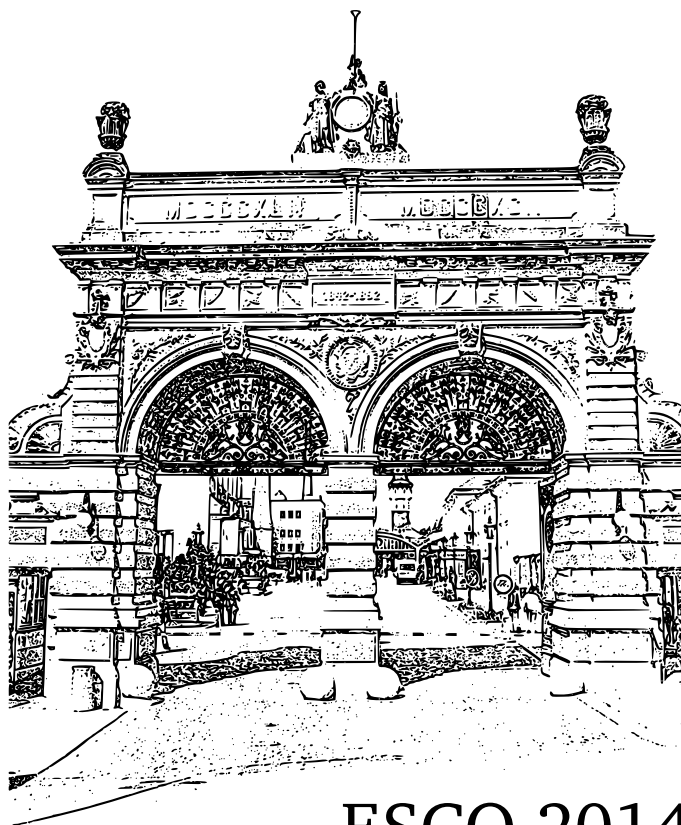


PROGRAM



ESCO 2014

4th European Seminar on Computing

Pilsen, Czech Republic

June 15 - 20, 2014

ESCO 2014 - Monday, June 16

- 8:45 Conference opening
- **9:00 - 10:30 Keynote Session (Room A)** (chairman Jean-Frédéric Gerbeau)
 - 9:00 - 9:45 Ulrich Rüde: Is 2.44 Trillion Unknowns the Largest Finite Element System That Can Be Solved Today?
 - 9:45 - 10:30 Herbert Edelsbrunner: Shape, Homology, Persistence, and Stability
- 10:30 - 11:00 Coffee Break
- **11:00 - 11:45 Keynote Session (Room A)** (chairman Ulrich Rüde)
 - 11:00 - 11:45 Jean-Frédéric Gerbeau: Reduced Order Modeling for Nonlinear Evolution Equations
- 11:45 - 14:00 Conference photo + Lunch
- **14:00 - 15:20 Contributed Session I-A: Advances in Numerical Methods for Eigenvalue Problems and Applications** (chairman S. Giani)
 - 14:00 - 14:20 F. Gardini: A Posteriori Error Estimates for Nonconforming Approximation of Multiple Eigenvalues
 - 14:20 - 14:40 X. Liu: An Uniform Approach to Bound Eigenvalues of Self-adjoint Differential Operators
 - 14:40 - 15:00 H. Hakula: On Approximation of Parametric Eigenvalue Problems
 - 15:00 - 15:20
- **14:00 - 15:20 Contributed Session I-B: Computational Modeling of Porous Media Flow** (chairman M. Kuraz)
 - 14:00 - 14:20 M. Kuraz: Solving the Nonlinear Richards Equation Model with Adaptive Domain Decomposition
 - 14:20 - 14:40 P. Maca: The Estimation of Parameters of Hydrological Model BILAN Using the SCDE for Monthly Simulation of Hydrological Balance
 - 14:40 - 15:00 P. Chidyagwai: Multi-level Decoupling of Coupled Free Flow With Porous Media Flow Systems
 - 15:00 - 15:20 R. Cimrman: Numerical Analysis of Wave Propagation in Reissner-Mindlin Phononic Plates
- **14:00 - 15:20 Contributed Session I-C: Computational Methods in Applied Inverse Problems** (chairmans A. Luttman and R. Zemčík)
 - 14:00 - 14:20 E. Machorro: Benchmarking and Quantifying Uncertainty in Surface Velocities Calculated From Photonic Doppler Velocimetry
 - 14:20 - 14:40 A. Luttman: A Computational Approach to Quantifying the Uncertainty in Prior Assumptions for Linear Inverse Problems
 - 14:40 - 15:00 R. Zemčík: Impact Force Reconstruction and Localization on Thin-walled Composite Structure
 - 15:00 - 15:20 J. Heczko: Sensitivity Analysis of a FEM Model and Its Use in Material Identification

