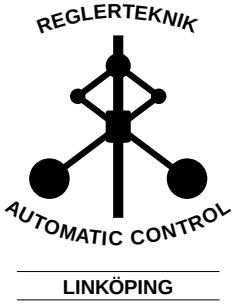
Reglermöte 2014

Reglerteknik vid Linköpings Tekniska Högskola

i samarbete med

Svenska IFAC

3 – 4 juni



Organisationskommitté

Svante Gunnarsson (Ordförande), Fredrik Gustafsson, Anders Hansson, Inger Erlander Klein, Martin Enqvist, Johan Löfberg, Daniel Axehill, Daniel Petersson, Johan Dahlin och Ninna Stensgård

Programkommitté

Anders Hansson (Ordförande), Torkel Glad (Vice ordförande), Karl Granström, Fredrik Gustafsson, Tianshi Chen, Claudio Altafini, Daniel Petersson, Daniel Axehill, Svante Gunnarsson, Martin Enqvist, Saikat Saha, Lennart Ljung, Inger Erlander Klein, Johan Löfberg och Emre Özkan

Vetenskapliga granskare

Martin Skoglund, Isak Nielsen, George Mathai, Clas Veibäck, Niclas Everstedt, Roger Larsson, Ylva Jung, Patrik Axelsson, Christian Andersson Naesseth, Sina Khoshfetrat Pakazad, Manon Kok, Tohid Ardeshiri, Daniel Simon, Johan Dahlin, Niklas Wahlström, Maryam Sadeghi Reineh, Marek Syldatk, Hanna Nyqvist, Michael Roth och Andre Carvalho Bittencourt

Information

Löpande information: http://www.control.isy.liu.se/conferences/rm14/

Registrering och informationsdisk

Registrering och informationsdisk finns i Colosseum i hus C.

Trådlöst nätverk

Eduroam finns tillgängligt. För andra möjligheter kontakta informationsdisken.

Transporter

Information om transporter till Reglermötet och Flygvapenmuseet kommer att presenteras på konferenshemsidan http://www.control.isy.liu.se/conferences/rm14/.

Produktutställning

Mathworks, Modelon, Maplesoft och Studentlitteratur har utställningar i Colosseum.

Posterpresentationer

Postrar kommer att sättas upp i Colosseum i närheten av C3 och Börssalen.

Reglermöteslokaler

Hus C plan 2

Programöversikt

Tuesday, 3 June

09:00–09:45 Registration and Coffee

09:45–10:00 Introduction

10:00–10:45 Plenary Talk I: Reglertekniska verktyg i flygplansfabriken

11:00–12:00 Distributed Control

Networks and Communication Systems

Robotics and Manufacturing Automation

12:00–13:00 Lunch

13:00–14:00 Poster Session I - Signal Processing and System Identification

14:00–15:40 Control Theory

System Identification and Adaptive Control

Automotive Controls

15:40–16:00 Coffee Break. Sponsor: Studentlitteratur

16:00–17:00 Poster Session II - Control Applications

19:00–23:00 Conference Dinner at Swedish Air Force Museum

Wednesday, 4 June

09:00–10:00 Plenary Talk II - Ny teknik för framtidens automation!?

10:00–10:20 Coffee Break. Sponsor: Wolfram Mathcore

10:20–12:00 Signal Processing

Computations and Optimization in Control

Aerospace Controls

12:00–13:00 Lunch

13:00–14:00 Poster Session III - Control Theory

14:00–14:45 Plenary Talk III - Will Machine Learning Change the System Identification Paradigm?

