

# **9th IFAC Symposium on Nonlinear Control Systems 2013**

**Toulouse, France  
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**Editors:**

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Miroslav Krstic**

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## Technical Program for Wednesday September 4, 2013

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Chair: Prieur, Christophe	CNRS
09:00-10:00	WePL1.1
<i>Nonlinear Stabilization in Infinite Dimension</i> , pp. 1-14.	
Krstic, Miroslav	Univ. of California at San Diego
Bekiaris-Liberis, Nikolaos	UCSD
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Chair: van der Schaft, Arjan J.	Univ. of Groningen
Co-Chair: Kellett, Christopher M.	Univ. of Newcastle
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Forni, Fulvio	Univ. of Liège
Sepulchre, Rodolphe J.	Univ. de Liege
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Geiselhart, Roman	Univ. of Wuerzburg
Gielen, Rob H.	Eindhoven Univ. of Tech.
Lazar, Mircea	Eindhoven Univ. of Tech.
Wirth, Fabian R.	Univ. Würzburg
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Dashkovskiy, Sergey	Univ. of Applied Sciences Erfurt
Pavlichkov, Svyatoslav	Univ. of Applied Sciences Erfurt
Jiang, Zhong-Ping	Pol. Inst. of New York Univ.
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Kellett, Christopher	Univ. of Newcastle
Wirth, Fabian R.	Univ. Würzburg
Dower, Peter M.	Univ. of Melbourne
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Chair: Rauh, Andreas	Univ. of Rostock
Co-Chair: Ramdani, Nacim	Univ. d'Orléans
Organizer: Rauh, Andreas	Univ. of Rostock
Organizer: Ramdani, Nacim	Univ. d'Orléans
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Drevelle, Vincent	ENSTA Bretagne
Jaulin, Luc	ENSTA-Bretagne
Zerr, Benoit	Lab. - ENSTA Bretagne
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Asselborn, Leonhard	Univ. of Kassel
Gross, Dominic	Univ. of Kassel
Stursberg, Olaf	Univ. of Kassel

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Kieffer, Michel	CNRS - Supélec - Univ. Paris-Sud, Inst.
Walter, Eric	CNRS
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Harwood, Stuart	Massachusetts Inst. of Tech.
Scott, Joseph	Massachusetts Inst. of Tech.
Barton, Paul	Massachusetts Inst. of Tech.
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Chebotaev, Stanislav	Saint Petersburg State Univ. of Information Technologies Mec
Efimov, Denis	INRIA - LNE
Raïssi, Tarek	Conservatoire National des Arts et Métiers
Zolghadri, Ali	Univ. Bordeaux I
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Chair: Zips, Patrik	Automation and Control Inst. Vienna Univ. of Tech.
Co-Chair: Yamashita, Yuh	Hokkaido Univ.
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GIBERT, Victor	Airbus Operations S A S
Puyou, Guilhem	Airbus
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Konz, Matthias	Saarland Univ.
Rudolph, Joachim	Saarland Univ.
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Boeck, Martin	Vienna Univ. of Tech.
Kugi, Andreas	Vienna Univ. of Tech.
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Nakamura, Hisakazu	Tokyo Univ. of Science
Yamashita, Yuh	Hokkaido Univ.
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Peymani, Ehsan	Norwegian Univ. of Science and Tech.
Fossen, Thor I.	NTNU
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Chair: Teel, Andrew R.	Univ. of California at Santa Barbara
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Muller, Matthias A.	Univ. of Stuttgart
Liberzon, Daniel	Univ. of Illinois at Urbana-Champaign
Allgower, Frank	Univ. of Stuttgart
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Chair: Leonard, Naomi Ehrlich	Princeton Univ.
13:20-14:20	WeSPS2.1

Snake Robots - from Biology to Nonlinear Control, pp. 110-115.

Pettersen, Kristin Y.  
Liljebäck, Pål  
Stavdahl, Øyvind  
Gravdahl, Jan Tommy

Norwegian Univ. of Science and Tech.  
NTNU  
Norwegian Univ. of Science and Tech. (NTNU)  
Norwegian Univ. of Science & Tech.

<b>WeB1</b>	Room C101
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Chair: Eberard, Damien	Univ. de Lyon, INSA de Lyon
Co-Chair: Hudon, Nicolas	Univ. Catholique de Louvain
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Turker, Turker	Yildiz Tech. Univ.
Praly, Laurent	Ec. des Mines
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Hudon, Nicolas	Univ. Catholique de Louvain
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Magyar, Attila	Univ. of Pannonia
Hangos, Katalin M.	Computer and Automation Res. Inst. HAS
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AOUES, Saïd	INSA de Lyon
Eberard, Damien	Univ. de Lyon, INSA de Lyon
wilfrid, marquis-favre	INSA de Lyon
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Efimov, Denis	INRIA - LNE
Perruquetti, Wilfrid	Ec. Centrale de Lille
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Yamaguchi, Kyosuke	Nagoya Univ.
Sakamoto, Noboru	Nagoya Univ.
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Co-Chair: Harmand, Jérôme	INRA
Organizer: Harmand, Jérôme	INRA
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Rapaport, Alain	INRA
Sieber, Jan	Univ. of Exeter
Rodrigues, Serafim	Plymouth Univ.
Desroches, Mathieu	INRIA Paris-Rocquencourt Res. Centre
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Bayen, Terence	Univ. of Montpellier 2
Mairet, Francis	Inria
Mazade, Marc	Univ. Montpellier II
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Savoglidis, Georgios	Univ. of Patras

