
MED'03 Conference
Program
by Day & by Session

Program by Date

		A	B	C	D
Wednesday 18	8:30 – 10:15	Marine Control	Observers	Power systems & Converters	Robust Control
	10:45 – 11:40	Plenary session I – Control of Networked Embedded Systems <i>by Prof. Panos J. Antsaklis</i>			
	11:45 – 13:00	Force Control	LMI	Vehicle Control	Advances in Multi-Robot Systems
	14:00 – 15:30	Robotics I	Detection & Estimation	Time-Delayed Systems	On the Control Strategies
	16:00 – 17:30	Mobile Robots I	Vision	Drives Control I	Polynomial Design Methods - A New Theoretical Achievement
	17:30 – End of day	Mobile Robots II	Speech Recognition	Drives Control II	Polynomial Design Methods - Applications and Algorithms
Thursday 19	8:30 – 10:15	Robotics II	Nonlinear Control	PID Control	Computational Toolboxes in Control Design
	10:45 – 11:40	Plenary session II – Advances in robotics and mechatronics - from space to surgery <i>by Prof. Gerd Hirzinger</i>			
	11:45 – 13:15	Discrete Event Systems I	Neural Networks	Multiple-Model Systems	Advanced Numerical Methods in System and Control Theory
	14:15 – 15:10	Plenary session III – Control of Networks of Unmanned Vehicles <i>by Prof. Shankar S. Sastry</i>			
	15:15 – 16:30	Discrete Event Systems II	Optimal Control I	Fault Diagnosis	Control of Construction Handling Machinery
	17:00 – 18:00	Flight Control	Optimal Control II	Traffic Control	Control in Medicine
Friday 20	8:30 – 10:00	Discrete Event Systems III	Fuzzy Systems	Computer Aided Design	Internet-Based Human Machine Interaction for Educational Mechatronics Systems
	10:30 – 11:25	Plenary session IV – Hybrid Systems - A Control Engineering Perspective <i>by Prof. Manfred Morari</i>			
	11:30 – 12:30	Aerial Vehicles	Prediction & Data Reconstruction	LPV	Mechatronics Approach in the Design and Operation of Non-Conventional Robots
	13:30 – 15:00	Robotics III	Intelligent Control I	Stability	Modeling, Estimation and Control of Infinite Dimensional Systems - Part I
	15:30 – 17:00	—	Intelligent Control II	Sliding Mode Control	Modeling, Estimation and Control of Infinite Dimensional Systems - Part II

Program by Session

IV02: Advanced Numerical Methods in System and Control Theory

Takes Place: Thursday, 11:45-13:15

Chair(s): A.I. Vardulakis
N.P. Karampetakis

A Numerical Method for the Computation of Proper Denominator Assigning Compensators for Strictly Proper Plants (IV02-01)

Antoniou E. N. *Aristotle University of Thessaloniki*
Vardulakis A.I.G. *Aristotle University of Thessaloniki*

A Resultant Based Computation of the Greatest Common Divisor of Two Polynomials (IV02-05)

Fatouros S. *City University*
Karcianas N. *City University*
Mitrouli M. *University of Athens*

Numerical Accurate Computations for Ellipsoidal State Bounding (IV02-06)

Barraud A. *Laboratoire d'Automatique de Grenoble*
Lesecq S. *Laboratoire d'Automatique de Grenoble*
Tran Dinh K. Q. *Laboratoire d'Automatique de Grenoble*

Numerical Methods for Partial Eigenvalue and Eigenstructure Assignments in Vibrating Structures (IV02-03)

Datta Biswa Nath *Northern Illinois University*
Sarkissian Daniil *Mississippi State University*

Robust Stabilization of Discrete Linear Repetitive Processes with Application to Physical Example (IV02-07)

Galkowski Krzysztof *University of Zielona Gora*
Owens David H. *University of Sheffield*
Paszke Wojciech *University of Zielona Gora*
Rogers Eric *University of Southempton*

Space Time Adaptive Processing Using State-Space Methods and Kalman Filtering (IV02-02)

Binonwangan Martian C. *University of Hawaii at Manoa*
Syrmos Vasillis *University of Hawaii at Manoa*
Wang Xudong *University of Hawaii at Manoa*

IV03: Advances in Multi-Robot Systems

Takes Place: Wednesday, 11:45-13:00

Chair(s): K. Kyriakopoulos
S. Roumeliotis

Analytical Expression for Positioning Uncertainty Propagation in Networks of Robots (IV03-04)

Rekleitis Ioannis *Carnegie Mellon University*
Roumeliotis Stergios *University of Minnesota*

Coordination of Multiple Autonomous Vehicles (IV03-02)

Jadbabaie Ali *University of Pennsylvania*
Pappas George *University of Pennsylvania*
Tanner Herbert G. *University of Pennsylvania*

Decentralized Motion Control of Multiple Mobile Agents (IV03-03)

Kyriakopoulos Kostas J. *National Technical University of Athens*
Zavlanos Michael M. *National Technical University of Athens*

Dispersion of a Team of Surveillance and Reconnaissance Robots Based on Repellent Pheromones (IV03-01)

Hess Christopher *Berea College*
Papanikolopoulos Nikos..... *University of Minnesota*
Pearce Janice L. *Berea College*
Powers Bob *Berea College*
Rybski Paul E..... *University of Minnesota*
Stoeter Sascha A..... *University of Minnesota*

On Distributed Coordination of Mobile Agents with Changing Nearest Neighbors (IV03-05)

Jadbabaie Ali *University of Pennsylvania*

FM2-A: Aerial Vehicles

Takes Place: Friday, 11:30-12:30

Chair(s): Nikos C. Tsourveloudis
George Vachtsevanos

A Hierarchical/Intelligent Control Architecture for Unmanned Aerial Vehicles (T3-022)

Gutierrez Luis *Georgia Institute of Technology*

Heck Bonnie *Georgia Institute of Technology*

Vachtsevanos George *Georgia Institute of Technology*

A UAV Based Automated Airborne Surveillance System (T7-134)

Kontitsis Michael P. *Technical University of Crete*

Tsourveloudis Nikos C. *Technical University of Crete*

Valavanis Kimon P. *Technical University of Crete*

Experimental Testing of a CMG Cluster for Agile Microsatellites (T7-143)

Lappas V.J. *University of Surrey*

Steyn W.H. *University of Stellenbosch*

Underwood C.I. *University of Surrey*

INS Aiding Using Optical Flow - Theory (T7-005)

Pachter Meir *Air Force Institute of Technology*

IV01: Computational Toolboxes in Control Design

Takes Place: Thursday, 8:30-10:15

Chair(s): A.I. Vardulakis
N.P. Karampetakis

A Descriptor Systems Package for MATHEMATICA (IV01-08)

Antoniou E. N. *Aristotle University of Thessaloniki*
Karampetakis N. P. *Aristotle University of Thessaloniki*
Tzekis P. *Aristotle University of Thessaloniki*
Vardulakis A.I.G. *Aristotle University of Thessaloniki*
Vologiannidis S. *Aristotle University of Thessaloniki*

A Polynomial Control Systems Package (IV01-04)

Munro Neil *University of Manchester*

Doing Systems and Control with NCAlgebra, a Symbolic Noncommutative Algebra Toolbox (IV01-03)

