

# **7th IFAC Symposium on Robust Control Design 2012**

**Aalborg, Denmark  
20-22 June 2012**

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### Technical Program for Wednesday June 20, 2012

<b>WePL-MT5</b>	Room T6
<b>Plenary Wednesday Morning</b> (Plenary Session)	
Chair: Stoustrup, Jakob	Aalborg Univ.
Co-Chair: Blanchini, Franco	Univ. degli Studi di Udine
08:30-09:30	WePL-MT5.1
<i>Origins of Robust Control: Early History and Future Speculations</i> , pp. 1-8.	
Safonov, Michael G.	Univ. of Southern California
<b>WeRS-MT1</b>	
T1 - Radiosalen	
<b>Robust Nonlinear Control I</b> (Regular Session)	
Chair: Houska, Boris	Imperial Coll. London
Co-Chair: Takaba, Kiyotsugu	Kyoto Univ.
10:00-10:20	WeRS-MT1.1
<i>Optimization of Stable Periodic Attractors for Nonlinear Dynamic Systems</i> , pp. 9-14.	
Houska, Boris	Imperial Coll. London
Diehl, Moritz	K.U. Leuven
10:20-10:40	WeRS-MT1.2
<i>Robust and Resilient Finite-Time Control of a Class of Continuous-Time Nonlinear Systems</i> , pp. 15-20.	
EIBsat, Mohammad	Marquette Univ.
Yaz, Edwin	Marquette Univ.
10:40-11:00	WeRS-MT1.3
<i>Feedforward Linearization and Disturbance Rejection of Mechanical Systems Using Acceleration Measurements</i> , pp. 21-26.	
Kjerstad, Øivind Kåre	Norwegian Univ. of Science and Tech.
Skjetne, Roger	Norwegian Univ. of Science And Tech.
11:00-11:20	WeRS-MT1.4
<i>A Robust Kalman Conjecture for First-Order Plants</i> , pp. 27-32.	
Alli-Oke, Razak	Univ. of Manchester
Carrasco, Joaquin	Univ. of Manchester
Heath, William Paul	Univ. of Manchester

Lanzon, Alexander	Univ. of Manchester
11:20-11:40	WeRS-MT1.5
<i>Robust Synchronization of Nonlinear Agents Over Directed Communication Graph</i> , pp. 33-38.	
Takaba, Kiyotsugu	Ritsumeikan Univ.
11:40-12:00	WeRS-MT1.6
<i>A Stochastic Model to Account for System Uncertainties Applied to an Optimal Harvesting Problem</i> , pp. 39-44.	
Souto, Rafael Fontes	State Univ. of Campinas - UNICAMP
Do Val, Joao B.R.	UNICAMP - FEEC

<b>WeRS-MT2</b>	T2 - Musiksalen
<b>Identification for Robust Control</b> (Regular Session)	
Chair: Bendtsen, Jan Dimon	Aalborg Univ.
Co-Chair: D'Ippolito, Filippo	Univ. di Palermo
10:00-10:20	WeRS-MT2.1
<i>Frequency Determination in Control Applications: Excitation Based Approach</i> , pp. 45-50.	
Stotsky, Alexander A.	Chalmers Univ. of Tech.
10:20-10:40	WeRS-MT2.2
<i>Descriptor-Type Robust Kalman Filter and Neural Adaptive Speed Estimation Scheme for Sensorless Control of Induction Motor Drive Systems</i> , pp. 51-56.	
D'Ippolito, Filippo	Univ. di Palermo
Alonge, Francesco	Univ. of Palermo
Sferlazza, Antonino	Univ. of Palermo
10:40-11:00	WeRS-MT2.3
<i>Sensitivity-Based State and Parameter Estimation for Fuel Cell Systems</i> , pp. 57-62.	
Rauh, Andreas	Univ. of Rostock
Senkel, Luise	Univ. of Rostock, Chair of Mechatronics
Aschemann, Harald	Univ. of Rostock
11:00-11:20	WeRS-MT2.4
<i>Multiple Model Adaptive Control Using Dual Youla-Kucera Factorisation</i> , pp. 63-68.	
Bendtsen, Jan Dimon	Aalborg Univ.
Trangbaek, Klaus	Aalborg Univ.
11:20-11:40	WeRS-MT2.5
<i>Blind Identification of Polynomial Matrix Fraction for Disturbance Rejection</i> , pp. 69-74.	
Tanaka, Daisuke	Nara Inst. of Science and Tech.

Hirotsani, Takuya	Nara Inst. of Science and Tech.
Sugimoto, Kenji	Nara Inst. of Science and Tech.

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11:40-12:00 WeRS-MT2.6

*Robust Adaptive Control with the Use of DACDM Algorithm – Impact of Settings on Tracking Quality\**.

Giernacki, Wojciech	Poznan Univ. of Tech.
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**WeRS-MT3** T3 - Gæstesalen  
**Networked Control Systems (Regular Session)**

Chair: Colaneri, Patrizio	Pol. di Milano
Co-Chair: Vargas, Francisco J.	Univ. Técnica Federico Santa María

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10:00-10:20 WeRS-MT3.1

*Robust Analysis of Networked Control Systems with Time-Varying Delays*, pp. 75-78.

Subudhi, Bidyadhar	National Inst. of Tech. Rourkela
Bonala, Sathyam	National Inst. of Tech. Rourkela
Ghosh, Sandip	National Inst. of Tech. Rourkela
Dey, Rajeeb	Jadavpur Univ.

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10:20-10:40 WeRS-MT3.2

*Robust Networked Output Feedback Predictive Controller Design*, pp. 79-84.

Vesely, Vojtech	Slovak Univ. of Tech. in Bratislava
Rosinova, Danica	Slovak Univ. of Tech. in Bratislava
Nguyen, Quang Thuan	Slovak Univ. of Tech.

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10:40-11:00 WeRS-MT3.3

*Stabilization of TITO Systems Over Parallel SNR-Constrained AWN Channels*, pp. 85-90.

Vargas, Francisco J.	Univ. Técnica Federico Santa María
Silva, Eduardo I.	Univ. Técnica Federico Santa María
Chen, Jie	City Univ. of Hong Kong

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11:00-11:20 WeRS-MT3.4

*Network-Based Control under Round-Robin Scheduling and Quantization*, pp. 91-96.

Liu, Kun	Tel Aviv Univ.
Fridman, Emilia	Tel-Aviv Univ.
Hetel, Laurentiu	Ec.

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11:20-11:40 WeRS-MT3.5

*A Note on Discretization of Sparse Linear Systems*, pp. 97-102.

Colaneri, Patrizio	Pol. di Milano
Farina, Marcello	Pol. di Milano

Scattolini, Riccardo	Pol. di Milano
Shorten, Robert	Nat. Univ. of Ireland
11:40-12:00	WeRS-MT3.6
<i>Networked Feedback Control Based on Polar Logarithmic Quantization*</i> .	
Gu, Guoxiang	Louisiana State Univ.
Qiu, Li	Hong Kong Univ. of Sci. & Tech.

<b>WeRS-MT4</b>	T4 - Europahallen
<b>Vibrations and Flexible Structure Control (Regular Session)</b>	

Chair: Duc, Gilles	SUPELEC
Co-Chair: Mattei, Massimiliano	Second Univ. of Naples

10:00-10:20	WeRS-MT4.1
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*Reduced Order Controllers for Inertial Line of Sight Stabilization*, pp. 103-108.