Kravaris, Costas	Univ. of Patras
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Mazenc, Frederic	INRIA-CNRS-Supelec,
Harmand, Jérôme	INRA
Mounier, Hugues	Lab. des Signaux et Systèmes, CNRS SUPELEC Université Paris
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Muñoz-Tamayo, Rafael	INRIA
Bernard, Olivier	INRIA
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Haidar, Ihab	SupElec
Harmand, Jérôme	INRA

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Chair: Mease, Kenneth D.	Univ. of California at Irvine
Co-Chair: del Re, Luigi	Johannes Kepler Univ.
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Aykutlug, Erkut	Univ. of California, Irvine
Maggia, Marco	Univ. of California, Irvine
Mease, Kenneth D.	Univ. of California at Irvine
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Astolfi, Alessandro	Imperial Col. London & Univ. of Rome Tor Vergata
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Rucco, Alessandro	Univ. of Salento
Hauser, John	Univ. of Colorado at Boulder
Notarstefano, Giuseppe	Univ. del Salento (Univ. of Lecce)
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Schwarzgruber, Thomas	Johannes Kepler Univ. Linz
Colaneri, Patrizio	Pol. di Milano
del Re, Luigi	Johannes Kepler Univ.

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Co-Chair: Efimov, Denis	INRIA - LNE
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Teel, Andrew R.	Univ. of California at Santa Barbara
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Efimov, Denis	INRIA - LNE
Perruquetti, Wilfrid	Ec. Centrale de Lille

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Promkam, Ratthaprom	Univ. of Bremen
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Daryin, Alexander	Moscow State (Lomonosov) Univ.
Kurzanski, A.B.	Moscow State Univ. and Univ. of California, Berkeley
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Tanwani, Aneel	Inst. National de Recherche en Informatique et Automatique (I
Brogliato, Bernard	UR Rhone-Alpes
Prieur, Christophe	CNRS
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Chair: Sbarciog, Mihaela	Mons Univ.
Co-Chair: Grognard, Frederic	INRIA Sophia-Antipolis
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Coutinho, Daniel	Univ. Federal de Santa Catarina
Vande Wouwer, Alain	Univ. de Mons
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Metzger, Mieczyslaw	Faculty of Automatic Control, Electronics and Computer Science,
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Walter, Marian	RWTH Aachen Univ.
Goebel, Christof	Weinmann Geraete fuer Medizin GmbH
Misgeld, Berno	RWTH Aachen Univ.
Leonhardt, Steffen	RWTH Aachen
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Rault, Jonathan	Aix-Marseille Univ.
Gouze, Jean-Luc	INRIA
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Chaves, Madalena	INRIA
Gouze, Jean-Luc	INRIA
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Co-Chair: Lin, Wei	Case Western Res. Univ.
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Lin, Wei	Case Western Res. Univ.
Wei, Wei	Harbin Inst. of Tech. Shenzhen Graduate School
Liu, Xinghua	Harbin Inst. of Tech. Shenzhen Graduate School
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*Robust Design of Internal Models by Nonlinear Regression*, pp. 283-288.

Forte, Francesco

Univ. of Bologna

Isidori, Alberto

Univ. of Rome "La Sapienza"

Marconi, Lorenzo

Univ. di Bologna

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WeC3.3

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Bürger, Mathias

Univ. of Stuttgart

De Persis, Claudio

Univ. of Groningen

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18:00-18:20

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*Nonlinear Output Regulation by Post-Processing Internal Model for Multi-Input Multi-Output Systems*, pp. 295-300.

Astolfi, Daniele

Univ. of Bologna

Isidori, Alberto

Univ. of Rome "La Sapienza"

Marconi, Lorenzo

Univ. di Bologna

Praly, Laurent

Ec. des Mines

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18:20-18:40

WeC3.5

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Jahanshahi, Esmail

Norwegian Univ. of Science and Tech.

Skogestad, Sigurd

Norwegian Univ. of Science & Tech.

Grøtli, Esten Ingar

Norwegian Univ. of Science and Tech.