De Oliveira M. C. *University of Campinas*
Helton J.W. *University of California at San Diego*

Global Optimization in Rn with Box Constraints and Applications: A Maple Code (IV01-05)

Galperin E.A. *Universite du Quebec a Montreal*
Pineda Miguel D. *UNED, Facultad de Ciencias*

Identification of a Steel Subframe Flexible Structure Using SLICOT System

Identification Toolbox (IV01-07)

Sima Vasile *National Institute for Research & Development in Informatics*

MATLAB Environment for Control of Time-Varying Systems (IV01-06)

Matusu R. *Tomas Bata University*
Prokop Roman *Tomas Bata University*
Prokopova Z. *Tomas Bata University*

MATLAB-Based Toolbox for Analysing Differential Linear Repetitive Processes (IV01-02)

Galkowski Krzysztof *University of Zielona Gora*
Gramacki Artur *University of Zielona Gora*
Gramacki Jaroslaw *University of Zielona Gora*
Owens David H. *University of Sheffield*
Rogers Eric *University of Southampton*

Solving Algebraic Riccati Equations with SLICOT (IV01-01)

Benner Peter *Technische Universitat Berlin*
Sima Vasile *National Institute for Research & Development in Informatics*

FM1-C: Computer Aided Design

Takes Place: Friday, 8:30-10:00

Chair(s): Ivan Masar
Pavol Bistak

An Architecture to Extend the IEC61499 Model for Distributed Control

Applications (T7-122)

Thramboulidis Kleanthis *University of Patras*

An IEC-Compliant Engineering Tool for Distributed Control Applications (T7-108)

Thramboulidis Kleanthis *University of Patras*

Tranoris Christos..... *University of Patras*

Integration of Digital Measuring Technology in Gas Insulated Substations (GIS)

(T7-009)

Gokalp Erdin *Technical University of YILDIZ*

Trabulus Selim *Technical University of YILDIZ*

Organising Tele-Experiments for Control Education (T7-113)

Bistak Pavol *Slovak University of Technology,*

Zakova Katarina *Slovak University of Technology,*

Stochastical Model of Irradiation for the Analysis of the Solar System (T7-130)

Antonic Radovan..... *Split College of Maritime Studies*

Peric Mario *Brodarski Institute*

Tomisa Tomislav *University of Zagreb*

Virtual Laboratory for Real-Time Control of Inverted Pendulum/Gantry Crane

(T7-129)

Bischoff A..... *FernUniversität in Hagen*

Gerke M..... *FernUniversität in Hagen*

HOYER H. *FernUniversität in Hagen*

Ivanov I..... *FernUniversität in Hagen*

Masar I..... *FernUniversität in Hagen*

Rohrig C..... *FernUniversität in Hagen*

TA3-D: Control in Medicine**Takes Place:** Thursday, 17:00-18:00**Chair(s):** Catarina Nunes**A New Application of Fuzzy Neural Network to ECG Recognition Based on Rough Set Theory (T3-021)**Huang Xianming *Beijing University of Technology*Zhang Yanhong *Beijing University of Technology***Fuzzy Control of Mean Arterial Pressure During Anesthesia (T3-012)**Akpolat Zuhtu Hakan *Firat University*Avci Engin *Firat University***Fuzzy Logic to Model the Effect of Surgical Stimulus on the Patient Vital Signs (T3-015)**Linkens Derek A. *University of Sheffield*Mahfouf Mahdi *University of Sheffield*Nunes Catarina *University of Porto*Peacock John E. *Royal Hallamshire Hospital***Integrated Approach for Classification of Cardiotocograms Based on Independent Component Analysis and Neural Networks (T3-032)**Georgoulas George *University of Patras*Groumpos Peter P. *University of Patras*Stylios Chrysostomos *University of Patras*

IV11: Control of Construction Handling Machinery

Takes Place: Thursday, 15:15-16:30

Chair(s): M. Abderrahim

Adaptation Control Technique of Overhead Crane Mechanisms (IV11-01)

Schab Jakub *University of Krakow*

Smoczek Jarosław *University of Krakow*

Szpytko Janusz *University of Krakow*

Anti-Swinging Input Shaping Control of an Automatic Construction Crane (IV11-03)

Abderrahim Mohamed *University Carlos III of Madrid*

Balaguer C. *University Carlos III of Madrid*

Garrido S. *University Carlos III of Madrid*

Gimenez A. *University Carlos III of Madrid*

Developments toward an Autonomous Robotic Crane for Automated Steel Construction (IV11-02)

Lytle Alan M. *NIST*

Saidi Kamel S. *NIST*

Scott Nicholas A. *NIST*

Stone William C. *NIST*

Input Shaping Curriculum: Integrating Interactive Simulations and Experimental Setups (IV11-05)

Forest C. *Georgia Institute of Technology*

Frakes D. *Georgia Institute of Technology*

Huey John *Georgia Institute of Technology*

Lawrence J. *Georgia Institute of Technology*

Singhose William E. *Georgia Institute of Technology*

Rapid Prototyping of Overhead Cranes Control Procedures (IV11-06)

Szpytko Janusz *University of Krakow*

Tension Control and Force Estimation for Hybrid Drive Parallel Arm (IV11-04)

Arai Tatsuo *University of Osaka*

Inoue Kenji *University of Osaka*

Mae Yasushi *University of Osaka*

WA1-B: Detection & Estimation**Takes Place:** Wednesday, 14:00-15:30**Chair(s):** Petros Ioannou
Umberto Soverini**A Class of Numerical Algorithms for Efficient Approximation of Maximum Entropy Estimates of Probability Density Functions (T7-016)**Balestrino A..... *University of Pisa*Caiti Andrea *University of Pisa*Noe A..... *University of Pisa*Parenti F. *University of Pisa***Applying Orthogonal Rational Signal Representations in System Change Detection (T7-101)**Bokor Jozsef..... *Hungarian Academy of Sciences*Schipf Ferenc *Eotvos Lorand University of Budapest*Soumelidis Alexandros *Hungarian Academy of Sciences***Estimation Error in Adaptive Prediction of Hidden Markov Processes (T5-013)**Gerencser Laszlo *Hungarian Academy of Sciences*Molnar-Saska Gabor *Hungarian Academy of Sciences***Identification of the Continuous-Time Transfer Function of a System from Sampled Data Measurements with Application to Disk Drives (T7-139)**Ioannou Petros..... *University of Southern California*Xu Haojian *University of Southern California***Kalman Filtering in Symmetrical Noise Environments (T7-089)**Diversi Roberto..... *University of Bologna*Guidorzi Roberto *University of Bologna*Soverini Umberto *University of Bologna***Stability Results for Discrete Systems Controlled in the Presence of Interrupted Observations (T7-137)**Dionisio Rui *Instituto Politecnico de Setubal*Lemos J.M. *Instituto Superior Tecnico*

TM2-A: Discrete Event Systems I

Takes Place: Thursday, 11:45-13:15

Chair(s): Carlos Bispo
Christos Panayiotou

Aliasing Probability Calculations in Testing Sequential Circuits (T4-015)

Athanasopoulou Eleftheria *University of Illinois at Urbana-Champaign*
Hadjicostis Christoforos *University of Illinois at Urbana-Champaign*

Blocking Phenomena Analysis for Discrete Event Systems with Failures or Preventive Maintenance Schedules (T4-008)