Hirwa, Serge	Phd student @ SUPELEC
Feyel, Philippe	Sagem Défense Sécurité
Duc, Gilles	SUPELEC
Sandou, Guillaume	SUPELEC

10:20-10:40	WeRS-MT4.2
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*Reduced Order H-Infinity Controller Synthesis for Flexible Structures Control*, pp. 109-114.

GUY, Nicolas	ONERA
Alazard, Daniel	Univ. de Toulouse - ISAE
Cumer, Christelle	ONERA
CHARBONNEL, Catherine	Thales Alenia Space

10:40-11:00	WeRS-MT4.3
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*Piezo-Actuated Vibration Attenuation of the Parallel Robot Par2*, pp. 115-120.

Douat, Luiz Ricardo	LAAS-CNRS
Queinnec, Isabelle	LAAS-CNRS
Garcia, Germain	LAAS-CNRS
michelin, micaël	Fatronik France Tecnalia
Pierrot, Francois	LIRMM

11:00-11:20	WeRS-MT4.4
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*Design of Robust Synthetic Genetic Oscillators Based on RSGA*, pp. 121-126.

Lin, Chun-Liang	National Chung Hsing Univ.
Jennawasin, Tanagorn	National Chung Hsing Univ.
Yen-Chang, Chang	National Chung Hsing Univ.

11:20-11:40	WeRS-MT4.5
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*Fixed Structure Flight Control Design of an Over-Actuated Aircraft in*

*the Presence of Actuators with Different Dynamic Performance*, pp. 127-132.

Scordamaglia, Valerio	Univ. "Mediterranea" of Reggio Calabria
Sollazzo, Adolfo	Guidance Navigation and Control Department, C.I.R.A- Italian Aer
Mattei, Massimiliano	Second Univ. of Naples

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11:40-12:00 WeRS-MT4.6

*Digital L1 Controller Based on Linear Matrix Inequality (LMI) for Line-Of-Sight Stabilization*, pp. 133-138.

Jalali, Ali Akbar	Iran Univ. of Science & Tech.
Golmohammad, Hassan	Iran Univ. of Science and Tech.

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**WePL-AT5** Room T6

**Plenary Wednesday Afternoon** (Plenary Session)

Chair: Fujisaki, Yasumasa	Osaka Univ.
Co-Chair: Blanchini, Franco	Univ. degli Studi di Udine

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13:30-14:30 WePL-AT5.1

*Robust Identification and Model (In)Validation of Hybrid Systems\**.

Sznaier, Mario	Northeastern Univ.
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**WeRS-AT1** T1 - Radiosalen

**Robust Control Design I** (Regular Session)

Chair: Bensoussan, David	École de Tech. supérieure - Univ. of Quebec
Co-Chair: Slita, Olga	Saint Petersburg State Univ. of Information Tech. Mechanics and Optics

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15:00-15:20 WeRS-AT1.1

*Disturbance Rejection Design for a Bank-To-Turn Missile Using Decoupling Quantitative Feedback Theory*, pp. 139-144.

Reddi, Yashren	Univ. of KwaZulu-Natal
Boje, Edward	Univ. of KwaZulu Natal

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15:20-15:40 WeRS-AT1.2

*Design of Modal Control Providing Guaranteed Stability Margin to Continuous Systems*, pp. 145-149.

Slita, Olga	National Res. Univ. of Information Technologies, Mechanical
Ushakov, Anatoliy	Saint Petersburg State Univ. of Information Tech. M
Tsventarnyi, Artiom	Saint Petersburg State Univ. of Information Tech. M

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15:40-16:00 WeRS-AT1.3

*Algebraic Conditions of Generalized Modal Control*, pp. 150-155.

Slita, Olga National Res. Univ. of  
Information Technologies, Mechanic

Ushakov, Anatoliy Saint Petersburg State Univ. of  
Information Tech. M

Dudarenko, Natalia Lulea Univ. of Tech.

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16:00-16:20 WeRS-AT1.4

*Optimal Solutions to Robust Stabilization Problem for a Class of Systems with Parametric Uncertainty*, pp. 156-161.

Wu, QingHe Beijing Inst. of Tech.

Xu, Li Akita Prefectural Univ.

Mansour, Mohamed ETH

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16:20-16:40 WeRS-AT1.5

*Using Zero Directions to Improve Quantitative Feedback Design of Uncertain Non Minimum-Phase MIMO Plants\**.

hantehzadeh, maryam K.N. Toosi Univ. of Tech.

Khaki Sedigh, Ali K.N. Toosi Univ. of Tech.

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16:40-17:00 WeRS-AT1.6

*Simultaneous Improvement of Time and Frequency Performance*, pp. 166-171.

Bensoussan, David École de Tech. supérieure - Univ.  
of Quebec

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**WeRS-AT2** T2 - Musiksalen

**Robustness Analysis** (Regular Session)

Chair: Lampe, Bernhard P. Univ. of Rostock

Co-Chair: Sternberg, Julia K.U. Leuven

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15:00-15:20 WeRS-AT2.1

*Output Regulation for General Infinite-Dimensional Exosystems*, pp. 161-171.

Paunonen, Lassi Tampere Univ. of Tech.

Pohjolainen, Seppo Tampere Univ. of Tech.

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15:20-15:40 WeRS-AT2.2

*Even Degree Polynomials with Roots on the Unit Circle and Segments of Schur Polynomials*, pp. 171-177.

Aguirre-Hernández, Baltazar Univ. Autonoma Metropolitana-  
Iztapalapa

García-Sosa, Faustino- UPIICSA-SEPI Inst. Pol. Nacional  
Ricardo

Leyva-Castellanos, Horacio Univ. de Sonora

Solis-Daun, Julio Univ. Autonoma Metropolitana -  
Iztapalapa



Carrillo, Francisco Armando Suarez, Rodolfo	Univ. de Sonora Inst. Mexicano del Petr�leo
15:40-16:00	WeRS-AT2.3
<i>Singular <math>\mathcal{L}_2</math> Optimization Problem and Fixed Poles for Sampled-Data Systems with Delays</i> , pp. 171-181	
Lampe, Bernhard P. Rosenwasser, Efim N.	Univ. of Rostock Marine Tech. Univ. of Saint Petersburg
16:00-16:20	WeRS-AT2.4
<i>Metric on the Factorizations Factor-Classes As the Measure of Robustness</i> , pp. 171-181	
Iantchenko, Svetlana Ghulchak, Andrey	Lunds Univ. Lund Univ.
16:20-16:40	WeRS-AT2.5
<i>A Toolkit for Efficient Computation of Sensitivities in Approximate Robust Optimal Control Problems</i> , pp. 181-191	
Sternberg, Julia Houska, Boris Logist, Filip Telen, Dries Van Impe, Jan F.M. Diehl, Moritz	K.U. Leuven Imperial Coll. London Katholieke Univ. Leuven Katholieke Univ. Leuven Katholieke Univ. Leuven K.U. Leuven
16:40-17:00	WeRS-AT2.6
<i>Robust and Efficient Algorithms for <math>L_\infty</math>-Norm Computation for Descriptor Systems</i> , pp. 191-200	
Benner, Peter Sima, Vasile Voigt, Matthias	Max Planck Inst. for Dynamics of Complex Tech. Systems National Inst. for Res. & Dev. in Informatics Max Planck Inst. for Dynamics of Complex Tech. Systems
<b>WeRS-AT3</b>	T3 - G�stesalen
<b>Systems with Time Delays (Regular Session)</b>	
Chair: Wu, Hansheng Co-Chair: Gonzalez Prieto, Jose Antonio	Prefectural Univ. of Hiroshima Univ. de Vigo
15:00-15:20	WeRS-AT3.1
<i>Design of Adaptive Robust State Observers with Simpler Structure for a Class of Uncertain Time-Delay Systems</i> , pp. 201-210	
Wu, Hansheng	Prefectural Univ. of Hiroshima
15:20-15:40	WeRS-AT3.2

