## Technical Program for Wednesday September 25, 2013

### WeMPAH

**Controllability of PDEs and Nonlinearity: Methods, Results and Open Problems** *(Plenary Session)*

Chair: Zuazua, Enrique  
Basque Center for APplied Mathematics

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| 09:00-10:00 | WeMPAH.1 | Controllability of Partial Differential Equations and Nonlinearity: Methods, Results and Open Problems* | Coron, Jean-michel  
Univ. Pierre et Marie Curie |

### WeMAH

**Controllability and Observability** *(Regular Session)*

Chair: Rudolph, Joachim  
Co-Chair: Chambrion, Thomas

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| 10:20-10:40 | WeMAH.1 | Moment Methods and Systems with Infinite Memory: An Overview, pp. 1-6, Attachment | Pandolfi, Luciano  
Pol. di Torino |
| 10:40-11:00 | WeMAH.2 | Null Controllability of the 1D Heat Equation Using Flatness, pp. 7-12, Attachment | Martin, Philippe  
Rosier, Lionel  
Rouchon, Pierre  
Mines ParisTech  
Univ. de Lorraine  
Mines-ParisTech |
| 11:00-11:20 | WeMAH.3 | Controllability and Prediction-Free Control of Coupled Transport Processes Viewed As Linear Systems with Distributed Delays, pp. 13-18, Attachment | Gehring, Nicole  
Rudolph, Joachim  
Woittennek, Frank  
Saarland Univ.  
Saarland Univ.  
Tech. Univ. Dresden |
| 11:20-11:40 | WeMAH.4 | Numerical Aspects and Controllability of a One Dimensional Fluid-Structure Model, pp. 19-24, Attachment | Cindea, Nicolae  
Micu, Sorin  
Roventa, Ionel  
Tucsnak, M.  
Univ. Blaise Pascal Clermont-Ferrand  
Univ. of Craiova  
Univ. of Craiova  
Univ. of Lorraine |
| 11:40-12:00 | WeMAH.5 | Observers and Regional Observability of Semilinear Beam Equations* | Fridman, Emilia  
Terushkin, Maria  
Tel-Aviv Univ.  
Tel Aviv Univ. |
| 12:00-12:20 | WeMAH.6 | Energy Estimates for Low Regularity Bilinear Schrödinger Equations, pp. 25-30, Attachment | Caponigro, Marco  
Chambbrion, Thomas  
Boussaid, Nabile  
Conservatoire National des Arts et Metiers  
Univ. de Lorraine  
Lab. de Mathématiques, Univ. de Franche-Comté |

### WeMAD

**Feedback and Tracking Control** *(Regular Session)*

Chair: Woittennek, Frank  
Co-Chair: Aksikas, Ilyasse

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| 10:20-10:40 | WeMAD.1 | Semi-Numerical Trajectory Planning for Coupled Systems of Linear Diffusion-Convection-Reaction Equations, pp. 31-36, Attachment | Schmidt, Jakob  
Meurer, Thomas  
Vienna Univ. of Tech.  
Christian-Albrechts-Univ. Kiel |
| 10:40-11:00 | WeMAD.2 | Flatness Based Feedback Design for Hyperbolic Distributed Parameter Systems with Spatially Varying Coefficients, pp. 37-42, Attachment | Woittennek, Frank  
Tech. Univ. Dresden |
Backstepping-Method for Parabolic Systems with In-Domain Actuation, pp. 43-48. Attachment
Wang, Siqian
Woittennek, Frank
Techn. Univ. Dresden

Boundary Geometric Control of Nonlinear Diffusion Systems, pp. 49-54. Attachment
Corriou, Jean-Pierre
Maidi, Ahmed
ENSIC
Univ. Mouloud MAMMERI

Robust Measurement Feedback Control of an Inclined Cable, pp. 55-60. Attachment
Baudouin, Lucie
Neild, Simon Andrew
Rondepierre, Aude
Wagg, David James
LAAS-CNRS
Univ. of Bristol
INSA de Toulouse
Univ. of Bristol

Stability Criteria for Non-Linear Time-Varying PDEs*. Aksikas, Ilyasse
Qatar Univ.