Lewis Frank L. *ARRI, University of Texas at Arlington*
Mireles Jose *Universidad Autónoma de Ciudad Juárez*

Control of State Tree Structures (T4-005)

Ma Chuan *University of Toronto*
Wonham W. M. *University of Toronto*

Performance Improvement through Active Idleness (T4-013)

Bispo Carlos *Instituto Superior Tecnico*
Moreira Jose *Agilent Technologies*

Perturbation Analysis of Stochastic Fluid Models with Respect to the Fluid Arrival Process (T7-034)

Cassandras C.G. *Boston University*
Panayiotou Christos *University of Cyprus*
Sun G. *Boston University*

Some Results on Identification of Timed Event Graphs in Dioids (T4-009)

Hardouin L. *Universit' e d'Angers*
Maia Carlos *Universida de Federal de Minas Gerais*
Santos-Mendes R. *Universidade Estadual de Campinas*

TA2-A: Discrete Event Systems II

Takes Place: Thursday, 15:15-16:30

Chair(s): Octavian Pastravanu
Knut Akesson

An Architecture of Equipment Connectivity in an e-Business Environment (T7-022)

Qiu Robin G. *Penn State University*

Ye Sue X. *GL AgilityTech, Inc.*

Automatic Control and Regulation for Power Load in Manufacturing Process (T7-074)

Liu Jiachen *the State University of New Jersey*

Liu Jiali *Tsinghua University*

Song Jin *Stevens Institute of Technology*

Longitudinal Ventilation Control System in Road Tunnels (T7-063)

Horvat Jasna *Koncar*

Jelusic R. *Koncar*

Peric Nedjeljko *University of Zagreb*

Petrovic Ivan *University of Zagreb*

Petri Net Toolbox for MATLAB (T4-006)

Mahulea Cristian *Technical University "Gh. Asachi" of Iasi*

Matcovschi Mihaela-Hanako *Technical University "Gh. Asachi" of Iasi*

Pastravanu Octavian *Technical University "Gh. Asachi" of Iasi*

Supremica - A Tool for Verification and Synthesis of Discrete Event Supervisors (T4-014)

Akesson Knut *Chalmers University of Technology*

Fabian Martin *Chalmers University of Technology*

Flordal Hugo *Chalmers University of Technology*

Vahidi Arash *Chalmers University of Technology*

FM1-A: Discrete Event Systems III

Takes Place: Friday, 8:30-10:00

Chair(s): Vassilis Kouikoglou
John Baras

Coordinated Admission and Inventory Controls in a Make-to-Stock Production System (T4-002)

Ioannidis Stratos *Technical University of Crete*

Kouikoglou Vassilis *Technical University of Crete*

Implementation of Fuzzy Cognitive Maps for Production Planning of Plant Control Systems (T4-017)

Christova Nikolinka *University of Patras*

Groumpos Peter P. *University of Patras*

Stylios Chrysostomos *University of Patras*

Invertible Planning and Non-Cooperative Equilibrium Strategies in Multi-Agent Planning (T4-012)

Galuszka Adam *Silesian University of Technology*

Swierniak Andrzej *Silesian University of Technology*

Markov Processes with State-Dependent Failure Rates and Application to RED and TCP Window Dynamics (T4-011)

Baras John *University of Maryland*

Misra Archan *IBM Research*

Ott Teunis *New Jersey Institute for Technology*

Performance Sensitivities for Parameterized Systems (T7-062)

Cao Xi-Ren *Hong Kong University of Science and Technology*

Zhang Junyu *Hong Kong University of Science and Technology*

The Inventory Problem: A Dynamic Programming Approach (T6-009)

Berovic Daniel *Imperial College of Science Technology and Medicine*

Vinter R. *Imperial College of Science Technology and Medicine*

WA2-C: Drives Control I

Takes Place: Wednesday, 16:00-17:30

Chair(s): Milan S. Matijevic
Petru Dobra

Analysis on the Influence of Backlash and Motor Input Voltage in Geared Servo System (T1-010)

Baek J. H. *LG Innotek Co., Ltd*
Kim S. H. *Korea Advanced Institute of Science and Technology*
Kwak Y.K. *Korea Advanced Institute of Science and Technology*

Application of Internal Models in the Design of Digitally Controlled Electrical Drives (T7-119)

Matijevic Milan S. *University of Kragujevac*
Stefanovic Miladin Z. *University of Kragujevac*
Stojic Milic R. *University of Belgrade*

Applying Intelligent Controllers for Speed Regulation of DC Motors (T3-016)

Hashemi-Hosseini Arash *Tehran University*
Rashidi Farzan *Tehran University*
Rashidi Mehran *Hormozgan University*

Discrete Time Reaching Law Speed Control of DC Motor Drives (T1-006)

Akpolat Zuhtu Hakan *Firat University*
Altinors Ayhan *Firat University*

Experimental and Simulation Results of an Bimotor Electric Vehicle (T7-124)

Esteves Jorge *Instituto Superior Técnico*
Foito Daniel *Instituto Politécnico de Setúbal*
Maia Jose *Instituto Politécnico de Setúbal*

Robust PID Control BLDC Motor via State Feedback Design (T7-106)

Dobra Petru *Technical University of Cluj*

WA3-C: Drives Control II

Takes Place: Wednesday, 17:30-18:30

Chair(s): Milan S. Matijevic
Petru Dobra

A New Continuous Time Adaptive Backlash Inverse Controller and Applications to Output Backlash Compensation (T1-003)

Ahmad Nizar *College of Technological Studies*
Al-Mumin Mohammed *College of Technological Studies*
Zerai Adel A..... *College of Technological Studies*

New Approach for Induction Motor Parameters Estimation (T7-105)

M'Saad M..... *LAP, ISMRA*
Massieu J.F..... *LAP, ISMRA*
Pouliquen M..... *LAP, ISMRA*
Rossignol Laure..... *LAP, ISMRA*

PR-Sliding Sectors for Continuous and Discrete Control of an Induction Motor (T7-076)

Hamerlain M..... *Centre de Développement des Technologies Avancées*
Midoun-Oussedik Amel *Centre de Développement des Technologies Avancées*

TA2-C: Fault Diagnosis

Takes Place: Thursday, 15:15-16:30

Chair(s): Kostas Kyriakopoulos
Stojan Persin

Analitical Redundancy for Better Safety Features – an Example of Boiler (T7-035)

Persin Stojan *University of Maribor*
Tovornik Boris *University of Maribor*

Error Control Schemes in Wireless Broadband Networks (T7-116)

Makris Kostantinos *National Technical University of Athens*
Theologou Micahel E. *National Technical University of Athens*
Vergados Dimitrios D. *National Technical University of Athens*

Intelligent Diagnostic for Sensor Arrays (T7-140)

Gaura Elena *Coventry University*
Newman Robert M. *Coventry University*

Model Based Fault Diagnosis of Hybrid Systems Based on Hybrid Structure Hypothesis Testing (T7-111)

Fourlas George *National Technical University of Athens*
Krikelis N. J. *National Technical University of Athens*
Kyriakopoulos Kostas J. *National Technical University of Athens*

Vehicle Health Monitoring System Using Multiple-Model Adaptive Estimation (T5-006)

Binonwangan Martian *University of Hawaii at Manoa*
Syrmos Vasilis *University of Hawaii at Manoa*
Wang Xudong *University of Hawaii at Manoa*