*PIDrobust Toolbox - Performance Tuning for PID Controlled Time Delay Systems with Parameter Uncertainties*, pp. 20Ï -2FG

Schrödel, Frank	RWTH Aachen Univ.
Maschuw, Jan Philipp	RWTH Aachen Univ.
Abel, Dirk	RWTH-Aachen Univ.

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15:40-16:00 WeRS-AT3.3

*Delay-Dependent Feedforward Control of Uncertain Neutral Time-Delay Systems Via Dynamic IQCs*, pp. 2FH-21Ï .

Ucun, Levent	Yildiz Tech. Univ.
kucukdemiral, Ibrahim Beklan	Yildiz Tech. Univ.

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16:00-16:20 WeRS-AT3.4

*Delay-Dependent Stability of Reset Control Systems with Anticipative Reset Conditions*, pp. 21J-2G .

Prieto, Jose Antonio	Univ. of Vigo
Barreiro, Antonio	Univ. of Vigo
Dormido, Sebastián	UNED
Tarbouriech, Sophie	LAAS-CNRS

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16:20-16:40 WeRS-AT3.5

*Flexible Closed-Loop Iterative Learning Control for Industrial Batch Processes with State Delay and Time-Varying Uncertainties*, pp. 2G - 224.

Liu, Tao	RWTH Aachen Univ.
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16:40-17:00 WeRS-AT3.6

*New Criteria of Reachable Set Estimation for Time Delay Systems Subject to Polytopic Uncertainties*, pp. 2HF-2HÏ .

Zuo, Zhiqiang	Tianjin Univ.
Chen, Yinping	Tianjin Univ.
Wang, Yijing	Tianjin Univ.
Chen, Michael Z.Q.	The Univ. of Hong Kong

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**WeRS-AT4** T4 - Europahallen  
**SAFE-V and Enhanced Validation Process for Future Space Applications** (Invited Session)

Chair: ganet-schoeller, martine	ASTRIUM Space Transportation
Co-Chair: Henrion, Didier	LAAS-CNRS, Univ. Toulouse
Organizer: ganet-schoeller, martine	ASTRIUM Space Transportation
Organizer: Bennani, Samir	European Space Agency
Organizer: Henrion, Didier	LAAS-CNRS, Univ. Toulouse

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15:00-15:20 WeRS-AT4.1

*Measures and LMI for Space Launcher Robust Control Validation (I)*, pp. 23Ï -2I F.

Henrion, Didier	LAAS-CNRS, Univ. Toulouse
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ganet-schoeller, martine Bennani, Samir	ASTRIUM Space Transportation European Space Agency
15:20-15:40	WeRS-AT4.2
<i>Evaluating Regions of Attraction of LTI Systems with Saturation in IQS Framework (I)</i> , pp. 21 G-24I .	
Peaucelle, Dimitri Tarbouriech, Sophie	LAAS-CNRS LAAS-CNRS
ganet-schoeller, martine Bennani, Samir	ASTRIUM Space Transportation European Space Agency
15:40-16:00	WeRS-AT4.3
<i>PWM Modeling for Attitude Control of a Launcher During Ballistic Phase and Comparative Stability Analysis (I)</i> , pp. 24I -2I H	
Chaudenson, Julien Beauvois, Dominique Bennani, Samir	SUPELEC Supelec European Space Agency
ganet-schoeller, martine Sandou, Guillaume Scherer, Carsten W.	ASTRIUM Space Transportation SUPELEC Department of Mathematics, Univ. of Stuttgart
Frechin, Christophe	Astrium Space Transportation
16:00-16:20	WeRS-AT4.4
<i>Robust Safety Margin Assessment and Constrained Worst-Case Analysis of a Launcher Vehicle (I)</i> , pp. 2I I -25J.	
Kamath, Atul Krishna Menon, Prathyush P	Univ. of Exeter Univ. of Exeter
ganet-schoeller, martine MAURICE, Guillaume Bennani, Samir	ASTRIUM Space Transportation ASTRIUM Space Transportation European Space Agency
Bates, Declan G.	Univ. of Exeter
16:20-16:40	WeRS-AT4.5
<i>Worst Case Analysis of a Launcher Vehicle Using Surrogate Models (I)</i> , pp. 2I €-2I Í .	
Kamath, Atul Krishna Menon, Prathyush P	Univ. of Exeter Univ. of Exeter
ganet-schoeller, martine MAURICE, Guillaume Bennani, Samir	ASTRIUM Space Transportation ASTRIUM Space Transportation European Space Agency
Bates, Declan G.	Univ. of Exeter
16:40-17:00	WeRS-AT4.6
<i>Frozen-Time and Time-Varying Robust Stability Certificates for the Coupled Pitch/yaw Motion of an Axial-Symmetric Launch Vehicle (I)</i> , pp. 26I -2I €.	
Pulecchi, Tiziano	Deimos Space

Marcos, Andres	Deimos Space S.L.
Roux, Christophe	ELV
Mantini, Valerio	ELV
Bennani, Samir	European Space Agency

### Technical Program for Thursday June 21, 2012

<b>ThPL-MT5</b>	Room T6
<b>Plenary Thursday Morning</b> (Plenary Session)	
Chair: Henrion, Didier	LAAS-CNRS, Univ. Toulouse
Co-Chair: Blanchini, Franco	Univ. degli Studi di Udine
08:30-09:30	ThPL-MT5.1
<i>Robustness in Networked Dynamical Systems*</i> .	
Hara, Shinji	The Univ. of Tokyo
<b>ThRS-MT1</b>	T1 - Radiosalen
<b>Robust Nonlinear Control II</b> (Regular Session)	
Chair: Junge, Oliver	Tech. Univ. Muenchen
Co-Chair: Heath, William Paul	Univ. of Manchester
10:00-10:20	ThRS-MT1.1
<i>Maximizing the Stability Region in the Parameter Space for a Nonlinear Control System</i> , pp. 21 F-21 I .	
Pllana, Avni	Vienna Univ.
10:20-10:40	ThRS-MT1.2
<i>Robust Anti-Windup Synthesis for Directionality Compensation</i> , pp. 271 -21 F.	
Adegbege, Ambrose Adebayo	Masdar Inst. of Science and Tech.
Heath, William Paul	Univ. of Manchester
10:40-11:00	ThRS-MT1.3
<i>Modified Internal Model Control Anti-Windup : Some New Insights and Interpretations</i> , pp. 21 G-28I .	
Adegbege, Ambrose Adebayo	Masdar Inst. of Science and Tech.
Heath, William Paul	Univ. of Manchester
11:00-11:20	ThRS-MT1.4
<i>Robust Stability Analysis of Nonlinear Switched Systems with Filippov Solutions</i> , pp. 281 -2JH	
Ahmadi, Mohamadreza	Univ. of Guilan
Mojallali, Hamed	Univ. of Guilan
Wisniewski, Rafal	Aalborg Univ.

