

# **1st IFAC Workshop on Control of Systems Governed by Partial Differential Equations**

**(CPDE 2013)**

**Paris, France  
25-27 September 2013**

**Editors:**

**Yann Le Gorrec**

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# Content List of 1st IFAC Workshop on Control of Systems Governed by Partial Differential Equations

## Technical Program for Wednesday September 25, 2013

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Chair: Zuazua, Enrique	Basque Center for Applied Mathematics
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Coron, Jean-michel	Univ. Pierre et Marie Curie
<b>WeMAH</b>	Amphi Hermite
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Chair: Rudolph, Joachim	Saarland Univ.
Co-Chair: Chambrion, Thomas	Univ. de Lorraine
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Pandolfi, Luciano	Pol. di Torino
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Martin, Philippe	Mines ParisTech
Rosier, Lionel	Univ. de Lorraine
Rouchon, Pierre	Mines-ParisTech
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Gehring, Nicole	Saarland Univ.
Rudolph, Joachim	Saarland Univ.
Woittennek, Frank	Tech. Univ. Dresden
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Cindea, Nicolae	Univ. Blaise Pascal Clermont-Ferrand
Micu, Sorin	Univ. of Craiova
Roventa, Ionel	Univ. of Craiova
Tucsnaik, M.	Univ. of Lorraine
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Fridman, Emilia	Tel-Aviv Univ.
Terushkin, Maria	Tel Aviv Univ.
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Caponigro, Marco	Conservatoire National des Arts et Metiers
Chambrion, Thomas	Univ. de Lorraine
Boussaïd, Nabile	Lab. de Mathématiques, Univ. de Franche-Comté
<b>WeMAD</b>	Amphi Darboux
<b>Feedback and Tracking Control</b> (Regular Session)	
Chair: Woittennek, Frank	Tech. Univ. Dresden
Co-Chair: Aksikas, Ilyasse	Qatar Univ.
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Schmidt, Jakob	Vienna Univ. of Tech.
Meurer, Thomas	Christian-Albrechts-Univ. Kiel
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Woittennek, Frank	Tech. Univ. Dresden

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Wang, Siqian	Tech. Univ. Dresden
Woittennek, Frank	Tech. Univ. Dresden
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Corriou, Jean-Pierre	ENSIC
Maidi, Ahmed	Univ. Mouloud MAMMERY
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Baudouin, Lucie	LAAS-CNRS
Neild, Simon Andrew	Univ. of Bristol
Rondepierre, Aude	INSA de Toulouse
Wagg, David James	Univ. of Bristol
12:00-12:20	WeMAD.6
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Aksikas, Ilyasse	Qatar Univ.
<b>WeAPAH</b>	Amphi Hermite
<b>PDE Control Designs Inspired by Problems in Off-Shore Drilling and Oil Production</b> (Plenary Session)	
Chair: Meurer, Thomas	Christian-Albrechts-Univ. Kiel
14:00-15:00	WeAPAH.1
<i>PDE Control Designs Inspired by Problems in Off-Shore Drilling and Oil Production*</i>	
Krstic, Miroslav	Univ. of California at San Diego
<b>WeAAH</b>	Amphi Hermite
<b>Control of Partial and Delay Differential Equations</b> (Invited Session)	
Chair: Burns, John A	Virginia Tech.
Co-Chair: Banks, H. T.	Center for Res. in Scientific Computation, Box8205, North Carolina State Univ. Raleigh, NC27695-8205, U.S.A.
Organizer: Burns, John A	Virginia Tech.
Organizer: Banks, H. T.	Center for Res. in Scientific Computation, Box8205, North Carolina
15:20-15:40	WeAAH.1
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Banks, H. T.	Center for Res. in Scientific Computation, Box8205, North Carolina
Catenacci, Jared	N.C. State Univ.
Hu, Shuhua	N.C. State Univ.
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Hu, Zhengzheng	NCSU
Smith, Ralph C.	North Carolina State Univ.
Burch, Nathaniel	NCSU
Hays, Michael	FSU
Oates, William	Florida A&M/Florida State Univ.
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Demetriou, Michael A.	Worcester Pol. Inst.
Fahroo, Fariba	Naval Postgraduate School
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Burns, John A	Virginia Tech.
Zietsman, Lizette	Virginia Tech.
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Hashikura, Kotaro	Tokyo Metropolitan Univ.
Kojima, Akira	Tokyo Metropolitan Univ.
Ohta, Yoshito	Kyoto Univ.