TA3-A: Flight Control

Takes Place: Thursday, 17:00-18:00

Chair(s): Mikulas Huba
John Lygeros

Design of a Flight Control System for a Non-Minimum Phase 5 DOF Aircraft Model (T7-002)

Al-Hiddabi Saif *Sultan Qaboos University*

Minimum Cost Optimal Control: an Application to Flight Level Tracking (T7-132)

Lygeros John *University of Cambridge*

SimModHeli: A Dynamic Simulator for Model-Scale Helicopters (T7-069)

Cunha Rita *Instituto Superior Tecnico*

Silvestre C. *Instituto Superior Tecnico*

The Helicopter Rack Control (T7-094)

Huba Mikulas *Slovak University of Technology in Bratislava*

Karas Milos *Slovak University of Technology in Bratislava*

Velicko Viktor *Slovak University of Technology in Bratislava*

WM2-A: Force Control

Takes Place: Wednesday, 11:45-13:00

Chair(s): Laura Menini
Dimitrios Dimogianopoulos

Experimental Results on the Control of Cooperative Robots without Velocity Measurements (T2-036)

Arteaga Marco A. *Universidad Nacional Autonoma de Mexico*

Generalized Cooperative Impedance Control of Dual-Arm for Assembly Task (T2-007)

Bouzouia B. *Centre de Développement des Technologies Avancées*

Derragui N. *Centre de Développement des Technologies Avancées*

Kadri Mohamed *Centre de Développement des Technologies Avancées*

Hybrid Force Control for Parallel Manipulators (T2-010)

Assuncao Ventura *Technical University Braunschweig*

Schumacher Walter *Technical University Braunschweig*

On Velocity Observers for a Planar Robot Subject to Non-Smooth Impacts (T2-022)

Galeani Sergio *Universita di Roma Tor Vergata*

Menini Laura *Universita di Roma Tor Vergata*

Tornambe Antonio *Universita di Roma*

Robot Force Control: Some Comments on System Convergence (T2-021)

Dimogianopoulos Dimitrios *University of Patras*

Zotovic R. *Universidad Politécnica de Valencia*

FM1-B: Fuzzy Systems

Takes Place: Friday, 8:30-10:00

Chair(s): Chrysostomos Stylios
Marian Barbu

Dynamic Focusing of Awareness in Fuzzy Control Systems (T3-004)

Kuljaca Ognjen *ARRI, University of Texas at Arlington*

Lewis Frank L. *ARRI, University of Texas at Arlington*

Fuzzy Linear Matrix Inequalities (LMI) Control of a Rectangular Thermal Convection Loop (T3-026)

Muscato Giovanni..... *Universita degli Studi di Catania*

Xibilia Maria Gabriella . *Universita di Messina*

Improved Prediction of Industrial Yield Based on Tools from a Normed Linear Space of Fuzzy Interval Numbers (FINs) (T3-018)

Kaburlasos Vassilis G. *Technological Educational Institute of Kavala*

Petridis Vasilios *Aristotle University of Thessaloniki*

Multi Criteria Decision Making Using Dynamics of Criteria (T3-013)

Jassbi Javad *I.A.U*

Khanmohammadi S. *I.A.U.*

Ribeiro R.A. *Unversidade Lusiada*

Self-Tuning of PI Controllers Using Fuzzy Techniques (T3-028)

Barbu Marian *University of Galati*

Caraman Sergiu *University of Galati*

Ceanga Emil *University of Galati*

Stability Analysis Method for Fuzzy Cognitive Maps (T3-033)

Ermolov Ivan..... *MSTU STANKIN*

Groumpos Peter P. *University of Patras*

Martchenko Ana *MSTU STANKIN*

Poduraev Jury *MSTU STANKIN*

Stylios Chrysostomos.... *University of Patras*

FA1-B: Intelligent Control I

Takes Place: Friday, 13:30-15:00

Chair(s): Joze Balic
Alex Alexandridis

Cyclic Loading of Low Carbon Cold Drawn Wires - the Possibility to Stabilize the Yield Stress (T7-021)

Kuzman K..... *University of Ljubljana*

Nastran Miha..... *University of Ljubljana*

Empirical Emulators for Process Monitoring and Optimization (T7-059)

Adams Bryan *The Dow Chemical Company*

Kalos Alex..... *The Dow Chemical Company*

Kordon Arthur K. *The Dow Chemical Company*

Modeling of Continuous Digesters Using Adaptive RBF Neural Network Models (T3-027)

Alexandridis Alex..... *National Technical University of Athens*

Bafas George *National Technical University of Athens*

Sarimveis Haralambos *National Technical University of Athens*

Neural Network Based CNC Control of Machine Tools (T3-010)

Balic Joze *University of Maribor*

Neural Networks Application in an AISI 304L Intergranular Corrosion Resistance Analysis (T3-025)

Iacoviello D. *Universita di Roma "La Sapienza"*

Iacoviello Francesco..... *Universita di Cassino*

Macario M..... *Universita di Cassino*

Real Time Supervising of the Primary Cooling System for the Continuous Casting Installations Using Artificial Intelligence Techniques (T3-029)

Barbu Marian *University of Galati*

Ceanga Emil *University of Galati*

Gheorghiu C..... *University of Galati*

FA2-B: Intelligent Control II

Takes Place: Friday, 15:30-17:00

Chair(s): Gerhard Geiger
Jose Antonio Martinez

A Behavioral Feedback Model for Financial Markets (T7-103)

Gerencser Laszlo *Hungarian Academy of Sciences*

Matyas Zalan *Hungarian Academy of Sciences*

A Modified Adaptive Fuzzy Control System Algorithm (T3-008)

Asran A. S. *Arab Academy for Science & Technology*

El-Geneidy M. M. *University of Alexandria*

Emotional Temporal Difference Learning Based Intelligent Controller (T3-019)

Abdi Javad *University of Tehran*

Rashidi Farzan *Tehran University*

Extending Classical Pipeline Models with Neural Nets (T7-006)

Geiger Gerhard *Fachhochschule Gelsenkirchen*

Matko Drago *University of Ljubljana*

Werner Thomas *Fachhochschule Gelsenkirchen*

Fuzzy Modelling and Control of Marine Diesel Engine Process (T3-023)

Antonic Radovan *Split College of Maritime Studies*

Kuljaca Ljubomir *University of Zagreb*

Vukic Zoran *University of Zagreb*

Virtual Thermal Sensors for a Spacecraft (T7-104)

Donati Alessandro *European Space Operations Centre*

Martinez-Heras Jose Antonio *European Space Operations Centre*

IV12: Internet-Based Human Machine Interaction for Educational Mechatronics Systems

Takes Place: Friday, 8:30-10:00

Chair(s): M. Abderrahim

An Online Robot Educational Project (IV12-07)

Baker Duncan I. *The University of Reading*

Gatward Andrew *The University of Reading*

McKee Gerard *The University of Reading*

Metrics for QoS in Real-Time Interaction over the Internet (IV12-03)

Gillet Denis *School of Engineering EPFL*

Salzmann Christophe *School of Engineering EPFL*

Multicast Approach for Building Web-Based Educational Environment: Mobile Robotics Lab as a Case Study (IV12-06)