PDE Control Designs Inspired by Problems in Off-Shore Drilling and Oil Production (Plenary Session)
Chair: Meurer, Thomas
Christian-Albrechts-Univ. Kiel

Banks, H. T.
Catenacci, Jared
Hu, Shuhua
Center for Res. in Scientific Computation, Box8205,North Carolina State Univ. Raleigh, NC27695-8205,U.S.A.
N.C. State Univ.
N.C. State Univ.

Bayesian Techniques to Quantify Parameter and Model Uncertainty for a Macro-Fiber Composite Model (I), pp. 67-72. Attachment
Hu, Zhengzheng
Smith, Ralph C.
Burch, Nathaniel
Hays, Michael
Oates, William
NCSU
N.C. State Univ.
NCSU
FSU
Florida A&M/Florida State Univ.

Synchronization of a Class of Second Order Distributed Parameter Systems (I), pp. 73-78. Attachment
Demetriou, Michael A.
Fahroo, Fariba
Worcester Pol. Inst.
Naval Postgraduate School

Control of PDE Systems with Delays (I), pp. 79-84. Attachment
Burns, John A
Zietsman, Lizette
Virginia Tech.
Virginia Tech.

Hashikura, Kotaro
Kojima, Akira
Ohta, Yoshito
Tokyo Metropolitan Univ.
Tokyo Metropolitan Univ.
Kyoto Univ.
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<td>A Numerical Method for Structured Population Equations Modeling Control of Erythropoiesis (I), pp. 93-96. Attachment</td>
<td>Fuertinger, Doris Helene, Kappel, Franz</td>
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**Amphi Darboux**

**WeAAD**

**Sparse Solutions in Optimal Control of Partial Differential Equations (Invited Session)**

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<td>WeAAD.1</td>
<td>Control and Stabilization of the Schlögel Model (I)*.</td>
<td>Tröltzsch, Fredi</td>
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<td>Ryll, Christopher</td>
<td>Tech. Univ. Berlin</td>
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<td>15:40-16:00</td>
<td>WeAAD.2</td>
<td>Various Ways to Get Sparsity in Control Problems of Parabolic Equations (I)*.</td>
<td>Casas, Eduardo, Herzog, Roland, Wachsmuth, Gerd</td>
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<td>Dept. of Mathematics, Chemnitz Univ. of Tech.</td>
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<tr>
<td>16:00-16:20</td>
<td>WeAAD.3</td>
<td>Sparse Optimal Control of Some Reaction-Diffusion Equations (I)*.</td>
<td>Casas, Eduardo, Ryll, Christopher</td>
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<td>Tech. Univ. Berlin</td>
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<td>Tröltzsch, Fredi</td>
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<tr>
<td>16:20-16:40</td>
<td>WeAAD.4</td>
<td>Sparse Controls for Elliptic and Parabolic Partial Differential Equations (I)*.</td>
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<td>Univ. of Cantabria</td>
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<td>Kunisch, Karl</td>
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<td>Univ. of Graz</td>
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ThMPAH
Well-Posedness of Port-Hamiltonian Systems (Plenary Session)
Chair: Le Gorrec, Yann

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<td>ThMPAH.1</td>
<td>Well-Posedness of Port-Hamiltonian Systems*.</td>
<td>Zwart, Hans (Univ. of Twente)</td>
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ThMAH
Port Hamiltonian Modeling and Control of Distributed Parameter Systems (Invited Session)
Chair: Le Gorrec, Yann
Co-Chair: Maschke, Bernhard
Organizer: Le Gorrec, Yann
Organizer: Maschke, Bernhard

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<td>Dirac Structures on Hilbert Spaces and Boundary Control of Distributed Port-Hamiltonian Systems (I), pp. 97-102.</td>
<td>Macchelli, Alessandro (Univ. of Bologna - Italy)</td>
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<td>Anda Ondo, Diemer (Grenoble-INP, LCIS)</td>
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<td>Seslija, Marko (Katholieke Univ. Leuven)</td>
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<td>Weiss, George (Tel Aviv Univ.)</td>
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ThMAD
Model Predictive Control for PDEs (Invited Session)
Chair: Gruene, Lars
Co-Chair: Hinze, Michael
Organizer: Gruene, Lars