- **14:00 - 15:20 Contributed Session I-D (Angelo hotel)** (chairman J. Cao)
 - 14:00 - 14:20 J. Cao: Immersed-boundary Lattice Boltzmann Method for Simulation of Incompressible Viscous Flows Around Moving Objects
 - 14:20 - 14:40 S. Bogner: Lattice Boltzmann Study of the Drag Correlation for Dilute and Moderately Dense Fluid-particle Systems
 - 14:40 - 15:00 K. Masilamani: Dynamic Load Balancing in Lattice Boltzmann Solver MUSUBI With Complex Spacer Geometry in Electrodialysis
 - 15:00 - 15:20 A. B. Kiselev: To Problem of Dynamic Compression (Expansion) of Spherical Cavity in Viscous Incompressible Liquid
- 15:20 - 15:40 Coffee Break
- **15:40 - 16:40 Contributed Session II-A: Advances in Numerical Methods for Eigenvalue Problems and Applications** (chairman S. Giani)
 - 15:40 - 16:00 P. Gerds: Solving an Elliptic Eigenvalue Problem via Automated Multi-Level Substructuring and Hierarchical Matrices
 - 16:00 - 16:20 J. C. Araujo-Cabarcas: On the Computation of Resonances in Exterior Helmholtz Problems with a Frequency-dependent Material Response
 - 16:20 - 16:40 L. Grubisic: A Posteriori Estimates for Interior Penalty Discontinuous Galerkin Eigenvalue / eigenfunction Approximations
 - 16:40 - 17:00 V. Fuka: Fast Poisson Solver PoisFFT and Its Application to Turbulence Modelling
- **15:40 - 17:00 Contributed Session II-B: Simulation and Coupling Strategies for Particle Dynamics and CFD** (chairmans P. Neumann, U. Ruede)
 - 15:40 - 16:00 H. Hasse: Molecular Dynamics Simulations in Engineering
 - 16:00 - 16:20 K. Gustavsson: Large Scale Simulations of Rigid Fiber Suspensions
 - 16:20 - 16:40 D. Bartuschat: Parallel Multiphysics Simulations of Charged Particles in Microfluidic Flows
 - 16:40 - 17:00 X. Bian: Multiscale Simulation Using Lagrangian Particles
- **15:40 - 17:00 Contributed Session II-C** (chairman J. L. Galan-Garcia)
 - 15:40 - 16:00 J. L. Galan-Garcia: A Portable Knowledge Based System for Car Breakdown Evaluation
 - 16:00 - 16:20 G. Aguilera-Venegas: Simulating Realistic Traffic Flow in a Smart City
 - 16:20 - 16:40 W. Szyszkowski: Computational Challenges in Simulating ETMAs
 - 16:40 - 17:00 J. L. Galan-Garcia: A Genetic Algorithm and an Exact Algorithm for Classifying the Items of a Questionnaire Into Different Competences
- **15:40 - 16:40 Contributed Session II-D (Angelo hotel)** (chairman M. Streeter)
 - 15:40 - 16:00 M. Streeter: Form Finding and Analysis of Inflatable Dams
 - 16:00 - 16:20 V. Didenko: Critical Angles of Approximation Methods of Boundary Integral Equations
 - 16:20 - 16:40 M. C. Suarez-Arriaga: Modelling of Heat and Mass Transfer in Supercritical Geothermal Systems
 - 16:40 - 17:00 M. Möller: Algebraic Flux Correction Schemes for High-Order B-Spline Based Finite Element Approximations
- **18:00 - 20:00 Welcome Reception (Secese)**
 - Includes demonstration of historical firearms, historical fencing and a flame show (by the Kargen group).