Izadi-Zamanabadi, Roozbeh	Aalborg Univ.
11:20-11:40	ThRS-MT1.5
<i>Lazy Global Feedbacks for Quantized Nonlinear Event Systems</i> , pp. 2JI -HĒF.	
Junge, Oliver	Tech. Univ. Muenchen
Jerg, Stefan	Tech. Univ. Muenchen
11:40-12:00	ThRS-MT1.6
<i>The Attractive Ellipsoid Approach to Robust Control Design for a Class of Sample-Data Systems*</i> .	
Poznyak, Alexander S.	CINVESTAV-IPN
Azhmyakov, Vadim	CINVESTAV
Mera, Manuel Leonardo	CINVESTAV
<b>ThRS-MT2</b>	T2 - Musiksalen
<b>LMI and Convex Optimization</b> (Regular Session)	
Chair: Fridman, Emilia	Tel-Aviv Univ.
Co-Chair: Huang, Dann	Shanghai Jiao Tong Univ.
10:00-10:20	ThRS-MT2.1
<i>Optimal Filtering Scheme for Bilinear Discrete-Time Systems: A Linear Matrix Inequality Approach</i> , pp. HĒG-30Ī .	
Shaker, Hamid Reza	Aalborg Univ.
10:20-10:40	ThRS-MT2.2
<i>Stabilization of Diffusion Equations under Sampled-Data Spatially Averaged Measurements</i> , pp. 30Ī -3FG	
Bar Am, Netzer	Tel Aviv Univ.
Fridman, Emilia	Tel-Aviv Univ.
10:40-11:00	ThRS-MT2.3
<i>When Is a Set of LMIs a Sufficient Condition for Stability?</i> , pp. 3FH-31Ī .	
Ahmadi, Amir Ali	MIT
Jungers, Raphaël M.	Univ. catholique de Louvain
Parrilo, Pablo A.	Massachusetts Inst. of Tech.
Roozbehani, Mardavij	Massachusetts Inst. of Tech.
11:00-11:20	ThRS-MT2.4
<i>State Feedback Control for a Class of Polynomial Nonlinear Discrete-Time Systems with Norm-Bounded Uncertainties: An Integrator Approach</i> , pp. 31J-3G .	
Saat, Shakir	The Univ. of Auckland
Huang, Dan	Shanghai Jiao Tong Univ.
Nguang, Sing Kiong	The Univ. of Auckland
Swain, Akshya Kumar	Univ. of Auckland
11:20-11:40	ThRS-MT2.5
<i>Robust Controller Synthesis Is Convex for Systems without Control</i>	

*Channel Uncertainties*, pp. 3G -3H.

Scherer, Carsten W.

Department of Mathematics, Univ.  
of Stuttgart

Veenman, Joost

Univ. of Stuttgart

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11:40-12:00

ThRS-MT2.6

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*Fixed-Structure  $H_2$  Controller Design: An LMI Solution*, pp. 3H-3I .

Sadeghzadeh, Arash

Razi Univ.

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**ThRS-MT3**

T3 - Gæstesalen

**LPV and Gain Scheduling Control (Regular Session)**

Chair: Stewart, Greg E

Honeywell Automation & Control  
Sol.

Co-Chair: Sato, Masayuki

Japan Aerospace Exploration  
Agency

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10:00-10:20

ThRS-MT3.1

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*An Observer Based State Feedback LFT LPV Controller for an  
Industrial Manipulator*, pp. 3I -3J

Saupe, Florian

German Aerospace Center (DLR)

Pfifer, Harald

German Aerospace Center (DLR)

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10:20-10:40

ThRS-MT3.2

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*All Controllers for an LPV Robust Control Problem*, pp. 3J -3K .

Szabo, Zoltan

Hungarian Acad. of Sciences

Biró, Zsolt

Computer and Automation Res.  
Inst. Hungarian Acad. of

Bokor, Jozsef

Hungarian Acad. of Sciences

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10:40-11:00

ThRS-MT3.3

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*Stability Analysis of Closed Loops of Non-Linear Systems and LPV  
Controllers Designed Using Approximated Quasi-LPV Systems*, pp.  
3K-3L .

Oehlschlägel, Thimo

German Aerospace Center

Heise, Christian

German Aerospace Center

Theil, Stephan

German Aerospace Center

Steffen, Thomas

Univ. of Kaiserslautern

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11:00-11:20

ThRS-MT3.4

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*A Pragmatic Approach to Robust Gain Scheduling*, pp. 3L -3M

Stewart, Greg E

Honeywell Automation & Control  
Sol.

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11:20-11:40

ThRS-MT3.5

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*A LPV/ $H_\infty$  Global Chassis Controller for Performances Improvement  
Involving Braking, Suspension and Steering Systems*, pp. 3M -3N .

FERGANI, Soheib

Grenoble Univ. - GIPSA-Lab.

Sename, Olivier

Grenoble Inst. of Tech.

Dugard, Luc

CNRS-INPG-UJF

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11:40-12:00 ThRS-MT3.6

*Gain-Scheduled Observers Using Inexact Scheduling Parameters*,  
pp. 36J-3Ī Ī .

Sato, Masayuki Japan Aerospace Exploration  
Agency

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**ThRS-MT4** T4 - Europahallen  
**Nonlinear Control Applications** (Regular Session)

Chair: Ailon, Amit Ben Gurion Univ. of The Negev

Co-Chair: Hansen, Michael A. P. Moeller - Maersk A/S

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10:00-10:20 ThRS-MT4.1

*Closed-Form Feedback Controllers for Set-Point and Trajectory  
Tracking for the Nonlinear Model of Quadrotor Helicopters*, pp. 3Ī Ī -  
3Ī €

Ailon, Amit Ben Gurion Univ. of The Negev

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10:20-10:40 ThRS-MT4.2

*Quasi-Analytical Describing Function for the Karnopp Friction Model*,  
pp. 3Ī F-38Ī .

Lichtsinder, Arkady Rafael Ltd

Gutman, Per-Olof Tech. - Israel Inst. of Tech.

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10:40-11:00 ThRS-MT4.3

*Robust Nonlinear Control Design with Application to a Marine Cooling  
System*, pp. 38Ī -3JG

Hansen, Michael A. P. Moeller - Maersk A/S

Stoustrup, Jakob Aalborg Univ.

Bendtsen, Jan Dimon Aalborg Univ.

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11:00-11:20 ThRS-MT4.4

*Tolerance of Aircraft Longitudinal Control to the Loss of Scheduling  
Information : Toward a Performance Oriented Approach*, pp. 3JH-39J.

Puyou, Guilhem Airbus

ezerzere, pierre airbus

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11:20-11:40 ThRS-MT4.5

*Improved Vertex Control for a Ball and Plate System*, pp. Ī €-Ī €Ī .