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17:00-17:20 WeAAH.6

*A Numerical Method for Structured Population Equations Modeling Control of Erythropoiesis (I)*, pp. 93-96. [Attachment](#)

Fuertinger, Doris Helene

Renal Res. Inst. New York

Kappel, Franz

Univ. of Graz

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**WeAAD**

Amphi Darboux

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

Chair: Tröltzsch, Fredi

Tech. Univ. Berlin

Co-Chair: Casas, Eduardo

Univ. of Cantabria

Organizer: Casas, Eduardo

Univ. of Cantabria

Organizer: Tröltzsch, Fredi

Tech. Univ. Berlin

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15:20-15:40

WeAAD.1

*Control and Stabilization of the Schlögel Model (I)\*.*

Tröltzsch, Fredi

Tech. Univ. Berlin

Ryll, Christopher

Tech. Univ. of Berlin

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15:40-16:00

WeAAD.2

*Various Ways to Get Sparsity in Control Problems of Parabolic Equations (I)\*.*

Casas, Eduardo

Univ. of Cantabria

Herzog, Roland

Department of Mathematics, Chemnitz Univ. of Tech.

Wachsmuth, Gerd

Department of Mathematics, Chemnitz Univ. of Tech.

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16:00-16:20

WeAAD.3

*Sparse Optimal Control of Some Reaction-Diffusion Equations (I)\*.*

Casas, Eduardo

Univ. of Cantabria

Ryll, Christopher

Tech. Univ. of Berlin

Tröltzsch, Fredi

Tech. Univ. Berlin

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16:20-16:40

WeAAD.4

*Sparse Controls for Elliptic and Parabolic Partial Differential Equations (I)\*.*