ESCO 2014 - Tuesday, June 17

- **9:00 - 10:30 Keynote Session (Room A)** (chairman Herbert Edelsbrunner)
 - 9:00 - 9:45 Oszkár Bíró: Multiphysical Computations of Electrical Machines Using FEM
 - 9:45 - 10:30 Frédéric Dufour: From Damage Model to Transport Properties in Concrete
- 10:30 - 10:50 Coffee Break
- **10:50 - 11:50 Contributed Session I-A: Simulation and Coupling Strategies for Particle Dynamics and CFD** (chairmans P. Neumann, U. Rüde)
 - 10:50 - 11:10 P. Neumann: Adaptive Mesh Refinement in Lattice Boltzmann Simulations
 - 11:10 - 11:30 N. Tchipev: Molecular Dynamics on 146 000 Cores
 - 11:30 - 11:50 C. Rauh: Thermofluidodynamical Numerical Simulations of Particle-laden Flows in (Bio) Chemical Fluidized Bed Reactors
- **10:50 - 11:50 Contributed Session I-B: Computational Biomechanics** (chairman J. Whiteman)
 - 10:50 - 11:10 E. Rohan: Multiscale Models of Liver Perfusion Based on Computational Homogenization
 - 11:10 - 11:30 J. Whiteman: High Order Space-Time Finite Element Schemes for Viscodynamic Wave Equations With Application to Stenosis Diagnosis
 - 11:30 - 11:50 A. Świątlicka: Training Algorithm for Stochastic Model of Biological Neural Network
- **10:50 - 11:50 Contributed Session I-C: Parameter Identification in a Probabilistic Setting** (chairman B. Rosic)
 - 10:50 - 11:10 B. Rosic: A Bayesian Approach to Linear and Nonlinear Identification Problems
 - 11:10 - 11:30 A. Kucerova: Probabilistic Modelling of Heterogeneous Materials Based on Image Analysis
 - 11:30 - 11:50 J. Waeytens: Comparison of Deterministic and Probabilistic Approaches to Identify the Dynamic Moving Load of a Reinforced Concrete Beam
- **10:50 - 11:50 Contributed Session I-D (Angelo hotel)** (chairman G. Peretti Pezzi)
 - 10:50 - 11:10 A. Rüttgers: 3D Simulation of the Water Storage Process in the Feathers of Sandgrouses
 - 11:10 - 11:30 G. Peretti Pezzi: Parallel Profiling of Water Distribution Networks Using the Clément Formula
 - 11:30 - 11:50 J. Bohacek: Approximate Riemann Solver for Shallow Water Equations in Horizontal Centrifugal Casting of Work Rolls
- 11:50 - 14:00 Lunch
- **14:00 - 15:20 Contributed Session II-A: Computational Modeling of Porous Media Flow** (chairman M. Kuraz)
 - 14:00 - 14:20 J. Šístek: BDDC for Mixed-Hybrid Formulation of Flow in Porous Media With Combined Mesh Dimensions
 - 14:20 - 14:40 P. Exner: Partition of Unity Methods for Approximation of Point Water Sources in Porous Media
 - 14:40 - 15:00 J. Brezina: Modeling Water Flow in Fractured Porous Media Using Non-compatible Meshes of Different Dimension
 - 15:00 - 15:20 A. Balvín: Groundwater Flow Parameter Identification Using Flow and Transport Models

- **14:00 - 15:20 Contributed Session II-B: Bayesian Framework for Multiphysics Inverse Problems** (chairman Z. Bulinski)
 - 14:00 - 14:20 Z. Bulinski: Application of Markov Chain Monte Carlo Method to Retrieve Initial Conditions
 - 14:20 - 14:40 P. Mayer: Solution of Inverse Problem for Segmented Capacitance Sensor
 - 14:40 - 15:00 M. Benes: Multi-time-step Domain Decomposition Algorithms for Evolution Problems
 - 15:00 - 15:20 M. Hanuš: Coupled Code System for Nuclear Reactor Fuel Loading Optimization
- **14:00 - 15:20 Contributed Session II-C: Parameter Identification in a Probabilistic Setting** (chairman B. Rosic)
 - 14:00 - 14:20 E. Janouchová: Probabilistic Estimation of Material Parameters Based on a Set of Experimental Curves
 - 14:20 - 14:40 I. Riedel: Sequentially Optimal Sensor Placement in Thermoelastic Models
 - 14:40 - 15:00 J. Pasek: Probabilistic Assessment of Failure Risk of the Building Envelope Thermally Insulated From the Inside
 - 15:00 - 15:20 K. Rupp: Automatic Finite Volume Discretizations Through Symbolic Computations
- **14:00 - 15:20 Contributed Session II-D (Angelo hotel)** (chairman M. Lewandowski)
 - 14:00 - 14:20 M. Nini: A DG Implementation of a Novel Hybrid RANS/LES Technique With RANS Reconstruction
 - 14:20 - 14:40 M. Szczepanik: Immune Optimal Design of 2-D and 3-D Structures
 - 14:40 - 15:00 J. Kucwaj: An Algorithm of Delaunay-like Surface Points Triangulation
 - 15:00 - 15:20 M. Lewandowski: Comparison of Frequency Domain and Time Domain Model of a Distributed Power Supplying System With Active Power Filters
- 15:20 - 16:00 Coffee Break
- **16:00 - 17:00 Poster Session (Room A)** (chairman V. Kotlan)
 - N. Ben tahir: Synthesis of Local Catalysts and Application for Catalytic Processes
 - A. Bouhadiche: Modeling of SiNx Thin Films Growth Process Using Kinetic Monte Carlo Method
 - R. Dlugosz: A Novel Recursive Algorithm Used to Model the Hardware Programmable Neighborhood Mechanism of the Self-Organizing Neural Networks
 - R. Dlugosz: A New, Very Efficient Initialization Mechanism for Analog Self-Organizing Neural Networks Implemented in the CMOS Technology
 - D. Garg: Space-time Finite Element Method for the Magma-rock Interaction Problem
 - K. Gugala: Image Local Descriptor Matching Coprocessor for Embedded Systems
 - M. E. Grimaldo Reyna: Algebrizability of Planar Vector Fields
 - N. Govender: BLAZE-DEM A GPU Based Polyhedral Particle Transport code
 - L. Krupička: Coupled Heat Transport and Darcian Water Flow in Freezing Soils
 - M. Lepš: Comparison of Adaptively Updated Surrogate Models for Reliability Analysis
 - W. Liao: An Adjoint-based Numerical Method to Recover the Medium Properties From Seismic Data
 - F. Mach: Simulation of Multiple Particle Movement in Electromagnetic Field