14:45–15:00 Closing

Program

Tuesday, 3 June 2014

9:00-9:45	**Registration and Coffee** (Colosseum)		
9:45-10:00	**Introduction** (C4) Svante Gunnarsson, Linköpings universitet		
10:00-10:45	**Plenary Talk I: Reglertekniska verktyg i flygplansfabriken** (C4) *Chair:* Anders Hansson Ola Härkegård, Saab Aeronautics		
11:00-12:00	**C2**	**C3**	**C4**
	Distributed Control *Chair:* Daniel Axehill *Distributed Control With Low-rank Coordination* Daria Madjidian, Lund University; Leonid Mirkin, Technion - Israel Institute of Technology *Distributed Finite-time Computation Of The Out-degree In Digraphs* Themistoklis Charalambous, Royal Institute of Technology (KTH); Michael Rabbat, McGill University; Mikael Johansson, Royal Institute of Technology (KTH); Christoforos Hadjicostis, University of Cyprus *Distributed Sensor And Actuator Reconfiguration In Networked Control Systems* André Teixeira, KTH Royal Institute of Technology; José Araújo, KTH Royal Institute of Technology; Henrik Sandberg, KTH Royal Institute of Technology; Karl H. Johansson, KTH Royal Institute of Technology	**Networks and Communication Systems** *Chair:* Claudio Altafini *Optimal Virtual Array Design* Anders Mannesson, Automatic Control, LTH, Lund; Bo Bernhardsson, Automatic Control, LTH, Lund *Stability Of Monotone Dynamical Flow Networks* Enrico Lovisari, Lund University; Giacomo Como, Lund University *Accelerating Consensus In Leader-follower Networks* Ming Cao, University of Groningen; Alex Olshevsky, University of Illinois at Urbana Champaign; Weiguo Xia, Royal Institute of Technology	**Robotics and Manufacturing Automation** *Chair:* Svante Gunnarsson *Modeling And Sensor Fusion Of A Remotely Operated Underwater Vehicle* Martin Skoglund, ISY/reglerteknik; Kenny Jönsson, Saab Group; Fredrik Gustafsson, ISY/reglerteknik *Iterative Learning Control - From A Controllability Point Of View* Patrik Axelsson, Avdelningen för Reglerteknik, Linköpings Universitet; Daniel Axehill, Avdelningen för Reglerteknik, Linköpings Universitet; Torkel Glad, Avdelningen för Reglerteknik, Linköpings Universitet; Mikael Norrlöf, ABB Robotics *Simulation Based Evaluation Of Fault Detection Algorithms With Applications To Wear Monitoring In Manipulators* Andreas Samuelsson, ABB Corporate Research; André Carvalho Bittencourt, Linköping University; Kari Saarinen, ABB Corporate Research; Shiva Sander-Tavallaey, ABB Coporate Research; Mikael Norrlöf, ABB Robotics; Hans Andersson, ABB Robotics; Svante Gunnarsson, Linköping University

12:00-13:00 **Lunch** (Kårallen)

13:00-14:00 **Poster Session I - Signal Processing and System Identification** (Colosseum)

Chair: Tianshi Chen

A Closed-loop Instrumental Variable Approach To Mass And Center Of Mass Estimation Using IMU Data
Jonas Linder, Automatic Control, Department of Electrical Engineering, Linköping University; Martin Enqvist, Automatic Control, Department of Electrical Engineering, Linköping University

Acoustic Control Of Surveillance Camera
David Enberg, LiU; Emma Ring, LiU; Martin Nilsson, LiU; Maria Andersson, FOI

Variable Probability Of Detection For GM-PHD Filtering
Gustaf Hendeby, Linköping University; Rickard Karlsson, Linköping University

Robust NLS Sensor Network Calibration Using MDS Initialization
Viktor Deleskog, FOI; Hans Habberstad, FOI; Gustaf Hendeby, FOI; David Lindgren, FOI; Niklas Wahlström, LiU

Doppler-only Localization In Acoustic Sensor Networks
David Lindgren, LiU, FOI; Fredrik Gustafsson, LiU; Hans Habberstad, FOI; Gustaf Hendeby, LiU, FOI

Multiple Extended Object Estimation: Practical Results Using Video And Laser
Karl Granström, Automatic Control, Linköping University

A Comparison Of Moment Computation Schemes: Monte Carlo, UT, Integration Rules, Taylor
Michael Roth, Linköping University; Fredrik Gustafsson, Linköping University

Pyparticleest: A Software Framework For Particle Based Estimation Methods
Jerker Nordh, Lund University