Khamis A. *Carlos III University of Madrid*

Salichs M. *Carlos III University of Madrid*

Urbano F. *Carlos III University of Madrid*

Navigation Experiments with Mobile Outdoor Rovers via Internet (IV12-04)

Meng Qinghao *University of Applied Sciences FH Ravensburg-Weingarten*

Schilling Klaus *University of Applied Sciences FH Ravensburg-Weingarten*

Shankar Priya Rajesh *University of Applied Sciences FH Ravensburg-Weingarten*

Remote Experimentation in Control Engineering (IV12-01)

Schmid Christian *Institute of Automation and Computer Control (ATP)*

Wireless Communication Data Link Protocol for Cooperating and Tele-Operated Mobile Robots (IV12-05)

Perez Vernet Mónica *University of Würzburg*

WM2-B: LMI**Takes Place:** Wednesday, 11:45-13:00**Chair(s):** Takahiko Ono
Fabien Claveau**Decentralized Control for Winding Systems: Which Incidence on Reachable Performances?** (T7-099)Chevrel P. *Ecole des Mines de Nantes*
Claveau Fabien *IRCCyN*
Knittel D. *University of Strasbourg I*
Yagoubi M. *Ecole des Mines de Nantes***Eigenvalue Assignment with Spectral Condition Number Optimization by Static Output Feedback** (T7-014)Carotenuto L. *Universita degli Studi della Calabria*
Franze Giuseppe *Universita degli Studi della Calabria***Partial Eigenstructure Assignment by State Feedback: an LMI Approach** (T7-026)Benzaouia Abdellah *Faculty of Science Semlalia*
El Faiz S. *Faculty of Science Semlalia***Selection of the Initial Controllers in Design of the Critical Control Systems** (T7-073)Inooka Hikaru *Tohoku University*
Ishihara Tadashi *Tohoku University*
Ono Takahiko *Tohoku University***The Regulator Problem for Linear Systems with Constrained Control: an LMI Approach** (T7-025)Benzaouia Abdellah *Faculty of Science Semlalia*
El Faiz E. *Faculty of Science Semlalia*

FM2-C: LPV

Takes Place: Friday, 11:30-12:30

Chair(s): Fredrik Bruzelius

Toshio Eisaka

A New Approach to Stochastic Causal System Continualization (T7-102)

Arnost Rene *University of West Bohemia*

Zampa Pavel *University of West Bohemia*

All Quadratically Stabilizing Controllers for Polytopic LPV Systems (T7-082)

Eisaka Toshio *Kitami Institute of Technology*

Induced L2-Gain Domain for LPV-Gain Scheduled Control Systems (T5-010)

Breitholtz Claes *Chalmers University of Technology*

Bruzelius Fredrik *Chalmers University of Technology*

Pettersson Stefan *Chalmers University of Technology*

Inversion of LPV Systems (T7-083)

Balas G *University of Minnesota*

Bokor Jozsef *Hungarian Academy of Sciences*

Szabo Zoltan *Hungarian Academy of Sciences*

WM1-A: Marine Control

Takes Place: Wednesday, 8:30-10:15

Chair(s): Guy Beale
Zoran Vukic

An Onboard Mission Replanning System for Autonomous Underwater Vehicles
(T8-002)

Pfuetzenreuter Torsten..... *Ilmenau Technical University*

Control of an Underactuated Underwater Robotic Manipulator (T2-030)

Di Giamberardino Paolo *University of Rome "La Sapienza"*

Sabbadini F. *University of Rome "La Sapienza"*

Controller Reconfiguration for Stern Plane Jams in Underwater Vehicles (T7-055)

Beale Guy *George Mason University*

Shahid Mian Zainularafeen *George Mason University*

Nonlinear Filtering for a Nonlinear Vision-Based System for the Relative Tracking of Two Marine Vehicles (T8-001)

Athans Michael..... *Instituto Superior Tecnico*

Chareyron Sophie *INRIA Rhone-Alpes*

On the Design of an Autonomous Robot Fish (T8-004)

Papadopoulos Evangelos..... *National Technical University of Athens*

Triantafyllou George *National Technical University of Athens*

Tzeranis Dimitrios *National Technical University of Athens*

Research on Dynamic Lift Coefficient of Lift Feedback FIN Stabilizer and Its PIDNN Controller (T7-027)

Chen Fang *Harbin Engineering University*

Jin Hongzhang *Harbin Engineering University*

Yao Xuliang *Harbin Engineering University*

Zhang Haipeng *Harbin Engineering University*

Scope and Application of Reconfigurable Control (T8-003)

Antonic Radovan..... *Split College of Maritime Studies*

Bakaric Vedran..... *Brodarski institut*

Vukic Zoran *University of Zagreb*

IV06: Mechatronics Approach in the Design and Operation of Non-Conventional Robots

Takes Place: Friday, 11:30-12:30

Chair(s): G. Conte

Design and Control of an Anthropometric Robotic Leg (IV06-03)

Guccione S. *Dipartimento di Ingegneria Elettrica Elettronica e dei Sistemi*

Muscato Giovanni..... *Universita degli Studi di Catania*

Spampinato G..... *Dipartimento di Ingegneria Elettrica Elettronica e dei Sistemi*

Design and Operation of a Quadrupedal Robot (IV06-04)

Conte G..... *University of Ancona*

Scaradozzi D. *University of Ancona*

Suardi A..... *University of Ancona*

Mechatronic Design of a Parallel Robot for High-Speed, Impedance-Controlled Manipulation (IV06-01)

Bruzzone L. *University of Genova*

Molfino R.M. *University of Genova*

Zoppi M..... *University of Genova*

On the Force-Controlled Assembly Operations of a New Parallel Kinematics Manipulator (IV06-02)

Callegari M..... *University of Ancona*

Suardi A..... *University of Ancona*

WA2-A: Mobile Robots I

Takes Place: Wednesday, 16:00-17:30

Chair(s): Nikos Papanikolopoulos
Alfredo Weitzenfeld

A Control System for Teams of Off-the-Shelf Scouts and MegaScouts (T2-018)

Burt Ian *University of Minnesota*
Jackson Bennett *University of Minnesota*
Kratochvil Bradley *University of Minnesota*
Papanikolopoulos Nikos *University of Minnesota*

A New Approach to Decentralized Conflict Resolution and Utilizing GA in Path Planning for a Novel Map Representation in Evolutionary Multi-Agent Systems Due to Team Learning (T2-003)

Javadi Amir H. *Azad University of Qazvin*
Mojabi Puyan *Iran University of Science and Technology*

Embedded Mobile Systems: From Brain Theory to Neural-Based Robots (T2-029)

Weitzenfeld Alfredo *ITAM*

Fuzzy-Sugeno Lateral Tyre Modelling of a Mobile Robot (T2-017)

Economou John *Cranfield University*
Luk P.C.K. *Cranfield University*
Tsourdos A. *Cranfield University*
White B.A. *Cranfield University*

Optimization By Simulated Annealing of the Power Necessary to a Mobile Manipulator (T2-005)

Ali Yousnadj *Military Polytechnic School*
Moussa Haddad *Military Polytechnic School*

Visualized Simulation of Off-Tracking Elimination in the n-Trailer Problem (T7-052)

Davrazos Gregory *University of Patras Rio*
Deligiannis Vassilios *University of Patras Rio*
Koussoulas Nick *University of Patras Rio*
Manesis Stamatis *University of Patras Rio*