- M. Merta: New BEM-based Library Aimed at HPC and Its Applications
- J. Morales: Trend and Fractality Assessment of Mexico’s Stock Exchange
- D. Nikolayev: Modelling and Simulation of an Unshielded Stripline
- A. Nocoń: Parameter Polyoptimization of PSS2A Power System Stabilizers Operating in a Multi-machine Power System Including the Uncertainty of Model Parameters
- S. P. Oliveira: Numerical Approximation of Fredholm Integral Equations by Orthogonal Wavelets
- R. Oyarzua: Analysis of an Augmented Mixed Finite Element Method for the Stokes-Darcy Coupled Problem
- D. Pánek: Spread Spectrum Modulation Based on Strongly Nonlinear System With Chaotic Behaviour
- J. Pasek: Numerical Simulation of the Temperature Impacts on the Structural Integrity of the Stone Temples in Angkor, Cambodia
- M. Pasko: Compensation Based on Active Power Filters – the Cost Minimization
- P. Polcar: Behavior of Magnetorheological Fluid Under Alternating Magnetic Field
- R. Remmouche: Analytical Threshold Voltage Model Considering Quantum Size Effects for Nanocrystalline Silicon Thin Film Transistors
- B. Sawicki: Multistep Time Integration Solver for Stiff Bioheat Equation
- J. Sykora: Modeling of Salt Crystallization in Historical Mortars
- M. Szczepanik: Intelligent Optimization of Reinforced Structures
- V. Tercero Gomez: Pattern Recognition Using the Likelihood Function of Multiple Change-Points
- M. Vasili: A Conceptual Design Approach to the Development of an Open-Rack Structure for Miniload AS/RS Based on Biomimetics
- V. Zadin: Application of Multiphysics and Multiscale Simulations to Optimize Industrial Wood Drying Kilns