Probabilistic Convergence Of Kalman Filtering Over Nonstationary Fading Channels
Junfeng Wu, Royal Institute of Technology; Guodong Shi, Royal Institute of Technology (KTH); Karl Henrik Johansson, Royal Institute of Technology (KTH)

3D Synthetic Aperture Imaging Using A Water-jet Coupled Large-aperture Single Transducer
Miguel Castaño Arranz, Luleå University of Technology; Johan Carlson, Luleå University of Technology; Matti Rantatalo, Luleå University of Technology; Robert Risberg, Creo Dynamics AB; Miles Weston, TWI Technology Centre Wales

A Simulated Annealing Approach To Exact Experiment Design For Dynamical Systems
Patricio Valenzuela, KTH Royal Institute of Technology; Cristian Rojas, KTH Royal Institute of Technology; Håkan Hjalmarsson, KTH Royal Institute of Technology

Particle Filter-based Gaussian Process Optimisation For Parameter Inference Johan Dahlin, Linköping University; Fredrik Lindsten, University of Cambridge

Calculation Of Relative Gain Array Based On Nonparametric Process Identification- A Frequency Domain Approach
Ali Kadhim, Luleå University of Technology; Wolfgang Birk, Luleå University of Technology; Thomas Gustafsson, Luleå University of Technology

Estimating Approximate Inverse Models Of Block-oriented Systems
Ylva Jung, Linköpings universitet; Martin Enqvist, Linköpings universitet

IMU-based Vehicle Load Estimation Under Normal Driving Conditions
Maryam Sadeghi Reineh, Division of Automatic Control, Linköping University; Martin Enqvist, Division of Automatic Control, Linköping University; Fredrik Gustafsson, Division of Automatic Control, Linköping University

Estimating Models Of Inverse Systems
Ylva Jung, Linköpings universitet; Martin Enqvist, Linköpings universitet

Evidence Extended Em Algorithm For The Calibration Of Ground Sensor Networks
Marek Syldatk, Division of Automatic Control, Linköping University; Fredrik Gustafsson, Division of Automatic Control, Linköping University

Variance Results For Parallel Cascade Serial Systems
Niklas Everitt, KTH; Cristian R. Rojas, KTH; Håkan Hjalmarsson, KTH

Step Response Method For Second-order Non-minimum Phase Model Identification
Winston Garcia-Gabin, ABB AB Corporate Research

Using Smartphones To Teach Sensor Fusion And Kalman Filtering
Gustaf Hendeby, Linköping University; Fredrik Gustafsson, Linköping University; Niklas Wahlström, Linköping University

Misfire Detection And Quantitative Detection Performance Analysis
Daniel Eriksson, Department of Electrical Engineering, Linköping University; Erik Frisk, Department of Electrical Engineering, Linköping University; Mattias Krysander, Department of Electrical Engineering, Linköping University; Lars Eriksson, Department of Electrical Engineering, Linköping University

Observer Design For A Class Of Nonlinear Systems Subject To Unknown Inputs
Saleh Sayyaddelshad, Luleå University of Technology; Thomas Gustafsson, Luleå University of Technology

Observation Model For Monte Carlo Localization
Anas Alhashimi, LTU; George Nikolakopoulos, LTU; Thomas Gustafsson, LTU

Clutch Modeling, Observability Analysis, And Extended Kalman Filter Design
Andreas Myklebust, Linköping University

Control Of Semi-active Motorcycle Suspensions
Urban Forssell, Öhlins Racing AB; Martin Lugnberg, Öhlins Racing AB; Per Svennerbrandt, Öhlins Racing AB; David Bolander, Öhlins Racing AB

Sequential Monte Carlo Methods For Graphical Models
Christian Andersson Naesseth, Linköping University; Fredrik Lindsten, Linköping University; Thomas Schön, Uppsala University