WA3-A: Mobile Robots II

Takes Place: Wednesday, 17:30-18:30

Chair(s): Nikos Papanikolopoulos
Alfredo Weitzenfeld

Artificial Potential Field Approach to Path Tracking for a Non-Holonomic Mobile Robot (T2-011)

Sorensen Mathias Jesper ... *Aalborg University*

Introducing Climax: A Novel Strategy to a Tri-Wheel Spiral Robot (T2-002)

Javadi Amir H. *Azad University of Qazvin*

Mojabi Puyan. *Iran University of Science and Technology*

Unicycle Vision Based Path Following Control (T2-028)

Lapierre Lionel. *Instituto Superior Tecnico*

Pascoal Antonio *Instituto Superior Tecnico*

Soetanto D.J. *Instituto Superior Tecnico*

IV08-09: Modelling, Estimation and Control of Infinite Dimensional Systems - Part I

Takes Place: Friday, 13:30-15:00

Chair(s): M.A. Demetriou

Control of Fluid Flow in the Vertical Bridgman Crystal Growth Process (IV09-01)

Daoutidis Prodromos *University of Minnesota*

Derby Jeffrey *University of Minnesota*

Sonda Paul *University of Minnesota*

Yeckel Andrew *University of Minnesota*

Control of Unsteady Electromagnetic Acceleration in Parallel Plate Channels (IV08-04)

Demetriou Michael A. *Worcester Polytechnic Institute*

Gatsonis Nikolaos A. *Worcester Polytechnic Institute*

Numerical Stability of Green-Galerkin Thermal Control Method in Infinite Dimensional Dynamic Systems (IV09-02)

Alaeddine Tarek *Tufts University*

Doumanidis Haris *National Science Foundation*

On Actuators/Sensors Placement for Collocated Flexible Plates (IV08-01)

Caruso G. *Univ. Roma Tor Vergata*

Galeani Sergio *Universita di Roma Tor Vergata*

Menini Laura *Universita di Roma Tor Vergata*

On the Boundary Control of Passive Infinite Dimensional Systems (IV08-03)

Morgul Omer *Bilkent University*

On the Determination of Moving Sensor Policies for Parameter Estimation of Distributed Parameter Systems (IV08-02)

Ucinski Dariusz *University of Zielona Góra*

IV09-10: Modelling, Estimation and Control of Infinite Dimensional Systems - Part II

Takes Place: Friday, 15:30-17:00

Chair(s): M.A. Demetriou

An Approach to Stochastic Distributed Systems with Fractional Brownian Motion

(IV10-03)

Duncan T.E..... *University of Kansas*

Maslowski B..... *Academy of Sciences of Czech Republic*

Pasik-Duncan B..... *University of Kansas*

Burgers Model of Turbulence: Probabilistic Representations, Free Energy and Large Deviations (IV10-04)

Charalambous C.D..... *University of Ottawa*

Djouadi S.S..... *University of Arkansas at Little Rock*

Coarse Computation: Enabling Microscopic Simulators to Perform System Level Tasks (IV09-04)

Kevrekidis Yannis..... *Princeton University*

Convergence Results for Continuous Descent Methods (IV10-01)

Aizicovici Sergiu

Reich Simeon..... *The Technion-Israel Institute of Technology*

Zaslavski Alexander *The Technion-Israel Institute of Technology*

Implementation of Numerical Approximations of Control of the Schrodinger Equation with MATLAB (IV09-03)

Kime Katherine..... *University of Nebraska at Kearney*

Recent Results on Reciprocals of Well-Posed Linear Systems (IV10-02)

Curtain Ruth F..... *University of Groningen*

TM2-C: Multiple-Model Systems

Takes Place: Thursday, 11:45-13:15

Chair(s): Munther Dahleh
Anastasios Trontis

A Hybrid Automata Modell of TCR Triggering Dynamics (T7-096)

Athans Michael..... *Instituto Superior Tecnico*
Carneiro Jorge..... *Gulbenkian Institute of Science*
Lima Pedro *Instituto Superior Tecnico*
Milutinovic DEJAN *Instituto Superior Tecnico*

An Information Theoretic Approach to the Statistical Learning of a Class of Hybrid Systems (T7-110)

Dahleh Munther A..... *Massachusetts Institute of Technology*
Martins Nuno *Massachusetts Institute of Technology*

Decentralized Variable Structure Control for Interconnected Systems with Mismatched Uncertainties (T1-011)

Jing Yuan-wei..... *Northeastern University*
Li Hua *Northeastern University*
Zhang Si-ying *Northeastern University*

Identification of Mass-Spring-Dashpot Systems Using Multiple-Model Adaptive Estimation (MMAE) Algorithms (T5-014)

Athans Michael..... *Instituto Superior Tecnico*
Fekri Sajjad..... *Instituto Superior Tecnico*
Pascoal Antonio *Instituto Superior Tecnico*

On the Control Synthesis for Target Problems in Continuous and Hybrid Systems Using Level Set Methods (T7-045)

Spathopoulos Michael P. *University of Strathclyde*
Trontis Anastasios..... *University of Strathclyde*

Stability of Switching Controlled Chained Systems Based on Time-State Control Form (T7-081)

Fujimoto Hideo *Nagoya Institute of Technology*
Yamakawa Satoko *Nagoya Institute of Technology*

TM2-B: Neural Networks

Takes Place: Thursday, 11:45-13:15

Chair(s): Evelio Gonzalez
Georgios Yannakakis

A Planning for Neural Networks Teaching in Control Using a Java-Based Toolkit (T3-009)

Aguilar R.M. *University of La Laguna*
Gonzalez Evelio *University of La Laguna*
Hamilton Alberto *University of La Laguna*
Marichal Roberto L. *University of La Laguna*
Moreno Lorenzo *University of La Laguna*

Adaptive Control for Nonlinear Multivariable Systems Using a Single-Layer Neural Network and Conventional Linear Controller (T5-001)

Al-Zohary T. A. *Al_Azhar University*
Wahdan A. M. *Ain Shams University*

Evenet2000 as Software Application for System Identification and Control (T3-005)

Gonzalez Evelio *University of La Laguna*
Hamilton Alberto *University of La Laguna*
Marichal Roberto L. *University of La Laguna*
Moreno Lorenzo *University of La Laguna*

Hybrid Modeling Based Adaptive Neural Controller (T3-030)

Andrasik Anton *Slovak University of Technology*
de Azevedo Sebastiao Feyeo ... *University of Porto*
Meszaros Alois *Slovak University of Technology*

Nearly Optimal Control Laws for Nonlinear Systems with Saturating Actuators Using a Neural Network HJB Approach (T3-014)

Abu-Khalaf Murad *ARRI, University of Texas at Arlington*
Lewis Frank L. *ARRI, University of Texas at Arlington*

Performance, Robustness and Effort Cost Comparison of Machine Learning Mechanisms in FlatLand (T7-065)

Hallam John *University of Southern Denmark*
Levine John *The University of Edinburgh*
Papageorgiou Markos *Technical University of Crete*
Yannakakis Georgios *The University of Edinburgh*

TM1-B: Nonlinear Control

Takes Place: Thursday, 8:30-10:15

Chair(s): Yannis Kevrekidis
Pavel Prautsch

Adaptive Control Law for Uncertain System with Static Nonlinearity (T5-012)