ESCO 2014 - Wednesday, June 18

- **9:00 - 10:20 Contributed Session I-A: Advances in Discontinuous Galerkin Methods for complex wave propagation problems** (chairman F. Kretzschmar)
 - 9:00 - 9:20 O. Bublík: Comparison of Discontinuous Galerkin Time Integration Schemes for the Solution of Flow Problems With Deformable Domains
 - 9:20 - 9:40 J. Stebel: Modeling Transport Processes in Fractured Porous Media With Discontinuous Galerkin Method
 - 9:40 - 10:00 F. Kretzschmar: The (3+1)- Dimensional Discontinuous Galerkin Trefftz Method
 - 10:00 - 10:20 V. Dolejsi: Anisotropic H_p -adaptive Discontinuous Galerkin Method for Numerical Solution of Partial Differential Equations
- **9:00 - 10:20 Contributed Session I-B: Numerical Modeling of Material Behaviour on Nano, Micro or Macro Scale Level** (chairman J. Kruijs)
 - 9:00 - 9:20 J. Kruijs: Coupling of Mechanical Damage With Moisture Transport
 - 9:20 - 9:40 J. Vorel: Computational Modeling of Real Structures Made of Strain-hardening Cement Composites
 - 9:40 - 10:00 J. Novák: Breaking Periodicity in Simulation of Microstructured Materials
 - 10:00 - 10:20 T. Koudelka: Coupled Thermo-hydro-mechanical Model for Concrete Structures
- **9:00 - 10:20 Contributed Session I-C** (chairman P. Svacek)
 - 9:00 - 9:20 P. Svacek: On Numerical Simulations of Fluid-Structure Interactions: Modelling of Gust Response
 - 9:20 - 9:40 P. Furmánek: CFD Simulation of Interaction Between Fluid and Vibrating Profile
 - 9:40 - 10:00 J. Fürst: Numerical Simulation of Flows Through Experimental Turbine Cascade
 - 10:00 - 10:20 S. Merino: Metadomotic Optimization Using Genetic Algorithms
- **9:00 - 10:20 Contributed Session I-D (Angelo hotel)** (chairman K. Segeth)
 - 9:00 - 9:20 K. Segeth: A Periodic Basis System of the Smooth Interpolation Space
 - 9:20 - 19:40 M. Stork: Energy Transmission, Reactive Power and Stability of Nonlinear Systems
 - 9:40 - 10:00 R. Soltys: Analysis of Wind Induced Aramid Anchor Cable Using a Simplified Fluid-Structure Interaction Method
 - 10:00 - 10:20 I. Marek: Time Series and Countable Banach Space Techniques
- 10:20 - 10:40 Coffee Break
- **10:40 - 12:00 Contributed Session II-A: Advances in Discontinuous Galerkin Methods for complex wave propagation problems** (chairman A. Kosík)
 - 10:40 - 11:00 A. Kosík: Numerical Simulation of the Fluid-Structure Interaction Between an Elastic Body and Compressible Flow by the Space-Time Discontinuous Galerkin Method
 - 11:00 - 11:20 S. Giani: High-Order/hp-Adaptive Multilevel Discontinuous Galerkin Methods
 - 11:20 - 11:40 A. Živčák: P -Multigrid Technique for the Numerical Solution of Algebraic Systems Arising From the Discontinuous Galerkin Discretization of PDEs
 - 11:40 - 12:00 M. Khaksar Ghalati: Modeling the Propagation of Electromagnetic Waves in Human Retina: Numerical Analysis and Simulations

- **10:40 - 12:00 Contributed Session II-B: Numerical Modeling of Material Behaviour on Nano, Micro or Macro Scale Level** (chairman J. Kruijs)
 - 10:40 - 11:00 R. Ammer: Simulating Additive Manufacturing Processes With a 3D Free Surface Lattice Boltzmann Method
 - 11:00 - 11:20 L. Zrůbek: Solution to Microstructural Fields Based on Schur Complement Method and Wang Tiles
 - 11:20 - 11:40 J. Nemecek: Numerical Modeling of Aluminium Foam on Two Scales
 - 11:40 - 12:00 U. Koch: Simulation of Plasmonic Nanostructures With the Nonlinear Quantum Hydrodynamic Model
- **10:40 - 12:00 Contributed Session II-C: Coupled problems in electromagnetics** (chairman P. Karban)
 - 10:40 - 11:00 P. Ferkl: Mathematical Modeling of Coupled Conductive and Radiative Heat Transfer in Polymeric Foams
 - 11:00 - 11:20 B. Sawicki: Parallel Simulator for Decentralized Trustworthy Computing System
 - 11:20 - 11:40 T. Krejci: Algorithms for Coupled Non-linear Thermo-Mechanical Analysis of Building Structures
 - 11:40 - 12:00 N. Govender: Particle Simulations on NVIDIA GPUs
- **10:40 - 12:00 Contributed Session II-D (Angelo hotel)** (chairman M. Braun)
 - 10:40 - 11:00 M. Braun: Density Functional Calculations for Small Molecules Using a Combined LCAO (Linear Combination of Atomic Orbitals) and Finite Element Basis Set
 - 11:00 - 11:20 N. S. Fialko: Modeling of Polaron States in Classical Molecular Chains at Finite Temperatures
 - 11:20 - 11:40 G. Unel: Answering Reachability Queries on Streaming Graphs
 - 11:40 - 12:00 M. Aydogan: Harmonic Mappings Related to the M-fold Starlike Functions
- 12:00 - 14:00 Lunch
- **14:00 - 18:45 Software Workshop (Room A)**
 - 14:00 - 14:45 **NCLab** - Free cloud computing platform for education and research
 - 14:45 - 15:30 **DUNE** - Distributed and Unified Numerics Environment
- 15:30 - 15:45 Coffee Break
 - 15:45 - 16:30 **Hermes** - C/C++ library for rapid development of adaptive hp-FEM and hp-DG solvers with emphasis on time-dependent nonlinear multiphysics problems
 - 16:30 - 17:15 **Agros2D** - Multiplatform interactive graphical application for the solution of engineering problems based on adaptive hp-FEM
 - 17:15 - 18:00 **emgr** - Toolbox for model order reduction, uncertainty quantification, and system identification compatible with OCTAVE and MATLAB
 - 18:00 - 18:45 **PLaSM** - Functional language for computing with geometry

