### Tuesday, July 24

**Auditorium Maximum of the Jagiellonian University, ul. Krupnicza 33**

#### Plenary session

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<th>Time</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>8.30</td>
<td>V. Schulz</td>
<td>Mathematical Challenges and Fast Solution Methods in Aerodynamic Shape Optimization</td>
<td>A</td>
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<tr>
<td>9.30</td>
<td>M. Grötschel</td>
<td>Half a Century of Discrete Mathematics a Progress Report</td>
<td>A</td>
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<td>10.30</td>
<td>Coffee break</td>
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#### I.6-3 Control and Optimization of Nonlinear Evolutionary PDE Systems

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<tr>
<td>11.00</td>
<td>M.C. Delfour</td>
<td>Two-person zero-sum differential games</td>
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<tr>
<td>11.30</td>
<td>G. Fabbri, F. Gozzi</td>
<td>Economic model of vintage capital the dynamic programming approach</td>
<td>B</td>
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<td>12.00</td>
<td>B. Pasik-Duncan, T.E. Duncan, B. Masłowski</td>
<td>Mild Solutions of Semilinear Stochastic Equations with Fractional Noise</td>
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<td>12.30</td>
<td>T.E. Duncan, B. Masłowski, B. Pasik-Duncan</td>
<td>Semilinear stochastic equations in a Hilbert space with a fractional Brownian motion</td>
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#### I.9-3 Evolution Problems and Optimal Control with Applications

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<tr>
<td>11.00</td>
<td>B.S. Mordukhovich, D. Wang</td>
<td>Optimal control of semilinear constrained parabolic inclusions</td>
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<td>11.30</td>
<td>S. Migórski</td>
<td>Evolution of viscoelastic contact problems for piezoelectric materials with adhesion</td>
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<tr>
<td>12.00</td>
<td>A. Ochal</td>
<td>On integrodifferential hemivariational inequalities for viscoelastic materials with long memory term</td>
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#### I.13-1 Knowledge-Based Modeling Environments

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<tr>
<td>11.30</td>
<td>X. Shi, S. Voss</td>
<td>Game Theoretical Aspects in Modeling and Analyzing Shipping Alliances</td>
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<tr>
<td>12.00</td>
<td>F. Thilo, C. Müller, M. Grauer</td>
<td>Parallel direct search methods for simulation-based optimization</td>
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<td>12.30</td>
<td>H.J. Sebastian</td>
<td>Integration of Knowledge and Analytical Model Analysis in the field of Facility Location</td>
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#### I.16 Model Reduction for Nonlinear Control Systems

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<tr>
<td>11.00</td>
<td>T.C. Ionescu, J.M.A. Scherpen</td>
<td>Cross Gramians for Nonlinear Systems</td>
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<td>11.30</td>
<td>A. Verhoeven, T. Bechtold, J. ter Maten, R.M.M. Mattheij</td>
<td>Model order reduction for nonlinear IC models</td>
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</table>
12.00 M. Kahlbacher, S. Volkwein
Parameter estimation in non-linear elliptic systems utilizing POD

12.30 K. Kunisch, S. Volkwein
POD for optimality systems

**R.1 Computational methods of optimal control for ODE systems**
**Room F**

11.00 O. Bokanowski, N. Megdich, H. Zidani
A fast anti-dissipative method for the minimum time problem. Application to atmospheric re-entry

11.30 J. Sternberg, M. Gerdts
Memory-efficient implementation of stable nonsmooth Newton’s method application to control-state constrained optimal control problems

12.00 R. Hannemann, W. Marquardt
Fast Computation of the Hessian of the Lagrangian in the Sequential Approach for Optimal Control

12.30 A. Korytowski, M. Szymkat
Adaptive parameterization for direct optimal control computations

**13.00 Lunch**

**I.6-4 Control and Optimization of Nonlinear Evolutionary PDE Systems**
**Room B**

14.30 F. Bourquin, A. Nassiopoulos
Toward real-time model-based temperature assimilation for Structural Health Monitoring

15.00 L. Zietsman
Mesh independence for LQR control of convection diffusion equations

15.30 W.W. Hager, B. Caliskan Aslan, S. Moskow
A generalized eigenproblem for the Laplacian and its Application to the Lightning Discharge

16.00 J. Borggaard, M. Stoyanov, L. Zietsman
Comparison of full- and reduced-order models for feedback control of fluids

**I.9-4 Evolution Problems and Optimal Control with Applications**
**Room C**

14.30 S. Carl
Quasilinear parabolic variational inequalities Existence and Comparison

15.00 L. Gasiński
Scalar Periodic Problems at Resonance with \( p \)-Laplacian-Like Operator

15.30 M. E. Filippakis, A. Kristaly, N.S. Papageorgiou,
Five nontrivial solutions with precise sign data for a \( p \)-Laplacian equation