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Altmueller, Nils
Univ. of Bayreuth
Gruene, Lars
Univ. of Bayreuth
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Optimal Control for Allen-Cahn Equations Enhanced by Model Predictive Control (I), pp. 139-143. Attachment
Benner, Peter
Max Planck Inst. for Dynamics of Complex Tech. Systems
Stoll, Martin
Max Planck Inst. for Dynamics of Complex Tech. Systems,
11:40-12:00     ThMAD.5
Optimal Control of Petroleum Reservoirs, pp. 144-149. Attachment
Hasan, Agus
Norwegian Univ. of Science and Tech.
12:00-12:20     ThMAD.6
Weak and Strong Minima: From Calculus of Variation Toward PDE Optimization, pp. 150-154. Attachment
Bayen, Terence
Univ. of Montpellier 2
Silva, Francisco
Lab. XLIM-DMI, Univ. de Limoges

ThAPAH
Optimal Actuator Location (Plenary Session) Amphi Hermite
Chair: Bonnet, Catherine
Inria Saclay-Ile-de-France
14:00-15:00     ThAPAH.1
Optimal Actuator Location*.
Morris, Kirsten A.
Univ. of Waterloo

ThAAH
Semigroup and Operator Theory (Regular Session) Amphi Hermite
Chair: Zwart, Hans
Univ. of Twente
Co-Chair: Matignon, Denis
ISAE
15:20-15:40     ThAAH.1
Using System Theory to Prove Existence of Non-Linear PDE’s*. Zwart, Hans
Le Gorrec, Yann
FEMTO-ST
Maschke, Bernhard
Univ. Claude Bernard Lyon
15:40-16:00     ThAAH.2
Behavior of a Stable Nonlinear Infinite-Dimensional System under the Influence of a Nonlinear Exosystem, pp. 155-160. Attachment
Natarajan, Vivek
Tel Aviv Univ.
Weiss, George
Tel Aviv Univ.
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On Stabilization of Partially Observed Infinite-Dimensional Semilinear Systems, pp. 161-166. Attachment
Achhab, M. Elarbi
Univ. Chouaib Doukkali
Wertz, Vincent
Univ. catholique de Louvain
16:20-16:40     ThAAH.4
Fractional Equations and Diffusive Systems: An Overview*. Matignon, Denis
ISAE
16:40-17:00     ThAAH.5
Right Coprime Factorizations of MISO Fractional Time-Delay Systems, pp. 167-171. Attachment
Nguyen, Le Ha Vy
Inria Saclay-Ile-de-France
Bonnet, Catherine
Inria Saclay-Ile-de-France

ThAAD
Process Control (Regular Session) Amphi Darboux
Chair: Palis, Stefan
Univ. Magdeburg
Co-Chair: Besancon, Gildas
Ense3, Grenoble INP
15:20-15:40     ThAAD.1
Discrepancy Based Control of Systems of Population Balances, pp. 172-176. Attachment
Palis, Stefan
Univ. Magdeburg
Bück, Andreas
Otto von Guericke Univ. Magdeburg
Kienle, Achim
Univ. Magdeburg
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<td>Zerrougui, Mohamed&lt;br&gt;Boulkroune, Boulaid&lt;br&gt;Kinnaert, Michel</td>
<td>Nancy Univ.&lt;br&gt;Univ. Libre de Bruxelles</td>
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<td>Aalto Univ. School of Electrical Engineering</td>
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<td>Faculty of Mechanical Engineering, Slovak Univ. of Tech.&lt;br&gt;Slovak Univ. of Tech.&lt;br&gt;Slovak Univ. of Tech.</td>
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<td>N’zi, Yoboué Guillaume&lt;br&gt;Tarasiewicz, Stanislaw</td>
<td>Univ. Laval&lt;br&gt;Laval Univ.</td>
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<td>Besancon, Gildas&lt;br&gt;Pham, Van Thang&lt;br&gt;Georges, Didier</td>
<td>Ense3, Grenoble INP&lt;br&gt;Gipsa-Lab.&lt;br&gt;Grenoble Inst. of Tech. - ENSE3</td>
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<td>10:20-10:40</td>
<td>FrMAH.1 Optimal Control of Partial Differential Equations on Networked Domains</td>
<td>Amphi Hermite</td>
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<td>FrMAH.2 Introduction of a Non Constant Viscosity on an Extrusion Process: Improvements</td>
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<td>FrMAH.3 Exponential Stability of Networks of Density-Flow Conservation Laws under PI Boundary Control</td>
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<td>FrMAD.2 Computational Reduction for Parametrized PDE-Constrained Optimization Problems Arising in Haemodynamics</td>
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Technical Program for Friday September 27, 2013
Error Control Based Model Reduction for Parameter Optimization of Elliptic Homogenization Problems (I), pp. 251-256. Attachment
Ohlberger, Mario
Univ. of Muenster
Schaefer, Michael
Univ. of Muenster
11:20-11:40 FrMAD.4