ESCO 2014 - Thursday, June 19

- **9:00 - 10:20 Contributed Session I-A** (chairman H. Wang)
 - 9:00 - 9:20 H. Wang: Some Algebra and Geometry Characteristics of Rational Space Curves of Type $(1,1,d-2)$
 - 9:20 - 9:40 F. Díaz: A New Predictive Solar Radiation Numerical Model
 - 9:40 - 10:00 A. Arrarás: Improved Accuracy for Time-Splitting Methods for the Solution of Parabolic Equations
 - 10:00 - 10:20 M. Lewandowski: Analysis of the Impact of Interpolator's Order on the Accuracy of Electric Current Spectrum Estimation Method in the Presence of Noise
- **9:00 - 10:20 Contributed Session I-B: Sensitivity Computations in Computational Science and Engineering** (chairman M. Bücker)
 - 9:00 - 9:20 E. Slusanschi: High Performance Scientific Computing @cs.pub.ro
 - 9:20 - 9:40 R. Seidler: Optimal Experimental Design With the EFCOSS Framework
 - 9:40 - 10:00 M. Ali Rostami: Turning a Serial Forward Code Into a Parallel Inverse Code
 - 10:00 - 10:20 A. Hüek: Automatic Differentiation for Matlab With ADiMat
- **9:00 - 10:20 Contributed Session I-C** (chairman J. Brandts)
 - 9:00 - 9:20 M. Krizek: On Angle Conditions in the Finite Element Method
 - 9:20 - 9:40 J. Brandts: Dihedral Angle Sums of Nonobtuse Simplices
 - 9:40 - 10:00 A. Cihangir: On $0/1$ Polytopes With Nonobtuse Triangulations
 - 10:00 - 10:20 A. Paoluzzi: A Computational Framework for Cochain Calculus
- 10:20 - 10:40 Coffee Break
- **10:40 - 12:00 Contributed Session II-A** (chairman J. Weinbub)
 - 10:40 - 11:00 F. Rudolf: Mesh Generation Using Dynamic Sizing Functions
 - 11:00 - 11:20 J. Weinbub: A Flexible Material Database for Computational Science and Engineering
 - 11:20 - 11:40 S. Baig: Buoyancy Driven Flows with SPH Method: Application to Real and Boussinesq Flows
 - 11:40 - 12:00 A. Valizadeh: SPH Simulation of 2D Driven Turbulence
- **10:40 - 12:00 Contributed Session II-B** (chairman A. Nevaril)
 - 10:40 - 11:00 Y. Jeon: The Hybridized Numerical Methods for PDEs
 - 11:00 - 11:20 A. Nevaril: HPC Optimization for Challenging Engineering Problems
 - 11:20 - 11:40 P. Lukas: Optimization of Parameters in SDFEM for Different Spaces of Parameters
 - 11:40 - 12:00 F. Rapetti: A Boundary Integral Approach to Compute Resonances in Open N -disk Systems
- **10:40 - 12:00 Contributed Session II-C** (chairman V. Prokop)
 - 10:40 - 11:00 V. Prokop: Numerical Modelling of Viscous and Viscoelastic Fluids Flow for Generalized Newtonian and Oldroyd-B Fluids
 - 11:00 - 11:20 J. Halama: Numerical Simulation of Circumferentially Averaged Flow in a Multistage Turbine
 - 11:20 - 11:40 P. Pořízková: Flows in 3D Channel With Vibrating Walls
 - 11:40 - 12:00 V. V. Nair: Numerical Study of Water Entry of 3D Rigid Wedge Under Free Fall
- 12:00 - 14:00 Lunch