Nguyen, Hoai Nam SUPELEC Systems Sciences  
(E3S) -  
AutomaticControlDepartment

Olaru, Sorin Supelec

Gutman, Per-Olof Tech. Inst. of Tech.

Hovd, Morten Norwegian Univ. of Tech. and  
Science

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11:40-12:00 ThRS-MT4.6

*Robust UDE-Based Control of Active Magnetic Bearing\**.

Kuperman, Alon Ariel Univ. Center of Samaria

<b>ThPL-AT5</b>	Room T6
<b>Plenary Thursday Afternoon (Plenary Session)</b>	

Chair: Bendtsen, Jan Dimon	Aalborg Univ.
Co-Chair: Blanchini, Franco	Univ. degli Studi di Udine

13:30-14:30	ThPL-AT5.1
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*The Fall and Rise of Linear Parameter-Varying Control\**.

Balas, Gary J.	Univ. of Minnesota
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<b>ThRS-AT1</b>	T1 - Radiosalen
<b>Robust Control Design II (Regular Session)</b>	

Chair: Okuyama, Yoshifumi	Humanitech Lab.
Co-Chair: Jain, Tushar	Univ. de Lorraine

15:00-15:20	ThRS-AT1.1
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*Discretized Model-Reference Feedback and Robust Stabilization on Integer Grid Coordinates*, pp. 401-4FF.

Okuyama, Yoshifumi	Humanitech Lab.
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15:20-15:40	ThRS-AT1.2
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*Decentralized Robust Control of Linear Uncertain Systems*, pp. 4FG-41I.

Rosinova, Danica	Slovak Univ. of Tech. in Bratislava
Vesely, Vojtech	Slovak Univ. of Tech. in Bratislava

15:40-16:00	ThRS-AT1.3
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*A Modified Homotopy Method for Nevanlinna-Pick Interpolation with Degree Constraint*, pp. 41I-4GH.

Liu, Bin	Northeast Petroleum Univ.
Li, Zhuo	Northeast Petroleum Univ.
Wang, Chang-hong	Harbin Inst. of Tech.

16:00-16:20	ThRS-AT1.4
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*On Implementing On-Line Designed Controller for Smooth Interconnection in the Behavioral Framework*, pp. 4G-42J.

Jain, Tushar	Univ. de Lorraine
Yame, Joseph Julien	Univ. Henri Poincaré, Nancy 1
Sauter, Dominique D.J.	Univ. Henri Poincare, Nancy 1

16:20-16:40	ThRS-AT1.5
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*LQG/LTR Design for the Concentration Process: Use in the Enological Industry*, pp. 4HE-4HI.

Erwin, Werner	Univ. de La Frontera
Nelson, Aros	Univ. de La Frontera
Graciela, Suarez	Univ. Nacional de San Juan
Marcela, Aros	Univ. de La Frontera



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16:40-17:00 ThRS-AT1.6

*Dynamic Observer-Based Control for Linear Uncertain Systems\**.

Golabi, Arash Tarbiat Modares Univ.  
Asemani, Mohammad Hassan Tarbiat Modares Univ.  
Beheshti, Mohammad T. H. Univ. of Tarbiat Modares

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**ThRS-AT2** T2 - Musiksalen  
**H-Infinity and L1 Optimal Control and Estimation (Regular Session)**

Chair: Bauso, Dario Univ. di Palermo  
Co-Chair: Hill, Robin Rmit Univ.

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15:00-15:20 ThRS-AT2.1

*H<sub>∞</sub> Subsystem Pairwise Distributed Control of Uncertain Linear Systems*, pp. 431-441 F.

Filasova, Anna Tech. Univ. of Kosice  
Krokavec, Dusan Tech. Univ. of Kosice

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15:20-15:40 ThRS-AT2.2

*Estimation of Biases in Gyro Drifts by Means of L<sub>1</sub>-Norm Approximation*, pp. 416-441 G.

Matasov, Alexander Moscow Lomonosov State Univ.  
Akimov, Pavel A. Moscow State Univ. Faculty of  
Mechanics and Mathematics

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15:40-16:00 ThRS-AT2.3

*A Simple Unified Formula for Discrete and Continuous-Time H<sub>∞</sub> "All-Solutions" Controllers*, pp. 441-451 H.

Karthikeyan, Anantha Univ. of Southern California  
Safonov, Michael G. Univ. of Southern California

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16:00-16:20 ThRS-AT2.4

*Robust Mean Field Games with Application to Production of an Exhaustible Resource*, pp. 411-451 J.

Bauso, Dario Univ. di Palermo  
tembine, hamidou Supelec  
Basar, Tamer Univ. of Illinois at Urbana-Champaign

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16:20-16:40 ThRS-AT2.5

*Robust Load Disturbance Torque Estimation for a DC Motor Drive System*, pp. 416-461 K.

Grignion, Danny Univ. of Windsor  
Chen, Xiang Univ. of Windsor  
Tan, Yonghong Shanghai Normal Univ.  
Qian, Huijie Univ. of Windsor  
Kar, Narayan Univ. of Windsor

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16:40-17:00 ThRS-AT2.6

*Exact Solutions to a Two-Block  $l_1$  Optimal Control Problem*, pp. 46Ī - 4Ī G

Hill, Robin Rmit Univ.  
Luo, Yousong RMIT Univ.  
schwerdtfeger, uwe RMIT Univ.

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**ThRS-AT3** T3 - Gæstesalen  
**Systems with Faults** (Regular Session)

Chair: Patton, Ron J. Univ. of Hull  
Co-Chair: Wahrburg, Arne Tech. Univ. Darmstadt

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15:00-15:20 ThRS-AT3.1

*Robust Observer-Based Fault Detection and Isolation in the Standard Control Problem Framework*, pp. 4Ī H47Ī .

Wahrburg, Arne Tech. Univ. Darmstadt  
Khodaverdian, Saman TU Darmstadt, Control Theory and Robotics Lab.  
Adamy, Jürgen Tech. Univ. Darmstadt

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15:20-15:40 ThRS-AT3.2

*Reconstruction of Sensor Faults for a Class of Uncertain Nonlinear Systems Using Adaptive Sliding Mode Observers*, pp. 47J-4Ī I .

Zhang, Jian Univ. of Auckland  
Swain, Akshya Kumar Univ. of Auckland  
Nguang, Sing Kiong The Univ. of Auckland

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15:40-16:00 ThRS-AT3.3

*Observer Synthesis for Uncertain Nonlinear Systems. Application to Waste-Water Treatment Plants*, pp. 4Ī Ī -4JĒ.

Nagy Kiss, Anca Maria Centre de Recherche Public Henri Tudor (CRPHT)  
Marx, Benoit Centre de Recherche en Automatique de Nancy  
Mourot, Gilles Univ. De Lorraine  
Schutz, Georges CRP Henri Tudor  
Ragot, Jose CRAN-INPL

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16:00-16:20 ThRS-AT3.4

*Robust Parametric Fault Estimation in a Hopper System*, pp. 4JF-49Ī .

Soltani, S. Mohsen Aalborg Univ.  
Izadi-Zamanabadi, Roozbeh Aalborg Univ.  
Wisniewski, Rafal Aalborg Univ.  
Belau, Wolfgang EADS Astrium ST  
Le Gonidec, Serge Snecma

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16:20-16:40 ThRS-AT3.5

*Fault Tolerant Adaptive Sliding Mode Controller for Wind Turbine Power Maximisation*, pp. 49J-Í €I .