Balancing-Related Model Reduction for Parabolic Control Systems (I), pp. 257-262. Attachment
Benner, Peter
Max Planck Inst. for Dynamics of Complex Tech. Systems
11:40-12:00 FrMAD.5

A-Posterior Error Estimation for Parameter Optimization with Reduced Basis Surrogate Models (I)*.
Haasdonk, Bernard
Univ. of Stuttgart
Dihlmann, Markus
Univ. of Stuttgart
12:00-12:20 FrMAD.6

Optimization Strategy for the Parameters Sampling in the Reduced Basis Method*.
Iapichino, Laura
Univ. of Konstanz
Volkwein, Stefan
Univ. Konstanz

FrAAH
Error Analysis in Optimal Control of Partial Differential Equations (Invited Session) Amphi Hermite
Chair: Casas, Eduardo
Univ. of Cantabria
Co-Chair: Tröltzsch, Fredi
Tech. Univ. Berlin
Organizer: Casas, Eduardo
Univ. of Cantabria
Organizer: Tröltzsch, Fredi
Tech. Univ. Berlin
14:00-14:20 FrAAH.1

Improved Error Estimates for the Discretization of State Constrained Control Problems (I)*.
Casas, Eduardo
Univ. of Cantabria
Mateos, Mariano
Univ. of Oviedo
Vexler, Boris
Tech. Univ. München
14:20-14:40 FrAAH.2

Discontinuous Galerkin Time-Stepping Schemes for Robin Boundary Control Problems Constrained to Parabolic PDE’s (I)*.
Chrysafinos, Konstantinos
National Tech. Univ. of Athens
Karatzas, Efthimios
Department of Mathematics, National Tech. Univ. of Atene
14:40-15:00 FrAAH.3

Neitzel, Ira
Tech. Univ. Muenchen
Pfefferer, Johannes
Univ. der Bundeswehr Muenchen
Rösch, Arnd
Univ. of Duisburg-Essen
15:00-15:20 FrAAH.4

FrAAD
Modeling and Control of Collective Dynamics (Invited Session) Amphi Darboux
Chair: Caponigro, Marco
Conservatoire National des Arts et Metiers
Co-Chair: Maury, Bertrand, Antti
Lab. de Mathématiques, Univ. Paris Sud
Organizer: Caponigro, Marco
Conservatoire National des Arts et Metiers
Organizer: Piccoli, Benedetto
Rutgers Univ. - Camden
Organizer: Ghezzi, Roberta
Scuola Normale Superiore, Pisa
14:00-14:20 FrAAD.1

Evers, Joep
Eindhoven Univ. of Tech.
Muntean, Adrian
Eindhoven Univ. of Tech.
vande Ven, Fons
Eindhoven Univ. of Tech.
14:20-14:40 FrAAD.2

Kinetic Description and Asymptotics for Bacterial Chemotaxis (I), pp. 269-274. Attachment
Vauchelet Nicolas, Vauchelet
UPMC Paris 06
14:40-15:00 FrAAD.3

Handling Congestion in Crowd Motion Modeling: Micro versus Macro (I)*.