Bobtsov Alexey..... *St.-Petersburg State Technical University*

Romasheva Darina..... *St.-Petersburg State Technical University*

Coarse Bifurcation Diagrams via Microscopic Simulators: A State-Feedback Control-Based Approach (T7-097)

Kevrekidis Yannis..... *Princeton University*

Maroudas Dimitrios *University of Massachusetts Amherst*

Siettos Constantinos *Princeton University*

Nonlinear Resonance Jump in Turbine Governor Positioning System (T1-017)

Horvat Krunoslav *Brodarski Institute*

Kuljaca Ljubomir..... *University of Zagreb*

Kuljaca Ognjen *ARRI, University of Texas at Arlington*

On Transformation of Nonholonomic Systems to Time-State Control Form (T7-114)

Mita Tsutomu..... *Tokyo Institute of Technology*

Prautsch Pavel *University of West Bohemia*

Separation Principle for a Class of Non-Linear Systems (T1-014)

Cerny Vaclav *University of West Bohemia*

Hrusak Josef *University of West Bohemia*

Suboptimal Control of a One-Dimensional Nonlinear Heat Equation Using POD and θ - D Techniques (T7-112)

Balakrishnan S. N..... *University of Missouri - Rolla*

Padhi Radhakant *University of Missouri - Rolla*

Xin Ming *University of Missouri - Rolla*

Two-Layer Control of an Ion Exchange Process for Desalination of Water (T7-095)

Tzoneva Raynitchka *Peninsula Technikon*

WM1-B: Observers

Takes Place: Wednesday, 8:30-10:15

Chair(s): Anastasia Papavasiliou
Patrick H. Menold

About Optimality of Discrete-Time LQ Observer Based Regulator (T6-008)

Gessing Ryszard *Politechnika Slaska*

Adaptive Biomass Observer on the Basis of Measurements of Oxygen (T7-051)

Ignatova Maya *Bulgarian Academy of Sciences*

Adaptive Estimation of Partially Observed Nonlinear Stochastic Systems (T1-013)

Papavasiliou Anastasia *Columbia University*

Finite Time Convergent Observers for Linear Time-Varying Systems (T7-078)

Allgower Frank *Universitat Stuttgart*

Findeisen Rolf *Universitat Stuttgart*

Menold Patrick H. *Universitat Stuttgart*

Quantization Effect Influences Identification in Adaptive LQ Controller (T5-003)

Pivonka Petr *Brno University of Technology*

Svancara Kamil *Brno University of Technology*

Robust Identification of AR Models Based on Empirical Risk Minimization (T5-015)

Filipovic Vojislav *RCT*

Unknown Inputs, Robust State Observation for Parameter Dependent Linear Systems (T7-012)

Conte G. *Universita' di Ancona*

Guidone Peroli G. *Universita' di Ancona*

Perdon A.M. *Universita' di Ancona*

IV07: On the Control Strategies

Takes Place: Wednesday, 14:00-15:30

Chair(s): P. Zagalak

Algorithms for Control of a Rotating Pendulum (IV07-03)

Ernest Petr *Czech Technical University in Prague*

Horacek Petr *Czech Technical University in Prague*

Approximate Solutions to Root Clustering Problem (IV07-05)

Fatouros S. *CITY UNIVERSITY LONDON*

Karcianas N. *CITY UNIVERSITY LONDON*

Mitrouli M. *University of Athens*

Learning Through Gradient-Type Reinforcement for N-Person Repeated Constrained Games: Counter-Coalition Space Approach (IV07-04)

Godoy-Alcantar Martin *CINVESTAV-IPN*

Gomez-Ramirez Eduardo *Universidad La Salle*

Poznyak Alexander S. *CINVESTAV-IPN*

On the Control of an Uncertain Rigid Body Dynamics (IV07-06)

Fliess Michel *Laboratoire GAGE*

Sira-Ramirez Hebertt *Cinvestav-IPN*

Robust Control of an Underactuated Planar 2R Manipulator (IV07-02)

Alvarez-Gallegos Jaime *CINVESTAV-IPN*

Castro-Linares Rafael *CINVESTAV-IPN*

Rosas-Flores J. Alfredo *UPIITA-IPN*

Some Remarks on the Problem of Model Matching By State Feedback (IV07-01)

Duarte-Mermoud Manuel A. *University of Chile*

Torres-Munoz Jorge A. *CINVESTAV del IPN*

Zagalak Petr *Academy of Sciences of the Czech Republic*

TA2-B: Optimal Control I**Takes Place:** Thursday, 15:15-16:30**Chair(s):** John Baras
Marcel Sidi**A New Adaptive Aggregation Algorithm for Infinite Horizon Dynamic Programming** (T7-043)Baras John *University of Maryland*Zhang Chang *University of Maryland***Loop-Gain Optimization of NMP-Unstable Plants** (T6-007)Sidi Marcel *Holon Academic Institute of Technology***Minimax Linear-Quadratic Control Problems for Descriptor Systems with Properly Stated Leading Term** (T7-100)Kurina Galina *Voronezh State Forestry Academy***Performance Limitations of Discrete-Time Systems in Tracking Sinusoidal Signals** (T7-018)Chen Jie *University of California*Qiu Li *Hong Kong University of Science and Technology*Su Weizhou *Hong Kong University of Science and Technology***Research of Multi-Level Optimization Algorithm in Large-Scale System** (T6-001)Kun Qian *The Air Force Engineering University*Meiyan Gao *The Air Force Engineering University*Shousheng Xie *The Air Force Engineering University***TA3-B: Optimal Control II****Takes Place:** Thursday, 17:00-18:00**Chair(s):** John Baras
Marcel Sidi**Controlled Lyapunov-Exponents with Application in Optimization, Finance and Biology** (T7-054)Gerencser Laszlo *Hungarian Academy of Sciences*Rasonyi Miklos *Hungarian Academy of Sciences,*Vago Zsuzsanna *Hungarian Academy of Sciences,***On-Line Gradient Optimization of a Fractional Order Hold** (T6-012)Fujarewicz Krzysztof *Silesian University of Technology***Optimization of a Simulated Iron-Oxide Pellets Induration Furnace** (T7-047)Desbiens Andre *Université Laval*Hodouin Daniel *Université Laval*Pomerleau Dominique *Université Laval*

TM1-C: PID Control

Takes Place: Thursday, 8:30-10:15

Chair(s): Zdenko Kovacic

Kostas Arvanitis

A Tuning Method of Multi Variable PID Gains Using Jacobian (T7-044)

Chung Byeong-Mook.... *Yeungnam University*

Lim Yoon-Kyu..... *Yeungnam University*

Adaptive Control Scheme Based on Hybrid Adaptation of Lead-Lag Compensator

Parameters (T7-141)

Bogdan Stjepan *University of Zagreb*

Kovacic Zdenko *University of Zagreb*

Puncce Mario *University of Zagreb*

Computation of Stabilizing PI Controllers for Interval Systems (T7-090)

Kaya Ibrahim..... *Inonu University*

Tan Nusret *Inonu University*

Controller Design for Stable Processes Using User Specified Gain and Phase Margin

Specifications and Two Degree-of-Freedom IMC Structure (T7-088)