Casas, Eduardo

Univ. of Cantabria

Clason, Christian

Univ. of Graz

Kunisch, Karl

Univ. Graz

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16:40-17:00

WeAAD.5

*Control of Semilinear Elliptic Equations by Measures (I)\*.*

Casas, Eduardo

Univ. of Cantabria

Kunisch, Karl

Univ. Graz

**Technical Program for Thursday September 26, 2013**

<b>ThMPAH</b>	Amphi Hermite
<b>Well-Posedness of Port-Hamiltonian Systems</b> (Plenary Session)	
Chair: Le Gorrec, Yann	FEMTO-ST, ENSMM
09:00-10:00	ThMPAH.1
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Zwart, Hans	Univ. of Twente
<b>ThMAH</b>	Amphi Hermite
<b>Port Hamiltonian Modeling and Control of Distributed Parameter Systems</b> (Invited Session)	
Chair: Le Gorrec, Yann	FEMTO-ST, ENSMM
Co-Chair: Maschke, Bernhard	Univ. Claude Bernard of Lyon
Organizer: Le Gorrec, Yann	FEMTO-ST, ENSMM
Organizer: Maschke, Bernhard	Univ. Claude Bernard of Lyon
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Macchelli, Alessandro	Univ. of Bologna - Italy
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Anda Ondo, Diemer	Grenoble-INP, LCIS
Lefevre, Laurent	Grenoble INP
Chopard, Bastien	CUI, Univ. of Geneva
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Seslija, Marko	Katholieke Univ. Leuven
Scherpen, Jacquelen M.A.	Univ. of Groningen
van der Schaft, Arjan J.	Univ. of Groningen
11:20-11:40	ThMAH.4
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Maschke, Bernhard	Univ. Claude Bernard of Lyon
van der Schaft, Arjan J.	Univ. of Groningen
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Weiss, George	Tel Aviv Univ.
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Ramirez, Hector	FEMTO-ST, ENSMM
Zwart, Hans	Univ. of Twente
Le Gorrec, Yann	FEMTO-ST, ENSMM
<b>ThMAD</b>	Amphi Darboux
<b>Model Predictive Control for PDEs</b> (Invited Session)	
Chair: Gruene, Lars	Univ. of Bayreuth
Co-Chair: Hinze, Michael	Univ. Hamburg
Organizer: Gruene, Lars	Univ. of Bayreuth
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Rhein, Sönke	Univ. of Ulm
Utz, Tilman	Ulm Univ.
Graichen, Knut	Univ. of Ulm
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Hinze, Michael	Univ. Hamburg
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Altmueller, Nils	Univ. of Bayreuth
Gruene, Lars	Univ. of Bayreuth
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Benner, Peter	Max Planck Inst. for Dynamics of Complex Tech. Systems
Stoll, Martin	Max Planck Inst. for Dynamics of Complex Tech. Systems,
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Hasan, Agus	Norwegian Univ. of Science and Tech.
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Bayen, Terence	Univ. of Montpellier 2
Silva, Fransisco	Lab. XLIM-DMI, Univ. de Limoges
<b>ThAPAH</b>	Amphi Hermite
<b>Optimal Actuator Location</b> (Plenary Session)	
Chair: Bonnet, Catherine	Inria Saclay-Ile-de-France
14:00-15:00	ThAPAH.1
<i>Optimal Actuator Location*</i> .	
Morris, Kirsten A.	Univ. of Waterloo
<b>ThAAH</b>	Amphi Hermite
<b>Semigroup and Operator Theory</b> (Regular Session)	
Chair: Zwart, Hans	Univ. of Twente
Co-Chair: Matignon, Denis	ISAE
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Zwart, Hans	Univ. of Twente
Le Gorrec, Yann	FEMTO-ST
Maschke, Bernhard	Univ. Claude Bernard of Lyon
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Natarajan, Vivek	Tel Aviv Univ.
Weiss, George	Tel Aviv Univ.
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Achhab, M. Elarbi	Univ. Chouaib Doukkali
Wertz, Vincent	Univ. catholique de Louvain
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Matignon, Denis	ISAE
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Nguyen, Le Ha Vy	Inria Saclay-Ile-de-France
Bonnet, Catherine	Inria Saclay-Ile-de-France
<b>ThAAD</b>	Amphi Darboux
<b>Process Control</b> (Regular Session)	
Chair: Palis, Stefan	Univ. Magdeburg
Co-Chair: Besancon, Gildas	Ense3, Grenoble INP
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Palis, Stefan	Univ. Magdeburg
Bück, Andreas	Otto von Guericke Univ. Magdeburg
Kienle, Achim	Univ. Magdeburg

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Zerrougui, Mohamed	Nancy Univ.
Boulkroune, Boulaïd	Univ. Libre de Bruxelles
Kinnaert, Michel	Univ. Libre de Bruxelles
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Lipár, Slavomír	Faculty of Mechanical Engineering, Slovak Univ. of Tech.
Noga, Pavol	Slovak Univ. of Tech.
Hulko, Gabriel	Slovak Univ. of Tech.
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N'zi, Yoboué Guillaume	Univ. Laval
Tarasiewicz, Stanislaw	Laval Univ.
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Besancon, Gildas	Ense3, Grenoble INP
Pham, Van Thang	Gipsa-Lab.
Georges, Didier	Grenoble Inst. of Tech. - ENSE3

