

ACD16 Preliminary Program

Thursday 17th November 2016

17th Nov. 10:35-12:15		
Fault Diagnosis 1 (T1)	Chair :Horst Schulte	Room : T128
39	Shanzhi Li, Haoping Wang, Abdel Aitouche and Yang Tian	Robust unknown input observer design for state estimation and fault detection using linear parameter varying model
93	Meng Zhou, Mickael Rodrigues, Yi Shen and Didier Theilliol.	H_∞/H_{inf} fault detection observer design based on generalized output for linear parameter-varying system
60	Marcin Pazera and Jozef Korbicz	A process fault estimation strategy for non-linear dynamic systems
79	Majid Ghaniee Zarch, Vicenç Puig and Javad Poshtan.	Fault Detection and Isolation using Viability Theory and Interval Observers
81	Vikas Gupta, Vicenç Puig and Joaquim Blesa	A methodology for distributed fault diagnosis

17th Nov. 10:35-12:15		
Predictive Control (T2)	Chair : Ondrej Straka	Room : T123
29	Anna Nehring and Ping Zhang.	Decentralized scenario-based plug and play MPC for linear systems with multiplicative uncertainties
59	Marek Fehér, Ondřej Straka and Václav Šmídl.	Constrained time-optimal control of double-integrator system and its application in MPC
65	Ye Wang, Andres Ramirez-Jaime, Feng Xu and Vicenç Puig.	Nonlinear Model Predictive Control with Constraint Satisfaction for a Quadcopter
92	Einar B. Pedersen, Hannes R. Herbertsson, Henrik Niemann, Niels K. Poulsen and Anne Katrine V. Falk.	Model Predictive Control of Sewer Networks

17th Nov. 10:35-12:15		
Estimation, observation (T3)	Chair : Paolo Mercorelli	Room : T117
58	Sazuan Nazrah Mohd Azam.	Linear Discrete-time State Space Realization of a Modified Quadruple Tank System with State Estimation using Kalman Filter
27	Ahmad Farhad, Damien Koenig, Diana Hernandez-Alcantara and Ruben Morales-Menendez.	Tire Force Estimation using a Switched Observer
47	Simon Schmidt and Paolo Mercorelli.	A Hybrid Extended Kalman Filter as an observer for a Pot-Electro-Magnetic Actuator
95	Krishnan Srinivasarengan, José Ragot, Didier Maquin and Christophe Aubrun.	Joint State and Parameter Estimation for Discrete-Time Takagi-Sugeno Model
34	Arezki Mohammed Si Mohammed, Halima Boussadia, Abdelatif Bellar and Akram Adnane.	Performance comparison of attitude determination, attitude estimation, and nonlinear observers algorithms

17th Nov. 10:35-12:15		
Robust Control (T4)	Chair : Dusan Krokavec	Room : T217
51	Nabil El Fezazi, Fatima El Haoussi, El Houssaine Tissir, Teresa Alvarez and Fernando Tadeo.	Robust stabilization using LMI techniques of neutral time-delay systems subject to input saturation
71	Marcin Boski and Wojciech Paszke.	Design of robust iterative learning control schemes for systems with polytopic uncertainties and sector-bounded nonlinearities
66	Mohamadou Nassourou, Joaquim Blesa and Vicenç Puig.	Robust Optimization based Energy Dispatch in Smart Grids Considering Demand Uncertainty
74	Lavinus Ioan Gliga, Cosmin Constantin Mihai, Ciprian Lupu and Dumitru Popescu.	Real Time & Power Efficient Adaptive - Robust Control
94	Elkhatib Kamal, Lounis Adouane and Abdel Aitouche.	Robust Power Management Control for Stand-Alone Hybrid Power Generation System

17th Nov. 14:25-15:45		T
Fault diagnosis 2 (T5)	Chair : Fernando Tadeo	Room : T128
46	Jingjing Hao and Michel Kinnaert.	Sensor fault detection and isolation over wireless sensor network based on hardware redundancy
61	Anna Szyber.	Sensor Placement for Fault Diagnosis Using Graph of a Process
43	Kornel Rostek.	Influence of multi-valued diagnostic signals on optimal sensor placement
99	Nourhène Ben Rabah, Ramla Saddem, Faten Ben Hmida, Veronique Carre-Menetrier and Moncef Tagina.	Intelligent Case Based Decision Support System for Online Diagnosis of Automated Production System