14:00-15:40

C2 — Control Theory

Chair: Torkel Glad

Event-triggered Pinning Control Of Complex Networks With Switching Topologies
Antonio Adaldo, ACCESS Linnaeus Center and School of Electrical Engineering, Royal Institute of Technology (KTH), Stockholm; Francesco Alderisio, Department of Engineering Mathematics, University of Bristol; Davide Liuzza, ACCESS Linnaeus Center and School of Electrical Engineering, Royal Institute of Technology (KTH), Stockholm; Guodong Shi, ACCESS Linnaeus Center and School of Electrical Engineering, Royal Institute of Technology (KTH), Stockholm; Dimos V. Dimarogonas, ACCESS Linnaeus Center and School of Electrical Engineering, Royal Institute of Technology (KTH), Stockholm; Mario di Bernardo, Department of Engineering Mathematics, University of Bristol; Karl Henrik Johansson, ACCESS Linnaeus Center and School of Electrical Engineering, Royal Institute of Technology (KTH), Stockholm

C3 — System Identification and Adaptive Control

Chair: Lennart Ljung

Identification Of Jump Markov Linear Models Using Particle Filters
Andreas Svensson, Dept of Information Technology, Uppsala University; Thomas B. Schön, Dept of Information Technology, Uppsala University; Fredrik Lindsten, Dept of Engineering, University of Cambridge

Application Set Approximation In Optimal Input Design For MPC
Afrooz Ebadat, Royal Institute of Technology (KTH); Mariette Annergren, Royal Institute of Technology (KTH); Christian Larsson, Royal Institute of Technology (KTH); Cristian Rojas, Royal Institute of Technology (KTH); Bo Wahlberg, Royal Institute of Technology (KTH); håkan hjalmarsson, Royal Institute of Technology (KTH); Mats Molander, ABB AB. Corporate research; Johan sjöberg, ABB AB.

C4 — Automotive Controls

Chair: Martin Enqvist

A Cooperative Conflict Resolution Technique For Traffic Intersections
Gabriel Rodrigues de Campos, Chalmers University of Technology; Paolo Falcone, Chalmers University of Technology; Jonas Sjöberg, Chalmers University of Technology

An Approximate Solution To The Traffic Intersection Problem For Autonomous Vehicles
Robert Hult, Chalmers University Of Technology; Gabriel Rodrigues de Campos, Chalmers University Of Technology; Paolo Falcone, Chalmers University Of Technology; Henk Wymeersch, Chalmers University Of Technology

A Markov Chain Approach To Generate Equivalent Driving Cycles
Peter Nyberg, Linköping University; Erik Frisk, Linköping University; Lars Nielsen, Linköping University

Path Planning With Obstacle Avoidance And Sliding Mode Control For An Articulated Vehicle
Thaker Nayl, Luleå University of Technology; George Nikolakopoulos, Luleå University of Technology; Thomas Gustafsson, Luleå University of Technology

Design Of PID Controllers Using Convex-concave Optimaization
Martin Hast, Dept. of Automatic Control; Karl-Johan Åström, Dept. of Automatic Control; Bo Bernhardsson, Dept. of Automatic Control; Stephen Boyd, Detp. Of Electrical Engineering

Optimal Control Of A Stochastic System With State Constraints
Per Rutquist, Tomlab / Chalmers; Torsten Wik, Chalmers; Claes Breitholtz, Chalmers

A Down-sampled Controller To Reduce Network Usage With Guaranteed Closed-loop Performance
Jose Araujo, KTH Royal Institute of Technology; Andre Teixeira, KTH Royal Institute of Technology; Erik Henriksson, KTH Royal Institute of Technology; Karl H. Johansson, KTH Royal Institute of Technology

Volterra Modeling Of The Smooth Pursuit System With Application To Diagnosing Parkinson's Disease
Daniel Jansson, Uppsala University; Alexander Medvedev, Uppsala University

Input Signal Generation For Input And Output Constrained Systems
Christian A. Larsson, KTH; Per Hägg, KTH

Bayesian Nonparametric Identification Of Piecewise Affine ARX Systems
Johan Wågberg, Uppsala universitet; Fredrik Lindsten, University of Cambridge; Thomas B. Schön, Uppsala universitet

Multilevel Converter As An Integrated Cell Balancer And Motor Driver In xEVs: Potentials And Pitfalls
Faisal Altaf, Chalmers University of Technology; Lars Johannesson, Chalmers University of Technology; Bo Egardt, Chalmers University of Technology