**Technical Program for Thursday September 5, 2013**

<b>ThPL1</b>	Rooms A001/A002
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Chair: Isidori, Alberto	Univ. of Rome "La Sapienza"
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Leonard, Naomi Ehrich	Princeton Univ.
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Chair: Postoyan, Romain	CNRS-CRAN
Co-Chair: Dimarogonas, Dimos V.	Royal Inst. of Tech.
Organizer: Postoyan, Romain	CNRS-CRAN
Organizer: Netic, Dragan	Univ. of Melbourne
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Postoyan, Romain	CNRS-CRAN
Bragagnolo, Marcos Cesar	Univ. de Lorraine
Galbrun, Ernest	Univ. de Lorraine
Daafouz, Jamal	CRAN -INPL
Netic, Dragan	Univ. of Melbourne
Castelan, Eugenio B.	Univ. Federal de Santa Catarina
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MARTINEZ MOLINA, JOHN J.	GRENOBLE-INP, GIPSA-Lab.
Durand, Sylvain	CNRS - CINVESTAV
Guerrero Castellanos, Jose Fermi	Autonomous Univ. of Puebla (BUAP)
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Liuzza, Davide	Univ. of Naples Federico II
Dimarogonas, Dimos V.	Royal Inst. of Tech.
di Bernardo, Mario	Univ. of Naples Federico II
Johansson, Karl H.	Royal Inst. of Tech.
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Fiter, Christophe	Tel-Aviv Univ.
Hetel, Laurentiu	CNRS
Perruquetti, Wilfrid	Ec. Centrale de Lille
Richard, Jean-Pierre	Ec. Centrale de Lille
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Prieur, Christophe	CNRS
Tarbouriech, Sophie	LAAS-CNRS
Zaccarian, Luca	LAAS-CNRS
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Postoyan, Romain	CNRS-CRAN
Daafouz, Jamal	CRAN -INPL
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Chair: Dochain, Denis	Univ. Catholique de Louvain
Co-Chair: Munoz-Arias, Mauricio	Univ. of Groningen

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Pillai, Harish	Indian Inst. of Tech. Bombay
Ortega, Romeo	Supelec
Hernandez, Michael	Schneider Electric
Devos, Thomas	Schneider Electric
Malrait, Francois	Schneider Toshiba Inverter
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Lenz Cesar, Eduardo	Federal Univ. of Santa Catarina
Pagano, Daniel Juan	Federal Univ. of Santa Catarina
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Umbria Jiménez, Francisco	Univ. of Seville
Gomez-Estern, Fabio	Univ. De Sevilla
Gordillo, Francisco	Univ. de Sevilla
Salas Gómez, Francisco	Escuela Superior de Ingenieros. Univ. de Sevilla
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Romero Velazquez, José Guadalupe	Lab. des Signaux et Systèmes, CNRS-SUPELEC
Ortega, Romeo	Supelec
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Munoz-Arias, Mauricio	Univ. of Groningen
Scherpen, Jacquelin M.A.	Univ. of Groningen
Dirksz, Daniel A.	INCAS3
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Hoang, Ngoc Ha	Univ. of Tech. (VNU-HCM, Vietnam) and Univ. Bern
Dochain, Denis	Univ. Catholique de Louvain
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Chair: Matignon, Denis	ISAE
Co-Chair: Palis, Stefan	Univ. Magdeburg
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Rehak, Branislav	Inst. of Information Theory and Automation, Acad. of Scienc
Papacek, Stepan	Univ. of South Bohemia
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Ionescu, Tudor Corneliu	Imperial Coll. London
Astolfi, Alessandro	Imperial Col. London & Univ. of Rome Tor Vergata
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Palis, Stefan	Univ. Magdeburg
Bück, Andreas	Otto von Guericke Univ. Magdeburg
Kienle, Achim	Univ. Magdeburg
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Le Gorrec, Yann	FEMTO-ST, ENSMM
Lombard, Bruno	Lab. de Mécanique et d'Acoustique, CNRS
Matignon, Denis	ISAE
11:20-11:40	ThA3.5
<i>Stabilisation of a Nonlinear Flexible Beam in Port-Hamiltonian Form</i> , pp. 412-417.	

