Magdy A. El-Tawil</u>	On Stochastic Nonlinear Schrodinger Equations under Stochastic Complex Non- Homogeneity and Complex Initial Conditions
12:05 - 12:25	<u>Noha A. Al-Mulla</u>	The approximate solution of non-linear stochastic diffusion equation using symbolic WHEP, different correction levels



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Saturday 20 September 2008

POSTER SESSION

09:30 – 11:45

**Adaptive Wavelet-Frame Method with Stable
Boundary Adapted Bases**

Dana Černá and Václav Finěk

Optimized Construction of Biorthogonal Spline-Wavelets

Dana Černá and Václav Finěk

END OF THE CONFERENCE

We hope to see you next year

in ICNAAM 2009

**See you at
RHODES**