**Technical Program for Friday September 27, 2013**

<b>FrMPAH</b>	Amphi Hermite
<b>Optimal Control of Partial Differential Equations on Networked Domains</b> (Plenary Session)	
Chair: Trelat, Emmanuel	Univ. Pierre et Marie Curie (Paris 6)
09:00-10:00	FrMPAH.1
<i>Optimal Control of Partial Differential Equations on Networked Domains*</i> .	
Leugering, Gunther	Univ. of Erlangen
<b>FrMAH</b>	Amphi Hermite
<b>PDE Applications</b> (Invited Session)	
Chair: Dos Santos Martins, Valérie Sylvie	Univ. Claude Bernard Lyon 1
Co-Chair: Winkin, Joseph J.	Univ. of Namur (FUNDP)
Organizer: Dos Santos Martins, Valérie Sylvie	Univ. Claude Bernard Lyon 1
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Mechhoud, Sarah	Univ. de Grenoble1, Gipsa-Lab. Grenoble.
Witrant, Emmanuel	Univ. Joseph Fourier, Grenoble
Dugard, Luc	Gipsa-Lab. CNRS Grenoble
Moreau, Didier	CEA
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Dos Santos Martins, Valérie Sylvie	Univ. Claude Bernard Lyon 1
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Bastin, Georges	Univ. catholique de Louvain
Coron, Jean-michel	Univ. Pierre et Marie Curie
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Tang, Ying	Grenoble Univ.
Prieur, Christophe	CNRS
Girard, Antoine	Univ. Joseph Fourier
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Dehaye, Jérémy R.	Univ. of Namur (FUNDP)
Winkin, Joseph J.	Univ. of Namur (FUNDP)
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Perrollaz, Vincent	Lab. de Mathématiques et Physique Théorique, Univ. d
Rosier, Lionel	Univ. de Lorraine
<b>FrMAD</b>	Amphi Darboux
<b>Reduced-Order Modelling in PDE Constrained Optimization</b> (Invited Session)	
Co-Chair: Iapichino, Laura	Univ. of Konstanz
Organizer: Volkwein, Stefan	Univ. Konstanz
Organizer: Iapichino, Laura	Univ. of Konstanz
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Alessandro, Alla	Sapienza, Univ. di Roma
Falcone, Maurizio	SAPIENZA - Univ. di Roma
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Rozza, Gianluigi	SISSA
Negri, Federico	EPFL
Manzoni, Andrea	SISSA
11:00-11:20	FrMAD.3

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Ohlberger, Mario	Univ. of Muenster
Schaefer, Michael	Univ. of Muenster
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Benner, Peter	Max Planck Inst. for Dynamics of Complex Tech. Systems
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Haasdonk, Bernard	Univ. of Stuttgart
Dihlmann, Markus	Univ. of Stuttgart
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<i>Optimization Strategy for the Parameters Sampling in the Reduced Basis Method*</i>	
Iapichino, Laura	Univ. of Konstanz
Volkwein, Stefan	Univ. Konstanz
<b>FrAAH</b>	Amphi Hermite
<b>Error Analysis in Optimal Control of Partial Differential Equations (Invited Session)</b>	
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
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Casas, Eduardo	Univ. of Cantabria
Mateos, Mariano	Univ. of Oviedo
Vexler, Boris	Tech. Univ. München
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Chrysafinos, Konstantinos	National Tech. Univ. of Athens
Karatzas, Efthimios	Department of Mathematics, National Tech. Univ. of Athe
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Neitzel, Ira	Tech. Univ. Muenchen
Pfefferer, Johannes	Univ. der Bundeswehr Muenchen
Rösch, Arnd	Univ. of Duisburg-Essen
15:00-15:20	FrAAH.4
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De los Reyes, Juan Carlos	Escuela Pol. Nacional de Ec.
<b>FrAAD</b>	Amphi Darboux
<b>Modeling and Control of Collective Dynamics (Invited Session)</b>	
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
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Evers, Joep	Eindhoven Univ. of Tech.
Muntean, Adrian	Eindhoven Univ. of Tech.
van de Ven, Fons	Eindhoven Univ. of Tech.
14:20-14:40	FrAAD.2
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Vauchelet Nicolas, Vauchelet	UPMC Paris 06
14:40-15:00	FrAAD.3
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