Macchelli, Alessandro	Univ. of Bologna - Italy
11:40-12:00	ThA3.6
<i>Analysis of Critical Phenomenon on Gossip Protocol Using Back-Ultradiscritization</i> , pp. 418-423.	
Ishikawa, Tetsuya	Tokyo Inst. of Tech.
Hayakawa, Tomohisa	Tokyo Inst. of Tech.
<b>ThSPS1</b>	Room A001
<b>Quantum Reservoir Engineering and Single Qubit Cooling</b> (Semi-Plenary Session)	
Chair: Sepulchre, Rodolphe J.	Univ. de Liege
13:20-14:20	ThSPS1.1
<i>Quantum Reservoir Engineering and Single Qubit Cooling</i> , pp. 424-429.	
Mirrahimi, Mazyar	INRIA Rocquencourt
Leghtas, Zaki	INRIA, MINES ParisTech
Vool, Uri	Yale Univ.
<b>ThSPS2</b>	Room A002
<b>Recursive RANSAC: Multiple Signal Estimation with Outliers</b> (Semi-Plenary Session)	
Chair: Allgower, Frank	Univ. of Stuttgart
13:20-14:20	ThSPS2.1
<i>Recursive RANSAC: Multiple Signal Estimation with Outliers</i> , pp. 430-435.	
Niedfeldt, Peter	BYU
Beard, Randy	Brigham Young Univ.
<b>ThB1</b>	Room C101
<b>Observer Design</b> (Regular Session)	
Chair: Kang, Wei	Naval Postgraduate School
Co-Chair: Andrieu, Vincent	Univ. de Lyon1
14:30-14:50	ThB1.1
<i>A Note on Observability Canonical Forms for Nonlinear Systems</i> , pp. 436-438.	
Astolfi, Daniele	Univ. of Bologna
Praly, Laurent	Ec. des Mines
Marconi, Lorenzo	Univ. di Bologna
14:50-15:10	ThB1.2
<i>Continuous Discrete Observer with Updated Sampling Period</i> , pp. 439-444.	
Andrieu, Vincent	Univ. de Lyon1
Nadri, Madiha	Univ. Claude Bernard Lyon 1
Serres, Ulysse	Univ. of Lyon 1
Vivalda, Jean-Claude	INRIA Nancy Grand Est & Univ. de Lorraine
15:10-15:30	ThB1.3
<i>Partial Observability and Its Consistency for Linear PDEs</i> , pp. 445-450.	
Kang, Wei	Naval Postgraduate School
Xu, Liang	Naval Res. Lab.
15:30-15:50	ThB1.4
<i>Interval State Estimation for Uncertain Nonlinear Systems</i> , pp. 451-456.	
Zheng, Gang	INRIA Lille-Nord Europe
Efimov, Denis	INRIA - LNE
Perruquetti, Wilfrid	Ec. Centrale de Lille
15:50-16:10	ThB1.5
<i>On the Existence of Unknown Input Observers for State Affine Systems up to Output Injection</i> , pp. 457-462.	
Sahnoun, Mariem	Univ. Claude Bernard Lyon 1
Hammouri, Hassan	Univ. Claude Bernard
<b>ThB2</b>	Room C102
<b>Vehicles Control and Mechatronics</b> (Regular Session)	
Chair: Boehme, Thomas Juergen	iav automotive engineering
Co-Chair: Jauberthie, Carine	LAAS-CNRS

14:30-14:50	ThB2.1
<i>Optimal Control with Input Constraints Applied to Internal Combustion Engine Test Benches</i> , pp. 463-468.	
Passenbrunner, Thomas Ernst	Johannes Kepler Univ. Linz
Sassano, Mario	Imperial Coll. London
del Re, Luigi	Johannes Kepler Univ.
14:50-15:10	ThB2.2
<i>Optimal Input Design for a Nonlinear Dynamical Uncertain Aerospace System</i> , pp. 469-474.	
Jauberthie, Carine	LAAS-CNRS
Chanthery, Elodie	Univ. of Toulouse, INSA
15:10-15:30	ThB2.3
<i>Calibration of Parallel Hybrid Vehicles Based on Hybrid Optimal Control Theory</i> , pp. 475-480.	
Schori, Markus	Univ. of Rostock
Boehme, Thomas Juergen	iav automotive engineering
Frank, Benjamin	IAV GmbH
Schultalbers, Matthias	IAV GmbH, Ingenieurgesellschaft Auto und Verkehr
15:30-15:50	ThB2.4
<i>A New Extension of the L1 Adaptive Controller to Drastically Reduce the Tracking Time Lags</i> , pp. 481-486.	
MAALOUF, Divine	LIRMM
Chemori, Ahmed	UM2
creuze, vincent	CNRS / Univ. Montpellier II
15:50-16:10	ThB2.5
<i>Flatness Based Control of a Gantry Crane</i> , pp. 487-492.	
Kolar, Bernd	Johannes Kepler Univ. Linz
Schlacher, Kurt	Johannes Kepler Univ. Linz
<b>ThB3</b>	Room C103
<b>Geometric and Algebraic Methods</b> (Regular Session)	
Chair: Sekiguchi, Kazuma	Tokyo City Univ.
Co-Chair: Respondek, Witold	Inst. National des Sciences Appliquees
14:30-14:50	ThB3.1
<i>Flatness of Two-Input Control-Affine Systems Linearizable Via One-Fold Prolongation</i> , pp. 493-498.	
Nicolau, Florentina	INSA - Rouen
Respondek, Witold	INSA - Rouen
14:50-15:10	ThB3.2
<i>Covariant Differentiation of a Map in the Context of Geometric Optimal Control</i> , pp. 499-505.	
Saccon, Alessandro	Eindhoven Univ. of Tech.
Hauser, John	Univ. of Colorado at Boulder
Aguiar, A. Pedro	Faculty of Engineering, Univ. of Porto (FEUP)
15:10-15:30	ThB3.3
<i>Feedback Classification of Invariant Control Systems on Three-Dimensional Lie Groups</i> , pp. 506-511.	
Biggs, Rory	Rhodes Univ.
Rensing, Claudiu C.	Rhodes Univ.
15:30-15:50	ThB3.4
<i>When Is a Lagrangian Control System with Virtual Holonomic Constraints Lagrangian?</i> , pp. 512-517.	
Mohammadi, Alireza	Univ. of Toronto
Maggiore, Manfredi	Univ. of Toronto
Consolini, Luca	Univ. of Parma
15:50-16:10	ThB3.5
<i>The Minimal Time-Varying Realization of a Nonlinear Time-Invariant System</i> , pp. 518-523.	
Kotta, Ülle	Inst. of Cybernetics at TUT
Moog, Claude	CNRS
Tönso, Maris	Inst. of Cybernetics at Tallinn Univ. of Technology
16:10-16:30	ThB3.6
<i>On Multi Time-Scale Form of Nonlinear Systems</i> , pp. 524-529.	
Sekiguchi, Kazuma	Tokyo City Univ.
Sampei, Mitsuji	Tokyo Inst. of Tech.