Fuel-saving Potentials Of Platooning Evaluated Through Sparse Heavy-duty Vehicle Position Data
Kuo-Yun Liang, KTH; Jonas Mårtensson, KTH; Karl Henrik Johansson, KTH

15:40-16:00 **Coffee Break** (Colosseum)
Sponsor: Studentlitteratur

16:00-17:00 **Poster Session II - Control Applications** (Colosseum)
Chair: Gustaf Hendeby

Decision-making And Control For Automated Highway Driving
Julia Nilsson, Volvo Cars and Chalmers

Rapidly Expanding Random Trees: A Solution For The iQMatic Project?
Niclas Evestedt, Linköpings Universitet; Daniel Axehill, Linköpings Universitet; Fredrik Gustafsson, Linköpings Universitet

Temperature Control Of Two Interacting Rooms With Decoupled PI Control
Meike Stemmann, Lund University; Anders Rantzer, Lund University

An Optimization-based Approach To Human Body Motion Capture Using Inertial Sensors
Manon Kok, Linköping University; Jeroen Hol, Xsens Technologies B.V.; Thomas Schön, Uppsala University

A Control-theoretical Approach To Thread Scheduling For Multicore Processors
Alberto Leva, Politecnico di Milano; Roberto Carone, Politecnico di Milano; Alessandro Vittorio Papadopoulos, Lund University

Control Strategies For Predictable Brownouts In Cloud Computing
Martina Maggio, Lund University; Cristian Klein, Umeå University; Karl-Erik Årzén, Lund

Uncertainty Bounds Violation Scheme For Fault Detection In Induction Motors: Application To Broken Rotor Bars
Mohammed Mustafa, Luleå University of Technology; George Nikolakopoulos, Luleå University of Technology; Thomas Gustafsson, Luleå University of Technology

Sensorless Force Control For Industrial Robots
Andreas Stolt, Department of Automatic Control, LTH, Lund University; Anders Robertsson, Department of Automatic Control, LTH, Lund University; Rolf Johansson, Department of Automatic Control, LTH, Lund University

Short-term Production Planning For District Heating Networks With JModelica.org
Per-Ola Larsson, Modelon AB; Stephane Velut, Modelon AB; Johan Windahl, Modelon AB; Linn Saarinen, Vattenfall AB; Katarina Boman, Vattenfall AB

Modeling Of A Non-ideal Current Tracking In A Standard Amplifier For Motor Control
I Yung, Ålö AB and Umeå University; Stanislav Aranovskiy, ITMO University; Leonid Freidovich, Umeå University

Recent Advances In Real-time Economic NMPC For Wind Turbine Control
Sebastien Gros, Chalmers; Rien Quirynen, KU Leuven; Moritz Diehl, University of Freiburg

Target Coverage And Selectivity In Field Steering Brain Stimulation
Ruben Cubo, Uppsala University; Mattias Åström, Linköping University; Alexander Medvedev, Uppsala University

Robust Loop-shaping Control Of A Voltage Source Converter Attached To A Weak AC-grid
Yujiao Song, Chalmers University of Technology; Claes Breitholtz, Chalmers University of Technology

Model-free Approaches For The Energy Minimization Of Robot Trajectories
Oskar Wigström, Chalmers University of Technoloogy; Bengt Lennartson, Chalmers University of Technoloogy

Temperature Modelling And Control Of The Selective Catalytic Reduction System
Soma Tayamon, Uppsala University; Anders Larsson, Scania AB; Björn Westerberg, Scania; Bengt Carlsson, Uppsala University

Application Of Machine Learning Methods For Fault Detection In Wastewater Treatment Plants
Tatiana Chistiakova, Uppsala University; Jesús Zambrano, Uppsala University; Bengt Carlsson, Uppsala University

Energy Optimization Of A High Consistency Refiner Process
Patrick Höhn, Luleå University of Technology; Wolfgang Birk, Luleå University of Technology

Towards Autonomous Heavy Duty Vehicles
Pedro F. Lima, KTH Royal Institute of Technology; Jonas Mårtensson, KTH Royal Institute of Technology