Sami, Montadher Univ. of Hull, Department of Engineering

Patton, Ron J. Univ. of Hull

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16:40-17:00 ThRS-AT3.6

*Fault-Tolerant Servo Systems against Actuator Failures*, pp. Í €I -5F€.

Sebe, Noboru Kyushu Inst. of Tech.

Suyama, Koichi Tokyo Univ. of Marine Science and Tech.

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**ThRS-AT4** T4 - Europahallen

**Vehicle Monitoring, Diagnosis and Control (Regular Session)**

Chair: Gaspar, Peter Hungarian Acad. of Sciences

Co-Chair: Di Iorio, Fabio Univ. della Calabria

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15:00-15:20 ThRS-AT4.1

*Design of an LPV-Based Integrated Control for Driver Assistance Systems*, pp. 5FF-51Î .

Gaspar, Peter Hungarian Acad. of Sciences

Németh, Balázs Budapest Univ. of Tech. and Ec.

Bokor, Jozsef Hungarian Acad. of Sciences

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15:20-15:40 ThRS-AT4.2

*Design of Integrated Vehicle Control Using Driver Models*, pp. 51Ï - 5GG

Gaspar, Peter Hungarian Acad. of Sciences

Németh, Balázs Budapest Univ. of Tech. and Ec.

Bokor, Jozsef Hungarian Acad. of Sciences

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15:40-16:00 ThRS-AT4.3

*Design of Platoon Velocity Based on Multi-Criteria Optimization*, pp. 5GH-52Ï .

Németh, Balázs Budapest Univ. of Tech. and Ec.

Csikós, Alfréd Budapest Univ. of Tech. and Ec.

Varga, Istvan Computer and Automation Res. Inst. of S

Gaspar, Peter Hungarian Acad. of Sciences

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16:00-16:20 ThRS-AT4.4

*Increasing Energy Harvesting in Regenerative Suspension Systems Via Multiobjective  $H_\infty$  Control*, pp. 52J-5HI .

Casavola, Alessandro Univ. Della Calabria

Di Iorio, Fabio Univ. della Calabria

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16:20-16:40 ThRS-AT4.5

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*Observer Design with Disturbance Rejection by Acceleration  
Feedforward*, pp. 5H1 -5I €

Kjerstad, Øivind Kåre

Norwegian Univ. of Science and  
Tech.

Skjetne, Roger

Norwegian Univ. of Science And  
Tech.

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16:40-17:00

ThRS-AT4.6

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*LMI Design of a Direct Yaw Moment Robust Controller Based on  
Body Slip Angle Estimation for Electric Vehicles\**.

MOSTEFAL, Lotfi

The Univ. of Tokyo, Inst. of  
Industrial science

Denai, Mouloud

Teesside Univ.

Hori, Yoichi

Univ. of Tokyo

## Technical Program for Friday June 22, 2012

<b>FrPL-MT5</b>	Room T6
<b>Plenary Friday Morning</b> (Plenary Session)	
Chair: Colaneri, Patrizio	Pol. di Milano
Co-Chair: Blanchini, Franco	Univ. degli Studi di Udine
08:30-09:30	FrPL-MT5.1
<i>Switching Control for Mitigating Mutation*</i> .	
Middleton, Richard	National Univ. of Ireland
<b>FrRS-MT1</b>	T1 - Radiosalen
<b>Robust Adaptive Control</b> (Regular Session)	
Chair: Gutman, Per-Olof	Tech. - Israel Inst. of Tech.
Co-Chair: Krolikowski, Andrzej	Poznan Univ. of Tech.
10:00-10:20	FrRS-MT1.1
<i>Fully Probabilistic Adaptive Control with Arbitrary Density Functions of Forward Models and Inverse Controllers</i> , pp. 51 F-54Ā .	
Herzallah, Randa	Al-Balqa' Applied Univ.
10:20-10:40	FrRS-MT1.2
<i>Design of Accommodation Process Applied to the Thrust Reverser of Aircraft Nacelle</i> , pp. 54Ā -5Ā G	
BENNOUNA, OUADIE	ESIGELEC
Langlois, Nicolas	IRSEEM / ESIGELEC
10:40-11:00	FrRS-MT1.3
<i>Tube Reference Model Based Direct Adaptive Control</i> , pp. 5Ā H-55Ā .	
Mirkin, Boris	Tech. -- Israel Inst. of Tech.
Gutman, Per-Olof	Tech. - Israel Inst. of Tech.
Shtessel, Yuri B.	Univ. of Alabama at Huntsville
11:00-11:20	FrRS-MT1.4
<i>Continuous-Time Adaptive Lqg/ltr Control</i> , pp. 55J-5Ā H	
horla, dariusz	Poznan Univ. of Tech.
Krolikowski, Andrzej	Poznan Univ. of Tech.
11:20-11:40	FrRS-MT1.5

*A New Smooth Parameter Projection High Order Tuner for Robust Adaptive Control*, pp. 51-56J.

Sawada, Masataka National Defense Acad. Japan  
Itamiya, Keietsu National Defence Acad.

11:40-12:00 FrRS-MT1.6

*Stable Weighted Multiple Model Adaptive Control with Improved Convergence Rate*, pp. 51-56J.

Zhang, Weicun Univ. of Science and Tech. Beijing

**FrRS-MT2** T2 - Musiksalen  
**Switched Systems (Regular Session)**

Chair: Geromel, Jose C. UNICAMP  
Co-Chair: Allerhand, Liron Tel Aviv Univ.

10:00-10:20 FrRS-MT2.1

*Switching Control Consistency Analysis for Discrete-Time Switched Linear Systems*, pp. 51-56J.

Deaecto, Grace S. UNICAMP  
Fioravanti, André R. Unicamp  
Geromel, Jose C. UNICAMP

10:20-10:40 FrRS-MT2.2

*Disturbance Decoupling with Quadratic Stability for Polytopic Uncertain Switched Linear Systems*, pp. 57-61 F.

Otsuka, Naohisa Tokyo Denki Univ.  
Saito, Hiroki Tokyo Denki Univ.

10:40-11:00 FrRS-MT2.3

*Sampled – Data Control of Switched Affine Systems: A Continuous-Time Approach*, pp. 51-56J.

Hetel, Laurentiu Ec.  
Fridman, Emilia Tel-Aviv Univ.

11:00-11:20 FrRS-MT2.4

*Robust Stability and  $l_2$  gain Analysis of Linear Discrete-Time Switched Systems with Dwell Time*, pp. 58-62JG

Allerhand, Liron Tel Aviv Univ.  
Gershon, Eli Tel Aviv Univ.  
Shaked, Uri Tel-Aviv Univ.

11:20-11:40 FrRS-MT2.5

*On the Design of Hybrid Robust Output Regulation for the METIS Cold Chopper*, pp. 51-56J.

Huisman, Robert SRON  
Jayawardhana, Bayu Univ. of Groningen

11:40-12:00 FrRS-MT2.6

*Robust  $H_\infty$  Control of Stochastic Linear Switched Systems with Dwell*

Time\*.

Gershon, Eli	Tel Aviv Univ.
Allerhand, Liron	Tel Aviv Univ.
Shaked, Uri	Tel-Aviv Univ.