<b>ThC1</b>		Room C101
<b>Invariant Sets for Systems (Regular Session)</b>		
Chair: Colonius, Fritz		Univ. of Augsburg
Co-Chair: Heath, William Paul		Univ. of Manchester
17:00-17:20		ThC1.1
<i>Controllability Properties in Safe Regions</i> , pp. 530-533.		
Colonius, Fritz		Univ. of Augsburg
17:20-17:40		ThC1.2
<i>Inner Approximations of the Region of Attraction for Polynomial Dynamical Systems</i> , pp. 534-539.		
Korda, Milan		École Pol. fédérale de Lausanne
Henrion, Didier		LAAS-CNRS, Univ. Toulouse
Jones, Colin, N		Ec. Pol. Federale de Lausanne (EPFL)
17:40-18:00		ThC1.3
<i>Saddle Point Seeking for Convex Optimization Problems</i> , pp. 540-545.		
Dürr, Hans-Bernd		Univ. of Stuttgart
Zeng, Chen		Univ. of Stuttgart
Ebenbauer, Christian		Stuttgart Univ.
18:00-18:20		ThC1.4
<i>Convex Synthesis of Multivariable Static Discrete-Time Anti-Windup Via the Jury-Lee Criterion</i> , pp. 546-551.		
Ahmad, Nur Syazreen		Univ. Sains Malaysia
Heath, William Paul		Univ. of Manchester
18:20-18:40		ThC1.5
<i>Positive Definiteness of Generalized Homogeneous Functions</i> , pp. 552-557.		
Nakamura, Hisakazu		Tokyo Univ. of Science
<b>ThC2</b>		Room C102
<b>Reliable Methods for Control, State Estimation and Parameter Identification of Uncertain Dynamic Systems II (Invited Session)</b>		
Chair: Ramdani, Nacim		Univ. d'Orléans
Co-Chair: Rauh, Andreas		Univ. of Rostock
Organizer: Rauh, Andreas		Univ. of Rostock
Organizer: Ramdani, Nacim		Univ. d'Orléans
17:00-17:20		ThC2.1
<i>Uses of GPU Powered Interval Optimization for Parameter Identification in the Context of SO Fuel Cells (I)</i> , pp. 558-563.		
Kiel, Stefan		Univ. of Duisburg-Essen
Auer, Ekaterina		Univ. of Duisburg-Essen
Rauh, Andreas		Univ. of Rostock
17:20-17:40		ThC2.2
<i>Optimization-Based Domain Reduction in Guaranteed Parameter Estimation of Nonlinear Dynamic Systems (I)</i> , pp. 564-569.		
Paulen, Radoslav		Tech. Univ. Dortmund.
Villanueva, Mario E.		Imperial Coll. London
Chachuat, Benoit		Imperial Coll. London
17:40-18:00		ThC2.3
<i>Verified Stability Analysis for Interval-Based Sliding Mode and Predictive Control Procedures with Applications to High-Temperature Fuel Cell Systems (I)</i> , pp. 570-575.		
Rauh, Andreas		Univ. of Rostock
Senkel, Luise		Univ. of Rostock, Chair of Mechatronics
Kersten, Julia		Univ. of Rostock, Chair of Mechatronics
Aschemann, Harald		Univ. of Rostock
18:00-18:20		ThC2.4
<i>Lyapunov Function Synthesis Using Handelman Representations (I)</i> , pp. 576-581.		
Sankaranarayanan, Sriram		Univ. of Colorado
Chen, Xin		RWTH Aachen Univ.
Abraham, Erika		RWTH Aachen Univ.
18:20-18:40		ThC2.5
<i>Control of Nonlinear Systems Using Multiple Model Black-Box Identification</i> , pp. 582-587.		
Kolyubin, Sergey		St. Petersburg NRU ITMO