Systematic Control Configuration Selection Of Secondary Heating Systems - A Case Study
Miguel Castaño Arranz, Luleå University of Technology; Wolfgang Birk, Luleå University of Technology; Petter Asplund, Optimation AB; Johan Karlsson Rönnberg, K.Al.Des

Control Of HVAC Systems In Sweden: Current Status And Future Directions
Alessandra Parisio, Royal Institute of Technology (KTH); Marco Molinari, Royal Institute of Technology (KTH); Damiano Varagnolo, Luleå Institute of Technology (LTH); Karl Henrik Johansson, Royal Institute of Technology (KTH)

Load-balancing For Cloud Applications With Brownout
Jonas Dürango, Dept. Automatic Control, Lund University; Manfred Dellkrantz, Dept. Automatic Control, Lund University; Martina Maggio, Dept. Automatic Control, Lund University; Cristian Klein, Dept. Computing Science, Umeå University; Alessandro Vittorio Papadopoulos, Dept. Automatic Control, Lund University; Francisco Hernández-Rodriguez, Dept. Computing Science, Umeå University; Erik Elmroth, Dept. Computing Science, Umeå University; Karl-Erik Årzén, Dept. Automatic Control, Lund University

Real-time Energy Management Of A Plug-in Hybrid Electric Vehicle Based On A Closed Form Minimization Of The Hamiltonian
Viktor Larsson, Chalmers; Lars Johannesson, Viktoria Swedish ICT; Bo Egardt, Chalmers

Scale-model Articulated Vehicle With Individual Wheel Drives For Traction Control Studies
Fredrik Broström, Luleå University of Technology; Ulf Andersson, Luleå University of Technology; Thomas Gustafsson, Luleå University of Technology

A Freely Available Interactive PID Learning Module
Alfred Theorin, Lund University; Charlotta Johnsson, Lund University

	Automation Of Front End Loaders. Case Study: Self Leveling I Yung, Ålö AB and Umeå University; Leonid Freidovich, Umeå University; Tomas Nygren, Ålö AB
	Experimental Evaluation Of A Modified Obstacle Based Potential Field Algorithm For An Off-road Mobile Robot Rickard Nyberg, Luleå University of Technology, Control Engineering Group; Dariusz Kominiak, Luleå University of Technology, Control Engineering Group; George Nikolakopoulos, Luleå University of Technology, Control Engineering Group
	Incident Parameter Scheduled Local Ramp Meter Control Azita Dabiri, Chalmers University of Technology; Balazs Kulcsar, Chalmers University of Technology
	Delautomatiserad Kranspetsstyrning För Skotare Anders Hultgren, Blekinge Institute of Technology; Matz Lenells, Linnaeus university; Martin Nyström, Rottne Industri AB
19:00-23:00	**Conference Dinner at Swedish Air Force Museum**

Wednesday, 4 June 2014

9:00-10:00 **Plenary Talk II - Ny teknik för framtidens automation!?** (C4)

Chair: Svante Gunnarsson

Tomas Lagerberg, ABB Corporate Research

10:00-10:20 **Coffee Break** (Colosseum)

Sponsor: Wolfram Mathcore

10:20-12:00

C2 Signal Processing

Chair: Fredrik Gustafsson

Sensor Fusion For Magnetometer- And Accelerometer-based Vehicle Tracking
Roland Hostettler, Luleå University of Technology; Petar Djuric, Stony Brook University

Robustness Comparison Of Battery State Of Charge Observers For Automotive Applications
Björn Fridholm, Viktoria Swedish ICT; Magnus Nilsson, Viktoria Swedish ICT; Torsten Wik, Automatic Control, Dept. of Signals and Systems, Chalmers University of Technology

Robust And Accurate Map Aided Positioning For Autonomous Vehicles
Rickard Karlsson, NIRA Dynamics AB

Spectral Estimation Of Periodic Signals And Approximation Of Spectral Densities
Axel Ringh, Royal Institute of Technology; Anders Lindquist, Royal Institute of Technology & Shanghai Jiao Tong University