16.00 R.P. Agarwal, M.E. Filippakis, D. O'Regan, N.S. Papageorgiou
Nodal and multiple constant sign solutions for equations with the \( p \)-Laplacian

**I.13-2 Knowledge-Based Modeling Environments**
**Room D**

14.30 D.R. Dolk
Next Generation Model Management. Model Evolution as Knowledge Dynamics

15.00 A. Bordetsky
Modeling Collaboration in Tactical Network-Centric Environments
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<tr>
<td>15.30</td>
<td>M. Grauer, J. Reichwald, T. Barth</td>
<td>A grid-based infrastructure for virtual product and process optimization in manufacturing</td>
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<td>16.00</td>
<td>A.P. Wierzbicki, Y. Nakamori</td>
<td>Testing Knowledge Creation Theories</td>
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<td>15.30</td>
<td>T. Donchev, E. Farkhi, B. S. Mordukhovich</td>
<td>Stability of discrete approximations for optimal control of one-sided Lipschitzian Differential Inclusions</td>
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<td>15.00</td>
<td>W. Alt, N. Bräutigam, D. Karolewski</td>
<td>A collocation method for quadratic control problems governed by ordinary elliptic differential equations</td>
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<td>15.30</td>
<td>R. Griesse, T. Grund, D. Wachsmuth</td>
<td>Update Strategies for Perturbed Nonsmooth Equations</td>
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<td>16.00</td>
<td>N. Metla, R. Griesse, A. Rösch</td>
<td>Convergence analysis of SQP method for semilinear elliptic optimal control problems with mixed control-state constraints</td>
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<td>14.30</td>
<td>C. Grossmann</td>
<td>Elliptic control by general penalty techniques with control reduction</td>
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<td>15.00</td>
<td>A. Günther, M. Hinze</td>
<td>Goal-oriented adaptive concepts for elliptic optimal control problems in the presence of control and state constraints</td>
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<td>15.30</td>
<td>M. Hintermüller, K. Kunisch</td>
<td>Path-following techniques in PDE-constrained optimization with low multiplier regularity</td>
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<td>17.00</td>
<td>M.A. Horn</td>
<td>Stabilization of Linked Structures of Differing Dimensions</td>
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<td>17.30</td>
<td>B.S. Mordukhovich</td>
<td>Suboptimal Feedback Control Design of Constrained Parabolic Systems in Uncertainty Conditions</td>
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<td>18.00</td>
<td>S. Avdonin</td>
<td>Control and Inverse Problems for the Wave and Heat Equations on Graphs</td>
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<td>17.00</td>
<td>A. Nowakowski</td>
<td>Nonhomogeneous boundary value problem for semilinear hyperbolic equation. Stability</td>
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<td>17.30</td>
<td>P. Beremlijski, J. Haslinger, M. Kočvara, R. Kučera, J. Outrata</td>
<td>Shape optimization in 3D contact problems with Coulomb friction</td>
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<td>18.00</td>
<td>M. Jaksztó</td>
<td>Elliptic control systems in unbounded sets</td>
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I.5-3 Shape and Topology Optimization and Applications

Room D

17.00 W. Mitkowski, K. Oprządkiewicz
An optimal sample time estimation for the finite-dimensional discrete dynamic compensator implemented at the "soft PLC"

17.30 J. Sokołowski, A. Żochowski
Asymptotic analysis and topological derivatives for linear elasticity

18.00 W. Mitkowski, P. Skruch
Shape optimization and the Pontryagin principle

18.30 G. Dzierżanowski
Computational analysis of layered laminates in two-dimensional elasticity problems

19.00 J.R. de Faria, A.A. Novotny, R.A. Feijóo, C. Padra
On the Second Order Topological Asymptotic

I.8-2 Stability, Sensitivity and Error Analysis for Optimal Control Problems. Discretization and error estimates I

Room E

17.00 O. Benedix, B. Vexler
A posteriori error estimates for elliptic optimal control problems with inequality constraints

17.30 M. Hinze, U. Matthes
Semidiscretizaton for semilinear elliptic optimal control problems with control constraints

18.00 W. Alt, N. Bräutigam
Discretization of Optimal Control Problems with Time Dependent Parameters

I.3-2 PDE Constrained Optimization

Room F

17.00 S. Schmidt, C. Ilic, V. Schulz
Structure Exploitation in Aerodynamic Shape Optimization

17.30 A. Walther, L. Biegler
A trust-region algorithm for nonlinear programming problems with dense constraint Jacobians

18.00 E. Bänsch, P. Benner, A. Heubner
Riccati-Based Feedback Stabilization of Flow Problems