Efimov, Denis  
Nikiforov, Vladimir O.  
Bobtsov, Alexey

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St. State Univ. of Information Tech. Mechanics and Optics  
Saint Petersburg National Res. Univ. of ITMO

<b>ThC3</b>		Room C103
<b>Algebraic Methods</b> (Regular Session)		
Chair: Bacciotti, Andrea		Pol. Di Torino
Co-Chair: Kotta, Ülle		Inst. of Cybernetics at TUT
17:00-17:20		ThC3.1
<i>On Flatness of Discrete-Time Nonlinear Systems</i> , pp. 588-593.		
Kaldmäe, Arvo		Inst. of Cybernetics at TUT
Kotta, Ülle		Inst. of Cybernetics at TUT
17:20-17:40		ThC3.2
<i>Learning Time Optimal Control of Smart Actuators with Unknown Friction</i> , pp. 594-599.		
Trogmann, Hannes		Johannes Kepler Univ. Linz
Colaneri, Patrizio		Pol. di Milano
del Re, Luigi		Johannes Kepler Univ.
17:40-18:00		ThC3.3
<i>Definition of Eigenvalues for a Nonlinear System</i> , pp. 600-605.		
Halas, Miroslav		Slovak Univ. of Tech.
Moog, Claude		CNRS
18:00-18:20		ThC3.4
<i>Observability Analysis of Nonlinear Systems Using Pseudo-Linear Transformation</i> , pp. 606-611.		
Kawano, Yu		Osaka Univ.
Ohtsuka, Toshiyuki		Osaka Univ.
18:20-18:40		ThC3.5
<i>A Remark about Linear Switched Systems in the Plane</i> , pp. 612-616.		
Bacciotti, Andrea		Pol. Di Torino

**Technical Program for Friday September 6, 2013**

<b>FrPL1</b>	Rooms A001/A002
<b>Observers for Kinematic Systems with Symmetry</b> (Plenary Session)	
Chair: Marconi, Lorenzo	Univ. di Bologna
09:00-10:00	FrPL1.1
<i>Observers for Kinematic Systems with Symmetry</i> , pp. 617-633.	
Mahony, Robert	Australian National Univ.
Trumpf, Jochen	The Australian National Univ.
Hamel, Tarek	Univ. de Nice Sophia Antipolis
<b>FrA1</b>	Room C101
<b>Robustness and Performance</b> (Regular Session)	
Chair: Biannic, Jean-Marc	ONERA
Co-Chair: Georges, Didier	Grenoble Inst. of Tech. - ENSE3
10:30-10:50	FrA1.1
<i>H-Infinity Filter Design for Nonlinear Quadratic Systems</i> , pp. 634-639.	
Lacerda, Márcio J.	Univ. of Campinas
Tarbouriech, Sophie	LAAS-CNRS
Garcia, Germain	LAAS-CNRS
Peres, Pedro L. D.	Univ. of Campinas
10:50-11:10	FrA1.2
<i>Limit-Cycles Prevention Via Multiple Hinfinitiy Constraints with an Application to Anti-Windup Design</i> , pp. 640-645.	
Biannic, Jean-Marc	ONERA
11:10-11:30	FrA1.3
<i>Energy-Peak Evaluation of Nonlinear Control Systems under Neglected Dynamics</i> , pp. 646-651.	
Leite, Valter J. S.	CEFET/MG - Campus Div.
Tarbouriech, Sophie	LAAS-CNRS
Garcia, Germain	LAAS-CNRS
11:30-11:50	FrA1.4
<i>Locally Optimal Controllers for Some Nonlinear Systems</i> , pp. 652-657.	
Benachour, Sofiane	LAGEP, Univ. de Lyon
Andrieu, Vincent	Univ. de Lyon1
11:50-12:10	FrA1.5
<i>Nonlinear Robust and Optimal Control Via Proper Orthogonal Decomposition</i> , pp. 658-663.	
Georges, Didier	Grenoble Inst. of Tech. - ENSE3
<b>FrA2</b>	Room C102
<b>Observer and Applications</b> (Regular Session)	
Chair: Besancon, Gildas	Ense3, Grenoble INP
Co-Chair: Aranda-Bricaire, Eduardo	CINVESTAV
10:30-10:50	FrA2.1
<i>Input Selection in Observer Design for Non-Uniformly Observable Systems</i> , pp. 664-669.	
Besancon, Gildas	Ense3, Grenoble INP
Rubio Scola, Ignacio	Control Systems Department, Gipsa-Lab.
Georges, Didier	Grenoble Inst. of Tech. - ENSE3
10:50-11:10	FrA2.2
<i>Nonlinear Observer Normal Form with Output Injection and Extended Dynamic</i> , pp. 670-675.	
TAMI, Ramdane	ENSI de Bourge
Boutat, Driss	Ensi de Bourges
Zheng, Gang	INRIA Lille-Nord Europe
11:10-11:30	FrA2.3
<i>Trajectory Tracking for a Group of Unicycle-Type Robots Using an Attitude Observer</i> , pp. 676-681.	
González-Sierra, Jaime	CINVESTAV
Aranda-Bricaire, Eduardo	CINVESTAV
Rodriguez-Cortes, Hugo	Northeastern Univ.