- **14:00 - 15:20 Contributed Session III-A** (chairman P. Birken)
 - 14:00 - 14:20 B. Uekermann: preCICE - a Library for Partitioned Fluid-Structure Interaction on Massively Parallel Systems
 - 14:20 - 14:40 P. Birken: Efficient Simulation of Time Dependent Thermal Fluid-Structure Interaction
 - 14:40 - 15:00 H. Yücel: Unsteady Optimal Control Problems Arising From Chemical Processes
 - 15:00 - 15:20 M. Silvestre: Comparison Between CFD and XFOIL Predictions for High Lift Low Reynolds Number Airfoils

- **14:00 - 15:20 Contributed Session III-B** (chairman A. Guardone)
 - 14:00 - 14:20 M. Zocca: Wind Tunnel Blockage and Three-dimensional Effects in Wind Tunnel Testing of Ice Accretion Over Airfoils and Wings
 - 14:20 - 14:40 G. Gori: PoliMIce: A Open Simulation Framework for Three-dimensional Ice Accretion
 - 14:40 - 15:00 A. Guardone: Grid Convergence for Adaptive Simulations of Three-dimensional Normal Drop Impacts Onto Liquid Films
 - 15:00 - 15:20 B. Re: Numerical Simulation of Under-expanded Jets of Dense Gases With an Adaptive Finite Volume Method

- **14:00 - 15:20 Contributed Session III-C** (chairman A. Arteaga)
 - 14:00 - 14:20 A. Arteaga: Benchmarks for an Implementation of Parareal in the C++ Domain Specific Embedded Language STELLA
 - 14:20 - 14:40 H. Niroomand Rad: Modeling of Crosstalk Phenomenon for Electro-Magnetic Systems by Bilateral Coupling of PDAEs
 - 14:40 - 15:00 S. P. Oliveira: Stochastic Finite Element Methods With Spectral Element Basis Functions
 - 15:00 - 15:20 L. Tian: A Local Discontinuous Galerkin Method for (Non) Isothermal Flow With Phase Transitions

- 15:20 - 16:00 Coffee Break

- **16:00 - 17:00 Poster Session (Room A)** (chairman F. Mach)
 - R. Alassar: Solution of the Heat Equation in Spheroidal Wave Functions
 - I. Anjam: Fast MATLAB Assembly of FEM Matrices in 2D and 3D: Edge Elements
 - U. Arachchige: Energy Utilization for CO₂ Capture in the Cement Industry
 - S. Baig: Melting and Solidification Using the SPH Method
 - N. Ben tahar: Valorization of Petroleum Loads by Thermal Process
 - B. Chaber: Conformance Criteria for Validation of Target Volume Surface Reconstructed From Delineation
 - H. E. De La Fuente Garcia: A Pendulum With a 2D-continuum Cord
 - N. Dehghanian: A Fuzzy-Genetic Algorithm for Makespan Reduction in Job Shop Environments With Sequence-Dependent Setup Time and Re-entrant Work Flow
 - J. Dziedzic: Linear-Scaling Hartree-Fock Exchange and Hybrid XC Functionals With Plane-Wave Basis Set Accuracy
 - J. Doubek: Optimization of Parallel Path Magnetic Technology Actuator

- M. Ferdousmakan: Selection of Appropriate Risk-based Maintenance Strategy by Using Fuzzy Analytical Hierarchy Process
 - M. E. Grimaldo Reyna: Solving Systems of Differential Equations by Algebraizability of Vector Fields in \mathbb{R}^3
 - S. M. Homayouni: Development of a Fuzzy Logic Controller for Variable Quality Control Charts
 - I. Kohanovsky: Heterogeneous Parallel Method for the Construction of Multi-dimensional Smoothing Splines
 - L. Korous: Scale Separation in Fast Hierarchical Solvers for Discontinuous Galerkin Methods
 - L. Koudela: High-speed Rotation Induction Heating in Thermal Clamping Technology
 - Z. N. Krawczyk: Morphing Algorithm for Building Individualized 3D Skeleton Model From CT Data
 - P. Kropík: Complete Proposal and Optimization of Nonlinear Actuator Based on Higher-Order Finite Element Analysis and Evolutionary Algorithms
 - R. Kushnin: Determination of the Optimum Pair of Values of Radii of a Full-Height Dielectric Sample of Annular Cross-Section in a Coaxial Resonant Cavity for Measurement of the Dielectric Constant
 - P. Mayer: Solving Richards Equation With Adaptive Schwarz Type Domain Decomposition and Smoothed Prolongators
 - S. Mazaheri: Optimization of Location-Routing Problem for Cross-Docks in Urban Waste Collection Network Considering Stochastic Supply and Demand
 - A. Mechter: Flat-based Control of Variable Speed Wind Turbines
 - K. Mizerová: Numerical Modeling of Induction Heating of Low-Temperature Casting Metals
 - O. Motlagh: Neural Forecast Model of Electricity Demand With Up to One Day Lead Time
 - L. Musálek: Possibilities for Improvement in Calculations for 2D Coupled Problems in Electrical and Thermal Field
 - D. Nikolayev: SAR Variation in a Human Head Due to Intrinsic Resonances
 - I. Raichik: Solution to Maxwell Equations in Axisymmetric Singular Domains
 - R. Vizinho: Turbulent Transition Modeling Through Mechanical Considerations
- **18:00 - 20:00 Farewell Party (Secese)**