<b>FrRS-MT3</b>	T3 - Gæstesalen
<b>Model Predictive Control (Regular Session)</b>	
Chair: Oishi, Yasuaki	Nanzan Univ.
Co-Chair: Mirzaei, Mahmood	Tech. Univ. of Denmark
10:00-10:20	FrRS-MT3.1
<i>A Study on the State Set Invariance for a Class of Discrete-Time Linear Control Systems</i> , pp. 1-6.	
Hsu, Shun-Pin	National Chung Hsing Univ.
10:20-10:40	FrRS-MT3.2
<i>Robust Model Predictive Control Design of Switched Systems</i> , pp. 7-12.	
Vesely, Vojtech	Slovak Univ. of Tech. in Bratislava
Rosinova, Danica	Slovak Univ. of Tech. in Bratislava
10:40-11:00	FrRS-MT3.3
<i>Robust Model Predictive Control of a Nonlinear System with Known Scheduling Variable and Uncertain Gain</i> , pp. 13-18.	
Mirzaei, Mahmood	Tech. Univ. of Denmark
Poulsen, Niels Kjølstad	Tech. Univ. of Denmark
Niemann, Henrik	Tech. Univ. of Denmark
11:00-11:20	FrRS-MT3.4
<i>Predictive Control of Fractional Order Systems</i> , pp. 19-24.	
Aboukheir, Hanna	Univ. Rafael Maria Baralt
11:20-11:40	FrRS-MT3.5
<i>Linear Receding Horizon Control with Probabilistic System Parameters</i> , pp. 25-30.	
Bhattacharya, Raktim	Texas A&M
Fisher, James	Texas A&M Univ.
11:40-12:00	FrRS-MT3.6
<i>Direct Design of a Polynomial Model Predictive Controller</i> , pp. 31-36.	
Oishi, Yasuaki	Nanzan Univ.

<b>FrRS-MT4</b>	T4 - Europahallen
<b>Electromechanical Systems (Regular Session)</b>	
Chair: Wisniewski, Rafal	Aalborg Univ.
Co-Chair: Stotsky, Alexander A.	Chalmers Univ. of Tech.

10:00-10:20	FrRS-MT4.1
<i>Model Based Control of Wind Turbines: Look-Ahead Approach</i> , pp. 6HJ-6I Ā .	
Stotsky, Alexander A.	Chalmers Univ. of Tech.
Egardt, Bo S.	Chalmers Univ. of Tech.
10:20-10:40	FrRS-MT4.2
<i>Discrete-Time Modeling and Robust Analysis of a Buck Converter</i> , pp. 6I Ā -6Ī G	
Iordanov, Petar	Univ. of Limerick
Halton, Mark	Univ. of Limerick
10:40-11:00	FrRS-MT4.3
<i>Probabilistic Robust Approach for Discrete Multi-Objective Control of Track-Following Servo Systems in Hard Disk Drives</i> , pp. 6Ī H-6Ī Ī .	
Chamanbaz, Mohammadreza	Data Storage Inst. (DSI)
Keikha, Ehsan	National Univ. of Singapore
Venkatakrishnan, Venkataramanan	Data Storage Inst. (DSI)
Wang, Qing-Guo	National Univ. of Singapore
Al Mamun, Abdullah	National Univ. of Singapore
11:00-11:20	FrRS-MT4.4
<i>Robust Utilization of Wind Turbine Flexibility for Grid Stabilization</i> , pp. 6Ī J-6Ī 5.	
juelsgaard, morten	Aalborg Univ.
Bendtsen, Jan Dimon	Aalborg Univ.
Wisniewski, Rafal	Aalborg Univ.
11:20-11:40	FrRS-MT4.5
<i>H<sub>∞</sub> Robust Control Design for Teleoperation Systems</i> , pp. 6Ī Ī -6Ī F.	
Zhang, Bo	LAGIS, Ec. Centrale de Lille
Kruszewski, Alexandre	Ec. Centrale de Lille
Richard, Jean-Pierre	Ec. Centrale de Lille
11:40-12:00	FrRS-MT4.6
<i>A New Approach to Design a Simple Structure <math>\mu</math> Synthesis Controller: Application to an Uncertain DC Motor</i> , pp. 6Ī G-6Ī Ī .	
Lari, Ali	Noshirvani Univ. of Tech.
khosravi, Alireza	Noshirvani University of Tech.
Karamnezhad, Roghayeh	Noshirvani Univ. of Tech.
<b>FrPL-AT5</b>	Room T6
<b>Plenary Friday Afternoon</b> (Plenary Session)	
Chair: Blanchini, Franco	Univ. degli Studi di Udine
Co-Chair: Fujisaki, Yasumasa	Osaka Univ.
13:30-14:30	FrPL-AT5.1



*Open Problems in Chemical Reaction Networks: How Structure Affects Dynamics\**.

Angeli, David

Imperial Coll.

FrRS-AT1	T1 - Radiosalen
Robust Design Methods (Regular Session)	
Chair: Peaucelle, Dimitri	LAAS-CNRS
Co-Chair: Palis, Stefan	Univ. Magdeburg
15:00-15:20	FrRS-AT1.1
<i>A Numerical Procedure to Compute Stabilizing State Feedback Gains for Linear Time-Varying Periodic Systems</i> , pp. 6ĭ ĩ -6ĭ H	
Agulhari, Cristiano M.	Univ. of Campinas
Garcia, Germain	LAAS-CNRS
Tarbouriech, Sophie	LAAS-CNRS
Peres, Pedro L. D.	Univ. of Campinas
15:20-15:40	FrRS-AT1.2
<i>Robust Stability of Periodic Systems with Memory: New Formulations, Analysis and Design Results</i> , pp. 6ĭ I -6ĭ J.	
Tregouet, Jean-François	Lab. d'analyse et d'architecture des Systemes, LAAS-CNRS
Ebihara, Yoshio	Kyoto Univ.
Arzelier, Denis	LAAS-CNRS
Peaucelle, Dimitri	LAAS-CNRS
Pittet, Christelle	CNES
Falcoz, Alexandre	EADS Astrium
15:40-16:00	FrRS-AT1.3
<i>Approximate Robust Optimal Control of Periodic Systems with Invariants and High-Index Differential Algebraic Systems</i> , pp. 6J€-6Jĭ .	
Sternberg, Julia	K.U. Leuven
Houska, Boris	Imperial Coll. London
Gros, Sebastien	Post-doc, KU Leuven, Belgium
Diehl, Moritz	K.U. Leuven
16:20-16:40	FrRS-AT1.5
<i>Robust Compensation of Discrete-Time Plant Using 2-Periodic Controller</i> , pp. 6Jĭ ĩ -ĭ €€.	
Das, Sarit K.	Indian Inst. of Tech. Kharagpur
Chakraborty, Sayantan	IIT Kharagpur
16:40-17:00	FrRS-AT1.6
<i>Low Order Controller Design for Continuous Fluidized Bed Spray Granulation with Internal Product Classification by Robust Control Methods</i> , pp. ĭ €F-ĭ €6.	
Palis, Stefan	Univ. Magdeburg