Santiaguillo-Salinas, Jesús	CINVESTAV
11:30-11:50	FrA2.4
<i>Nonlinear Observer Normal Forms for Some Predator-Prey Models</i> , pp. 682-687.	
Boutat, Driss	Ensi de Bourges
Saif, Mehrdad	Simon Fraser Univ.
11:50-12:10	FrA2.5
<i>Approximation of Reachability Sets for Nonlinear Unicycle Control System Using the Comparison Principle</i> , pp. 688-692.	
Sinyakov, Vladimir	Moscow M.V. Lomonosov State Univ.
Roublev, Ilya	Moscow M.V.Lomonosov State Univ.
<b>FrA3</b>	Room C103
<b>Delay Systems (Regular Session)</b>	
Chair: Baras, John S.	Univ. of Maryland
Co-Chair: Hetel, Laurentiu	CNRS
10:30-10:50	FrA3.1
<i>The Popov Criterion for Consensus between Delayed Agents</i> , pp. 693-698.	
Proskurnikov, Anton	St.-Petersburg State Univ.
10:50-11:10	FrA3.2
<i>Prediction of Partially Synchronous Regimes of Delay-Coupled Nonlinear Oscillators</i> , pp. 699-704.	
Unal, Hakki Ulas	Anadolu Univ.
Michiels, Wim	K.U. Leuven
11:10-11:30	FrA3.3
<i>On the Convergence Rate of Non-Linear Consensus Networks with Delays</i> , pp. 705-710.	
Somarakis, Christoforos	Univ. of Maryland, Coll. Park
Baras, John S.	Univ. of Maryland
11:30-11:50	FrA3.4
<i>Sampled-Data Control of LTI Systems with Relays: A Convex Optimization Approach</i> , pp. 711-716.	
Hetel, Laurentiu	CNRS
Fridman, Emilia	Tel-Aviv Univ.
Floquet, Thierry	CNRS
11:50-12:10	FrA3.5
<i>Control of a Nonlinear Ice Cream Crystallization Process</i> , pp. 717-722.	
Casenave, Céline	INRA
Dochain, Denis	Univ. Catholique de Louvain
alvarez, Graciela	IRSTEA
Arellano, Marcela	IRSTEA
Benkhelifa, Hayat	AgroParisTech
Leducq, Denis	IRSTEA
<b>FrSPS1</b>	Room A001
<b>Utility of liss in Composing Lyapunov Functions for Interconnections (Semi-Plenary Session)</b>	
Chair: Tarbouriech, Sophie	LAAS-CNRS
13:20-14:20	FrSPS1.1
<i>Utility of liss in Composing Lyapunov Functions for Interconnections</i> , pp. 723-730.	
Ito, Hiroshi	Kyushu Inst. of Tech.
<b>FrSPS2</b>	Room A002
<b>A Control Theoretic Framework for the Analysis and Design of Biological Networks (Semi-Plenary Session)</b>	
Chair: Gouze, Jean-Luc	INRIA
13:20-14:20	FrSPS2.1
<i>A Control Theoretic Framework for the Analysis and Design of Biological Networks</i> , pp. 731-736.	
Del Vecchio, Domitilla	MIT
<b>FrB1</b>	Room C101
<b>Networks and Detection (Regular Session)</b>	