ESCO 2014 - Friday, June 20

- **9:00 - 10:20 Contributed Session I-A** (chairman M. Berci)
 - 9:00 - 9:20 M. Berci: Semi-analytical Static Aeroelastic Analysis and Response of Flexible Subsonic Wings - Including 3D Aerodynamics
 - 9:20 - 9:40 R. Weber dos Santos: Parallel and Adaptive Algorithms for Cardiac Electrophysiology Simulations
 - 9:40 - 10:00 I. Ramière: Comparisons Between a Local Multigrid Method and H-Adaptive Methods in Solid Mechanics
 - 10:00 - 10:20 S. Vigonski: Multiscale Simulations of Copper Defects in High External Electric Fields

- **9:00 - 10:20 Contributed Session I-B** (chairman T. Chen)
 - 9:00 - 9:20 T. Chen: A-phi Finite Element Method With Composite Grids for a Transient Eddy Current Problem
 - 9:20 - 9:40 T. Kang: Fully Discrete $A - \phi$ Finite Element Method for Maxwell's Equations With Nonlinear Conductivity
 - 9:40 - 10:00 C. Zhai: Two Dimensional Integration Simulation of Indirect Driven Laser Fusion
 - 10:00 - 10:20 A. Christophe: Mortar FEs on Overlapping Meshes: Application to Magnetodynamics
- **9:00 - 10:20 Contributed Session I-C** (chairman K. Gugala)
 - 9:00 - 9:20 K. Kolanowski: Multisensor Data Fusion Using Neural Networks
 - 9:20 - 9:40 K. Gugala: Hardware Accelerated Neural Computing in Embedded Systems
 - 9:40 - 10:00 J. Pochmara: Minimizing Control Error of the Basic PID Controller Using the Grey System's Theory
 - 10:00 - 10:20 I. Karoń: New Behaviour Emulation for Autonomous Self-learning Agent
- 10:20 - 10:40 Coffee Break
- **10:40 - 12:00 Contributed Session II-A** (chairman J. Chleboun)
 - 10:40 - 11:00 P. Sehnalová: Adaptive Step-size Control in Obreshkov Predictor–Corrector Pairs
 - 11:00 - 11:20 M. Lepš: Evaluation of miniMax Criterion in Constrained Design Domains
 - 11:20 - 11:40 J. Chleboun: A Random Set Approach Applied to the Definite Integration of Uncertain Functions Determined by a Low Number of Measurements
 - 11:40 - 12:00 P. Beran: The Impact of the Masonry Temperature During Restoration to the Thermal Stress of Historic Masonry
- **10:40 - 12:00 Contributed Session II-B** (chairman J. Morales)
 - 10:40 - 11:00 K. Karunakaran: Numerical Computation of Flow Noise Around a Circular Cylinder Using LES
 - 11:00 - 11:20 J. Morales: Flow Behavior and Heat Transfer Model for a Mixture of Gas and Particles Inside Cyclone Separators
 - 11:20 - 11:40 A. Lomadze: Computing Morava K-theory Euler Characteristics for P-groups
 - 11:40 - 12:00 M. Kroupa: Discrete Element Model of Coagulation of Emulsions
- **10:40 - 11:40 Contributed Session II-C** (chairman V. Hapla)
 - 10:40 - 11:00 F. Assous: Numerical Modeling of Crack Problem in Axisymmetric Geometry: The Case of Adhesive Lap Joints
 - 11:00 - 11:20 R. Weber dos Santos: On the Use of Multiple Heterogeneous Devices to Speedup the Execution of a Computational Model of the Human Immune System
 - 11:20 - 11:40 V. Hapla: FLLOP: A Novel Massively Parallel QP Solver
- **12:00 Conference closing (Room A)**
- 12:15 Lunch