17th Nov. 14:25-16:05		
Fault Tolerant Control5(T6)	Chair : Joaquim Blesa	Room : T123
53	Pablo Segovia, Lala Rajaoarisoa, Fatiha Nejjari, Joaquim Blesa, Vicenç Puig and Eric Duviella.	Decentralized Fault-Tolerant Control of Inland Navigation Networks: a Challenge
40	Dusan Krokavec and Anna Filasova.	Cascade structures of fault-tolerant control schemes with the static and dynamic output controllers
35	Arezki Mohammed Si Mohammed, Halima Boussadia, Abdelatif Bellar and Akram Adnane.	Adaptive backstepping control for three axis microsatellite attitude pointing under actuator fault
57	Yajie Ma, Vincent Cocquempot and Maan El Badaoui El Najjar.	An adaptive actuator failure compensation scheme for two linked 2WD mobile robots
86	Amer Yaseen and Mireille Bayart.	Attack-tolerant networked control system: an approach for detection the controller stealthy hijacking attack

17th Nov. 14:25-16:05		
Invited session : fractional order systems : methods, tools and practice (T7)	Chair : Konrad Markowski,Co-Chair : Dana Copot	Room :117
30	Clara Ionescu and Dana Copot.	On the use of fractional order PK-PD models
96	Konrad Markowski.	Digraphs Structures Corresponding to the Analog Realisation of Fractional Continuous-Time System
97	Konrad Markowski.	Realisation of Linear Continuous-Time Fractional Singular Systems Using Digraph-Based Method. First approach.
48	Dana Copot, Robin De Keyser, Levente Kovacs and Clara Ionescu.	Towards a cyber-medical system for drug assisting devices
52	Isabela Roxana Birs, Silviu Folea and Cristina Ioana Muresan.	Comparative analysis and experimental results of advanced control strategies for vibration suppression in aircraft wings

17th Nov. 14:25-16:05		
Control Application 1 (T8)	Chair : Silvio Simani	Room :T217
<u>11</u>	<u>Simona Finotti, Silvio Simani, Stefano Alvisi and Mauro Venturini.</u>	<u>Application and Comparison of Advanced Control Strategies for a Simulated Hydroelectric System</u>
<u>56</u>	<u>Mohamed Ali Jebri, El Mostafa El Adel, Guillaume Graton, Mustapha Ouladsine and Jacques Pinaton.</u>	<u>Virtual Metrology applied in Run-to-Run Control for a Chemical Mechanical Planarization process</u>
<u>73</u>	<u>Silviu Cirstoiu, Dumitru Popescu, Catalin Dimon and Severus Olteanu.</u>	<u>Multimodel Control of Diesel Engines</u>
<u>63</u>	<u>Silvia Maria Zanolì, Crescenzo Pepe, Luca Barboni and Francesco Cocchioni.</u>	<u>Advanced Process Control aimed at energy efficiency increase in a walking beam reheating furnace</u>
<u>32</u>	<u>Soufyane Chekroun, Mokhtar Zerikat, Abdelkader Mechernene and Nedjadi Benharir.</u>	<u>Novel Observer Scheme of Fuzzy-MRAS Sensorless Speed Control of Induction Motor Drive</u>

Friday 18th November 2016

18th Nov. 10:20-11:40		
Nonlinear Control (F1)	Chair : Gerasimos Rigatos	Room :T128
<u>10</u>	<u>Gerasimos Rigatos, Pierluigi Siano, Patrice Wira, Krishna Busawon and Richard Binns.</u>	<u>A nonlinear optimal control method for three-phase voltage inverters</u>
<u>76</u>	<u>Yasser Bouzid, Houria Siguerdidjane and Yasmina Bestaoui.</u>	<u>Comparative Results on 3D Navigation of Quadrotor using two Nonlinear Model based Controllers</u>
<u>4</u>	<u>Gerasimos Rigatos, Pierluigi Siano, Patrice Wira and Moamar-Sayed Mouchaweh.</u>	<u>Nonlinear control of DC-DC converters connected to DC motors using differential flatness theory</u>
<u>82</u>	<u>Byron Xavier Lima Cedillo, Ricardo Alfredo Cajo Diaz, Victor Manuel Huilcapi Subia and Wilton Edixon Agila Gálvez.</u>	<u>Modeling and comparative study of linear and nonlinear controllers for rotary inverted pendulum</u>

18th Nov. 10:20-11:40		
Control Application 2 (F2)	Chair : Vicen Puig	Room :T123
<u>41</u>	<u>Cihan Turhan, Silvio Simani, Ivan Zajic and G. Gokcen Akkurt.</u>	<u>Analysis and Application of Advanced Control Strategies to a Heating Element Nonlinear Model</u>
<u>75</u>	<u>Petar Durdevic Løhndorf, Simon Pedersen and Zhenyu Yang.</u>	<u>Challenges in Modelling and Control of Offshore De-oiling Hydrocyclone Systems</u>
<u>91</u>	<u>Jorge De Jesus Lozoya-Santos, Juan Carlos Tudón-Martínez and Julio Salinas.</u>	<u>Control Design for a Motion Cueing on Driving Simulator</u>