Map Aided Indoor Positioning Using Particle Filters
Johan Kihlberg, Semcon; Simon Tegelid, ÅF; Manon Kok, Dept. of Electrical Engineering, Linköping University; Thomas Schön, Uppsala University, Department of Information Technology

C3 Computations and Optimization in Control

Chair: Johan Löfberg

An Iterative Dynamic Programming/convex Optimization Procedure For Optimal Sizing And Energy Management Of PHEVS
Mitra Pourabdollah, Chalmers University of Technology; Nikolce Murgovski, Chalmers University of Technology; Anders Grauers, Chalmers University of Technology; Bo Egardt, Chalmers University of Technology

Dual Decomposition Using Newton Iterations In The Dual Space
Emil Klintberg, Chalmers University; Sebastien Gros, Chalmers University

Optimal Parameter Selection For The Alternating Direction Method Of Multipliers (ADMM): Quadratic Problems
Euhanna Ghadimi, KTH; Andre Teixeira, KTH; Mikael Johansson, KTH

A Distributed Primal-dual Interior-point Method For Loosely Coupled Problems With Application To Model Predictive Control
Mariette Annergren, KTH; Sina Khoshfetrat Pakazad, LiU; Anders Hansson, LiU

Automatic Tuning Of Gain-scheduled Controllers Fredrik Håbring, MathWorks

C4 Aerospace Controls

Chair: Inger Erlander Klein

Flight Envelope Protection System Using Model Predictive Control
Daniel Simon, LiU

Intelligent Surveillance With Multiple Sensor Platforms
Viktor Deleskog, FOI; Gustaf Hendeby, FOI

Modellbaserad Analys Av Grundflygplansystem
Ylva Nilsson, Saab AB

Full Quaternion Based Attitude Control For A Quadrotor
Emil Fresk, LTU; George Nokolakopoulos, LTU

12:00-13:00 **Lunch** (Kårallen)

13:00-14:00 **Poster Session III - Control Theory** (Colosseum)

Chair: Daniel Petersson

Distributed System Identification With ADMM
Anders Hansson, Linköpings Universitet; Michel Verhaegen, Delft University

Look-ahead Control For Fuel-efficient Heavy-duty Vehicle Platooning
Valerio Turri, ACCESS Linnaeus Centre and Department of Automatic Control, KTH Royal Institute of Technology; Bart Besselink, ACCESS Linnaeus Centre and Department of Automatic Control, KTH Royal Institute of Technology; Jonas Mårtensson, ACCESS Linnaeus Centre and Department of Automatic Control, KTH Royal Institute of Technology; Karl H. Johansson, ACCESS Linnaeus Centre and Department of Automatic Control, KTH Royal Institute of Technology

Epidemic Information Discovery In Proximity-based Multichannel Wireless Networks
Antonio Gonga, KTH - Royal Institute of Technology; Themistoklis Charalambous, KTH - Royal Institute of Technology; Mikael Johansson, KTH - Royal Institute of Technology

Network Clustering Algorithms For Traffic Planning
Håkan Terelius, KTH; Karl Henrik Johansson, KTH

Sensor Placement For Fault Detection And Isolation In Noisy Systems
Daniel Eriksson, Department of Electrical Engineering, Linköping University, Sweden; Yi Dong, Institute for Software Integrated Systems, Vanderbilt University, USA; Erik Frisk, Department of Electrical Engineering, Linköping University, Sweden; Mattias Krysander, Department of Electrical Engineering, Linköping University, Sweden; Gautam Biswas, Institute for Software Integrated Systems, Vanderbilt University, USA

On-line Multi-objective Optimization Of Dynamic Systems: Pareto Seeking Control
Khalid Atta, Luleå tekniska universitet-LTU; Andreas Johansson, Luleå tekniska universitet-LTU; Thomas Gustafsson, Luleå tekniska universitet-LTU

Shaping The Crowd Motion By Moments Control
Yuecheng Yang, Royal Institute of Technology; Dimos Dimarogonas, Royal Institute of Technology; Xiaoming Hu, Royal Institute of Technology