Chair: Acho, Leonardo	EUETIB-Univ. Pol. of Catalunya
Co-Chair: Proskurnikov, Anton	St.-Petersburg State Univ.
14:30-14:50	FrB1.1
<i>The Circle Criterion for Synchronization in Nonlinearly Coupled Networks</i> , pp. 737-742.	
Proskurnikov, Anton	St.-Petersburg State Univ.
14:50-15:10	FrB1.2
<i>Practical and Robust Synchronization of Systems with Additive Linear Uncertainties</i> , pp. 743-748.	
Montenbruck, Jan Maximilian	Univ. of Stuttgart
Seyboth, Georg S.	Univ. of Stuttgart
Allgower, Frank	Univ. of Stuttgart
15:10-15:30	FrB1.3
<i>A Chaotic Secure Communication Scheme Based on Duffing Oscillators and Frequency Estimation</i> , pp. 749-754.	
Zapateiro, Mauricio	Univ. Pol. de Catalunya
Vidal, Yolanda	Univ. Pol. de Catalunya
Acho, Leonardo	EUETIB-Univ. Pol. of Catalunya
15:30-15:50	FrB1.4
<i>A Cluster Control of Nonlinear Network Systems with External Inputs</i> , pp. 755-760.	
Ryono, Koki	Tokyo Metropolitan Univ.
Oguchi, Toshiki	Tokyo Metropolitan Univ.
15:50-16:10	FrB1.5
<i>Outlier Detection for Polynomial Systems Using Semidefinite Relaxations</i> , pp. 761-766.	
Borchers, Steffen	Max Planck Inst. for dynamics of complex Tech. systems
Findeisen, Rolf	Otto-von-Guericke-Univ. Magdeburg
16:10-16:30	FrB1.6
<i>Chaotic Behavior of the Folding Map on the Equilateral Triangle</i> , pp. 767-772.	
Ishikawa, Tetsuya	Tokyo Inst. of Tech.
Hayakawa, Tomohisa	Tokyo Inst. of Tech.
<b>FrB2</b>	Room C102
<b>Robotic and Mechanical Control (Regular Session)</b>	
Chair: Perruquetti, Wilfrid	Ec. Centrale de Lille
Co-Chair: Ishikawa, Masato	Osaka Univ.
14:30-14:50	FrB2.1
<i>Comparison of Cascaded Backstepping Control Approaches with Hysteresis Compensation for a Linear Axis with Pneumatic Muscles</i> , pp. 773-778.	
Schindele, Dominik	Univ. of Rostock
Aschemann, Harald	Univ. of Rostock
14:50-15:10	FrB2.2
<i>Spatio-Temporal Symmetries in Control Systems: An Application to Formation Control</i> , pp. 779-784.	
Consolini, Luca	Univ. of Parma
Tosques, Mario	Univ. of Parma
15:10-15:30	FrB2.3
<i>Modeling and Control of Casterboard Robot</i> , pp. 785-790.	
Kinugasa, Kazuki	Osaka Univ.
Ishikawa, Masato	Osaka Univ.
Sugimoto, Yasuhiro	Osaka Univ.
Osuka, Koichi	Osaka Univ.
15:30-15:50	FrB2.4
<i>Identification of Different Types of Non-Holonomic Mobile Robots</i> , pp. 791-796.	
Ma, Yingchong	Ec. Centrale de Lille
Zheng, Gang	INRIA Lille-Nord Europe
Perruquetti, Wilfrid	Ec. Centrale de Lille
15:50-16:10	FrB2.5
<i>Collision Avoidance in Formation Control Using Discontinuous Vector Fields</i> , pp. 797-802.	
Hernández-Martínez, Eduardo Gamaliel	Univ. Iberoamericana
Aranda-Bricaire, Eduardo	CINVESTAV

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16:10-16:30 FrB2.6

*Local Finite-Time Stability and Stabilization Analysis of Interconnected Systems*, pp. 803-808.

Zoghiami, Naim	Univ. of Evry
BEJl, Lotfi	Univ. of Evry
Mlayeh, Rhouma	Pol. School of Tunisia
Abichou, Azgal	Tunisia Pol. School

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**FrB3** Room C103

**Model Predictive Control (Regular Session)**

Chair: Findeisen, Rolf	Otto-von-Guericke-Univ. Magdeburg
Co-Chair: Andrieu, Vincent	Univ. de Lyon1

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14:30-14:50 FrB3.1

*Stability of NMPC with Cyclic Horizons*, pp. 809-814.

Koegel, Markus J.	Otto-von-Guericke-Univ. Magdeburg
Findeisen, Rolf	Otto-von-Guericke-Univ. Magdeburg

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14:50-15:10 FrB3.2

*Dual Adaptive Control for Non-Minimum Phase Systems with Functional Uncertainties*, pp. 815-820.

Kral, Ladislav	Univ. of West Bohemia
Simandl, Miroslav	Univ. of West Bohemia

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15:10-15:30 FrB3.3

*Differentiation Tool Efficiency Comparison for Nonlinear Model Predictive Control Applied to Oil Gathering Systems*, pp. 821-826.

Codas, Andrés	NTNU
Aguiar, Marco Aurélio	Univ. Federal de Santa Catarina
Nalum, Konstantin	NTNU
Foss, Bjarne	Norwegian Univ. of Science & Tech.

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15:30-15:50 FrB3.4

*Optimal Control of Digital Hydraulic Drives Using Mixed-Integer Quadratic Programming*, pp. 827-832.

Sniegucki, Mateusz	Bosch Rexroth AG, Tech. Univ. Darmstadt
Gottfried, Markus	Bosch Rexroth AG
Klingauf, Uwe	Tech. Univ. Darmstadt

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15:50-16:10 FrB3.5

*A Robust Receding Horizon Control Approach to Artificial Glucose Control for Type 1 Diabetes*, pp. 833-838.

PENET, Maxime	Supelec
Gueguen, Herve	SUPELEC
Belmiloudi, Aziz	INSA de Rennes

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16:10-16:30 FrB3.6

*Neuro-Fuzzy Modified Smith Predictor for IPDT and FOPDT Processes Control*, pp. 839-844.

Chen, Hao	Glyndwr Univ.
Zouaoui, Zoubir	Glyndwr Univ.
Chen, Zheng	Glyndwr Univ.