18th Nov. 10:20-11:40		
Data processing (F3)	Chair : Evgeny Yakimov	Room :T117
<u>7</u>	<u>Ali Zaher, Yao N'Goran, Frédéric Thiery, Stéphane Grieu and Adama Traoré.</u>	<u>Fuzzy rule-based model for optimum orientation of solar panels using satellite image processing</u>
<u>49</u>	<u>Oliver Kost, Jindrich Dunik and Ondrej Straka.</u>	<u>Noise Covariance Matrices Estimation for Nonlinear Systems with Time-Varying Availability of Sensors</u>
<u>98</u>	<u>Michal Zejmo, Marek Kowal, Jozef Korbicz and Roman Monczak.</u>	<u>Classification of breast cancer cytological specimen using convolutional neural network</u>
<u>23</u>	<u>Evgeny Yakimov and Daniil Ustyugov.</u>	<u>Thickness measuring of electroconductive pipe walls using the dual-frequency eddy-current method</u>

18th Nov. 10:20-11:40		
Software tools and code generation (F4)	Chair : Rustam Latypov	Room :T217
<u>84</u>	<u>Piotr Witczak, Mariusz Buciakowski and Jozef Korbicz.</u>	<u>A new Matlab coder for generating Structured Text Language from matrix expression for PLC and PAC controllers</u>
<u>5</u>	<u>Ralf Stetter and Avery Simundsson. Systematic</u>	<u>Product Development of Control and Diagnosis Functionalities</u>
<u>26</u>	<u>Rustam Latypov and Evgeny Stolov.</u>	<u>Ternary jitter-based true random number generator</u>

18th Nov. 13:45-15:05		
Control design (F5)	Chair : Elena Zattoni	Room :T128
<u>54</u>	<u>Joris Guerin, Olivier GIBARU, Stéphane Thiery and Eric Nyiri.</u>	<u>Locally optimal control under unknown dynamics with learnt cost function: application to industrial robot positioning</u>
<u>42</u>	<u>Anna Filasova and Dusan Krokavec.</u>	<u>Enhanced approach to PD control design for linear time-invariant descriptor systems</u>
<u>45</u>	<u>Elena Zattoni.</u>	<u>Output feedback model matching in linear impulsive systems with control feedthrough: a structural approach</u>
<u>28</u>	<u>Slawomir Grzyb and Przemyslaw Orłowski.</u>	<u>The comparison of network congestion avoidance algorithms in data exchange networks.</u>

18th Nov. 13:45-15:25		
Control Application 3 (F6)	Chair : Susy Thomas	Room :T123
<u>85</u>	<u>David Nakath, Joachim Clemens and Carsten Rachuy.</u>	<u>Saturation Preventing Rigid Body Attitude Control Based on a Manifold Representation of Direction Cosine Matrices</u>
<u>31</u>	<u>Susy Thomas and Shridhar Velhal.</u>	<u>Improved LTV MPC design for steering control of autonomous vehicle</u>
<u>67</u>	<u>Fatemeh Karimi Pour, Carlos Ocampo-Martinez and Vicenç Puig.</u>	<u>Output-Feedback Model Predictive Control of a Pasteurization Pilot Plant based on an LPV model</u>
<u>83</u>	<u>Fatemeh Karimi Pour, Vicenç Puig and Carlos Ocampo-Martinez.</u>	<u>Health-aware Model Predictive Control of Pasteurization Plant</u>
<u>19</u>	<u>Tolga Bodrumlu and Mehmet Turan Soylemez.</u>	<u>Modelling and Control of Qball X4 Quadrotor System Based on PID and Fuzzy Logic Structure</u>

18th Nov. 13:45-14:45		
Modelling (F7)	Chair : Laurent cauffriez	Room :T117
50	Denis Kirchhübel, Morten Lind and Ole Ravn.	Representing Operational Modes for situation awareness
55	Inderjeet Singh, Othman Lakhal and Rochdi Merzouki.	Towards Extending Forward Kinematic Models on Hyper-Redundant Manipulator to Cooperative Bionic Arms
25	Laurent Cauffriez.	Modelling of Safety Instrumented Systems by using Bernoulli trials: towards the notion of odds on for SIS failures analysis

18th Nov. 13:45-14:45		
Fault Diagnosis 3 (F8)	Chair : Maan El Badaoui El Najjar	Room :T217
72	Maciej Patan and Damian Kowalów.	Distributed configuration of sensor network for fault detection in spatio-temporal systems
36	Joelle Al Hage, Maan E.El Najjar and Denis Pomorski.	Fault tolerant multi-sensors fusion based on the information gain
33	Anuar Badillo-Olvera, Ofelia Begovich and Alfonso Perez-Gonzalez.	Leak Isolation in Pressurized Pipelines using a Interpolation Function to approximate the Fitting Losses