On Stability And Resilience Of Multicommodity Dynamical Flow Networks
Gustav Nilsson, Department of Automatic Control, Lund University; Giacomo Como, Department of Automatic Control, Lund University; Enrico Lovisari, Department of Automatic Control, Lund University

Analysis Of Extremum Seeking Control Using Bifurcation Theory
Olle Trollberg, KTH Royal Institute of Technology; Elling Jacobsen, KTH Royal Institute of Technology

Discretizing Stochastic Dynamical Systems Using Lyapunov Equations
Niklas Wahlström, Linköping university; Patrik Axelsson, Linköping university; Fredrik Gustafsson, Linköping university

Dual First-order Methods For Large-scale Convex Optimization
Jie Lu, KTH; Mikael Johansson, KTH

Hybrid State Observer For Time-delay Systems Under Intrinsic Impulsive Feedback
Diana Yamalova, Uppsala University; Alexander Churilov, St. Petersburg State University; Alexander Medvedev, Uppsala University

Balanced Truncation Preserving Ellipsoidal Cone Invariance
Christian Grussler, Department of Automatic Control, Lund University; Anders Rantzer, Department of Automatic Control, Lund University

Parallel Riccati Factorizations With Applications To Model Predictive Control
Isak Nielsen, Linköpings Universitet; Daniel Axehill, Linköpings Universitet

Spurious Convergence Of Iterative Learning Control
M. Mahdi Ghazaei Ardakani, Department of Automatic Control, Lund University; Bo Bernhardsson, Department of Automatic Control, Lund University

Robust Synchronisation Of Heterogeneous Networks Via Integral Quadratic Constraints
Sei Zhen Khong, Lund University; Enrico Lovisari, Lund University

Crowd-sourcing Estimation With Strategic Senders
Farhad Farokhi, KTH Royal Institute of Technology; Andre Teixeira, KTH Royal Institute of Technology; Cedric Langbort, University of Illinois at Urbana–Champaign (UIUC)

Consensus Algorithms With Gyroscopic Feedback
Sebastian van de Hoef, KTH, Royal Institute of Technology; Dimos V. Dimarogonas, KTH, Royal Institute of Technology; Panagiotis Tsiotras, Georgia Institute of Technology

Towards A New Generation Of Relay Autotuners
Josefin Berner, Lund University; Karl Johan Åström, Lund University; Tore Hägglund, Lund University

Optimization-based Modeling Of LPV Systems Using A Frequency-limited H2-objective
Daniel Petersson, Linköpings Universitet; Johan Löfberg, Linköpings Universitet

Control Of Robotic Additive Manufacturing Using A Resistance Process Model
Petter Hagqvist, University West; Almir Heralić, GKN Aerospace Sweden AB; Anna-Karin Christiansson, University West

Friction Identification In Different Mechanical Systems
Szabolcs Fodor, Department of Applied Physics and Electronics, Umeå University; Leonid Freidovich, Department of Applied Physics and Electronics, Umeå University

Control Of An Industrial Hydraulic System: Partial Stability Approach
Carlos Vázquez, Department of Applied Physics and Electronics, Umeå University; Stanislav Aranovskiy, Department of Control Systems and Informatics, ITMO University; Leonid Freidovich, Department of Applied Physics and Electronics, Umeå University

Time-varying Gain Differentiator: High-gain And Second Order Sliding Mode
Carlos Vázquez, Department of Applied Physics and Electronics, Umeå University; Stanislav Aranovskiy, Department of Control Systems and Informatics, ITMO University; Leonid Freidovich, Department of Applied Physics and Electronics, Umeå University

Model Reduction Of Networked Passive Systems By Clustering
Bart Besselink, KTH Royal Institute of Technology; Henrik Sandberg, KTH Royal Institute of Technology; Karl Henrik Johansson, KTH Royal Institute of Technology

14:00-14:45 **Plenary Talk III - Will Machine Learning Change the System Identification Paradigm?** (C4)
Chair: Fredrik Gustafsson

Lennart Ljung, Linköpings universitet

14:45-15:00 **Closing** (C4)