Bück, Andreas

Otto von Guericke Univ.  
Magdeburg

Kienle, Achim

Univ. Magdeburg

<b>FrRS-AT2</b>	T2 - Musiksalen
<b>Model and Controller Reduction (Regular Session)</b>	
Chair: Adegas, Fabiano Daher	Aalborg Univ.
Co-Chair: Samuel, Elizabeth Rita	Ghent Univ.
15:00-15:20	FrRS-AT2.1
<i>Constrained Reduced Order <math>H^\infty</math> Synthesis with Optimal Filter Tuning Using Particle Swarm Optimization</i> , pp. 7F6-7FG	
Sandou, Guillaume	SUPELEC
Duc, Gilles	SUPELEC
15:20-15:40	FrRS-AT2.2
<i>Upper and Lower Bounds of Frequency Interval Gramians for a Class of Perturbed Linear Systems</i> , pp. 7FH-7FÎ .	
Shaker, Hamid Reza	Aalborg Univ.
15:40-16:00	FrRS-AT2.3
<i>Robust Passivity Preserving Parametric Model Order Reduction Using Matrix Interpolation</i> , pp. 7FÏ-7GG	
Samuel, Elizabeth Rita	Ghent Univ.
Ferranti, Francesco	Ghent Univ.
knockaert, luc	Ghent Univ. Belgium
Dhaene, Tom	Univ. of Antwerp
16:00-16:20	FrRS-AT2.4
<i>An Iterative Procedure for Multidimensional Realization by LFT Techniques</i> , pp. 7G+7Gÿ .	
Fan, Huijin	Huazhong Univ. of Science and Tech.
Xu, Li	Akita Prefectural Univ.
Uemura, Kose	Akita Prefectural Univ.
Matsushita, Shinya	Akita Prefectural Univ.
16:20-16:40	FrRS-AT2.5
<i><math>H_\infty/H_2</math> Model Reduction through Dilated Linear Matrix Inequalities</i> , pp. 7Gÿ-7HH	
Adegas, Fabiano Daher	Aalborg Univ.
Stoustrup, Jakob	Aalborg Univ.
16:40-17:00	FrRS-AT2.6
<i>Satisfaction of Temporal Logic by Control Systems and Finite Abstractions</i> , pp. 7HI-7HJ.	
Zhang, Jinjin	Nanjing Audit Univ.
Zhu, Zhaohui	Nanjing Univ. of Aeronautics and

Wang, Lisong

Astronautics  
Nanjing Univ. of Aeronautics and  
Astronautics

<b>FrRS-AT3</b>	T3 - Gæstesalen
<b>Autonomous Systems (Regular Session)</b>	
Chair: Kim, Youngbok	Pukyong National Univ.
Co-Chair: Gaspar, Peter	Hungarian Acad. of Sciences
15:00-15:20	FrRS-AT3.1
<i>Ship Trajectory Tracking in Harbour Area by Using Autonomous Tugboats</i> , pp. 71-74	
BUI, VAN PHUOC	MARINE CYBERNETICS Lab. PUKYONG NATIONAL Univ.
Kim, Youngbok	Pukyong National Univ.
JI, SANGWON	Pukyong National Univ.
15:20-15:40	FrRS-AT3.2
<i>External Perturbation Estimation Based on Super-Twisting Algorithm for Attitude Control of UAVs</i> , pp. 75-78	
Derafa, Laloui	Control and Command Lab. EMP Algiers
El Hadri, AbdelHafid	Versailles Univ.
Fridman, Leonid M.	National Autonomous Univ. of Mexico
15:40-16:00	FrRS-AT3.3
<i>Guidance and Control for Spacecraft Autonomous Chasing and Close Proximity Maneuvers</i> , pp. 79-82	
Sanyal, Amit	New Mexico State Univ.
Holguin, Lee	New Mexico State Univ.
Prabhakaran, Sashi	New Mexico State Univ.
16:00-16:20	FrRS-AT3.4
<i>Guaranteed Peaks of Spacing Errors in an Experimental Vehicle String</i> , pp. 83-86	
Rödönyi, Gábor	Comp. and Automation Res. Inst.
Gaspar, Peter	Hungarian Acad. of Sciences
Bokor, Jozsef	Hungarian Acad. of Sciences
Palkovics, László	Knorr-Bremse Brake-systems GmbH.
Aradi, Szilárd	Budapest Univ. of Tech. and Ec.
Hankovszki, Zoltán	Knorr-Bremse Brake-systems GmbH.
Kovács, Roland	Knorr-Bremse Brake-systems GmbH.
16:20-16:40	FrRS-AT3.5
<i>Robust Cooperative Visual SLAM with Textures Plating</i> , pp. 87-90	

Nemra, Abdelkarim Aouf, Nabiil	Ec. Militaire Pol. Cranfield Univ.
16:40-17:00	FrRS-AT3.6
<i>Reduction of Chattering for a Sliding Mode Control Applied to a Trajectory Tracking Task for a Bi-Steerable Car*</i> .	
Hamerlain, Faiza	CDTA -Ec. Centrale de LILLE
<b>FrRS-AT4</b>	T4 - Europahallen
<b>Variable Structure Control (Regular Session)</b>	
Chair: Corradini, Maria Letizia	Univ. di Camerino
Co-Chair: Mercorelli, Paolo	Ostfalia Univ. of Applied Sciences
15:00-15:20	FrRS-AT4.1
<i>Gain-Scheduled Two-Loop Autopilot for an Aircraft</i> , pp. 7Ī G-7Ī Ī .	
Ravanbod, Laleh	Univ. Paul Sabatier
Noll, Dominikus	Univ. Paul Sabatier
15:20-15:40	FrRS-AT4.2
<i>Design of Robust Fault Detection Filters for Linear Descriptor Systems Using Sliding-Mode Observers</i> , pp. 7Ī Ī -7Ī H	
Corradini, Maria Letizia	Univ. di Camerino
Cristofaro, Andrea	Univ. of Camerino
Pettinari, Silvia	Univ. of Camerino
15:40-16:00	FrRS-AT4.3
<i>Decentralized Control of Uncertain Systems Via Adaptive Sliding and Overlapping Decomposition</i> , pp. 7Ī I -7Ī J.	
Huang, Zheng	Univ. of HULL
Patton, Ron J.	Univ. of Hull
16:00-16:20	FrRS-AT4.4
<i>A Robust Cascade Sliding Mode Control for a Hybrid Piezo-Hydraulic Actuator in Camless Internal Combustion Engines</i> , pp. 7J€-7JĪ .	
Mercorelli, Paolo	Leuphana Univ. of Lüneburg
16:20-16:40	FrRS-AT4.5
<i>An Adaptive Sliding Mode Observer for Nonlinear Systems Subject to Mismatched Uncertainties</i> , pp. 7JĪ -Ī €F.	
Wu, Tung-Chin	NCKU
Peng, Chao-Chung	NCKU
Chen, Chieh-Li	NCKU
16:40-17:00	FrRS-AT4.6
<i>On LMI Based Sliding Surface Design for Robust Full-Order Sliding Modes Control*</i> .	
Lordelo, Alfredo Del Sole	Univ. Federal do ABC
Fazzolari, Heloise Assis	Univ. Federal do ABC
Oliveira, Pedro Caetano de	Univ. Federal do ABC
Teixeira, Marcelo C. M.	State Univ. of Sao Paulo (UNESP)