Kaya Ibrahim..... *Inonu University*

Tan Nusret *Inonu University*

Controller Tuning for Integrating Processes with Time Delay Part I: IPDT

Processes and the Pseudo-Derivative Feedback Control Configuration (T7-040)

Arvanitis Kostas..... *Agricultural University of Athens*

Sigrimis N.A..... *Agricultural University of Athens*

Stellas I.Z. *Agricultural University of Athens*

Syrkos G..... *Agricultural University of Athens*

Controller Tuning for Integrating Processes with Time Delay Part II: Robustness

Analysis Under Structured Parametric Uncertainty (T7-041)

Arvanitis Kostas..... *Agricultural University of Athens*

Sigrimis N.A..... *Agricultural University of Athens*

Stellas I.Z. *Agricultural University of Athens*

Syrkos G..... *Agricultural University of Athens*

Controller Tuning for Integrating Processes with Time Delay Part III: the Case of

First Order Plus Integral Plus Dead-Time Processes (T7-042)

Arvanitis Kostas..... *Agricultural University of Athens*

Sigrimis N.A..... *Agricultural University of Athens*

Stellas I.Z. *Agricultural University of Athens*

Syrkos G..... *Agricultural University of Athens*

IV04: Polynomial Design Methods - A New Theoretical Achievements

Takes Place: Wednesday, 16:00-17:30

Chair(s): V. Kucera
M. Hromcik

A Pencil Equivalent of a General 2-D Polynomial Matrix (IV04-05)

Boudelloua Mohamed S. *Sultan Qaboos University*

Chentouf Boumediene *Sultan Qaboos University*

Adaptive Control Based on Plant-Parameterization Using δ -Models (IV04-02)

Dostal Petr *Tomas Bata University in Zlin*

Gazdos Frantisek *Tomas Bata University in Zlin*

Navratil Petr *Tomas Bata University in Zlin*

Design of Controllers for Unstable Time Delay Systems Using Polynomial Method (IV04-04)

Bobal Vladimir *Tomas Bata University in Zlin*

Dostal Petr *Tomas Bata University in Zlin*

Gazdos Frantisek *Tomas Bata University in Zlin*

Optimal Open-Loop Tracking Using Sampled-Data System with Preview (IV04-03)

Lampe Bernhard P. *University of Rostock*

Polyakov K.Yu. *State University of Ocean Technology*

Rosenwasser E.N. *State University of Ocean Technology*

Relationship Between Infinite Eigenvalue Assignment for Singular Systems and Solvability of Polynomial Matrix Equation (IV04-01)

Kaczorek Tadeusz *Warsaw University of Technology*

Zero Structures of n-D Systems (IV04-06)

El-nabrawy Eman *Loughborough University*

Pugh A.C. *Loughborough University*

IV05: Polynomial Design Methods - Applications and Algorithms

Takes Place: Wednesday, 17:30-19:00

Chair(s): V. Kucera
M. Hromcik

μ -Synthesis: Simple Controllers for Time Delay Systems (IV05-05)

Dlapa Marek *Tomas Bata University*

Prokop Roman *Tomas Bata University*

Application of Controllers Based on Polynomial Methods to Coupled Drives

Laboratory Process (IV05-03)

Bobal Vladimir *Tomas Bata University in Zlin*

Kubalcik Marek *Tomas Bata University*

H₂ Optimal Control of a Chemical Reactor (IV05-01)

Cirka Lubos *Slovak University of Technology in Bratislava*

Fikar Miroslav *Slovak University of Technology in Bratislava*

Mikles Jan *Slovak University of Technology in Bratislava*

New Algorithm for Polynomial Plus-Minus Factorization Based on Band

Structured Matrix Decomposition (IV05-04)

Hromcik Martin *Czech Technical University in Prague*

Sebek Michael *Czech Technical University in Prague*

New Package for Effective Polynomial Computation in MATHEMATICA (IV05-02)

Hromcik Martin *Czech Technical University in Prague*

Kujan Petr *Czech Technical University in Prague*

Sebek Michael *Czech Technical University in Prague*

On Hurwitz Stability of Weighted Diamond Polynomials (IV05-06)

Otsuka Naohisa *Tokyo Denki University*

WM1-C: Power Systems & Converters

Takes Place: Wednesday, 8:30-10:15

Chair(s): Giuseppe Fusco
Pascal Maussion

A Simple Model Estimator for Multiple Model Control of a Buck DC-DC Converter (T7-061)

Alejo Dominique..... *d'Electronique Industrielle de Toulouse*
Faucher Jean *d'Electronique Industrielle de Toulouse*
Maussion Pascal *d'Electronique Industrielle de Toulouse*

Active Power Filter for Power Compensation Under Non-Ideal Mains Voltages (T7-118)

Kale Murat *Kocaeli University*
Ozdemir Engin *Kocaeli University*
Ozdemir Sule *Kocaeli University*

Adaptive Voltage Regulation with Harmonic Distortion Containment Objectives in Electrical Power Systems (T7-048)

Fusco Giuseppe *Universita degli Studi di Cassino*
Russo Mario *Universita degli Studi di Cassino*

Modelling of Transient Currents in Transmission Lines with Phase Delay and Inductances (T7-011)

Alastruey Carlos F..... *State University of Navarra*
De la Sen Manuel..... *University of the Basque Country*

Nonlinear and Adaptive Control of Buck-Boost Power Converters (T7-007)

CHAOUI F.Z..... *ISMRA*
El Fadil H. *ISMRA*
Giri Fouad *ISMRA*
Haloua M..... *ISMRA*
Ouadi H. *ISMRA*

Nonlinear Control of a Photovoltaic Converter (T7-053)

Boitier Vincent..... *CNRS/LAAS*
Mahout Vincent..... *CNRS/LAAS*

OTA – Based Control System of Active Power Filter for Harmonic and Reactive Power Compensation (T7-023)

Chipophop Boonruk..... *King Mongkut's University of Technology Thonburi*
Koompai Chayant *King Mongkut's University of Technology Thonburi,*
Sombat Vanichprapa *King Mongkut's University of Technology Thonburi*
Watanabe Kenzo..... *Shizuoka University*

FM2-B: Prediction & Data Reconstruction

Takes Place: Friday, 11:30-12:30

Chair(s): Anthony Tzes

A Worst-Case Framework for Perfect Reconstruction of Discrete Data**Transmissions** (T7-115)

Hadjicostis Christoforos..... *University of Illinois at Urbana-Champaign*

Touri Rousbeh..... *University of Illinois at Urbana-Champaign*

Voulgaris Petros..... *University of Illinois at Urbana-Champaign*

Application of Lifting Scheme to Transmultiplexers (T7-068)

Dziech Andrzej..... *University of Mining and Metallurgy*

Tibken Bernd *Wuppertal University*

Ziolko Mariusz..... *University of Mining and Metallurgy*

Lattice 1-Step Ahead Output Uncertainty Predictor for Auto-Regressive Systems
(T7-121)

Nikolakopoulos George *University of Patras*

TZES ANTHONY..... *University of Patras*

MPC Control Using AR-Volterra Models (T5-002)

Kozak S. *Slovak University of Technology in Bratislava*

Taraba Peter *Slovak University of Technology in Bratislava*

WA1-A: Robotics I**Takes Place:** Wednesday, 14:00-15:30**Chair(s):** Amin Mannani
Gulay Oke**A Fuzzy Controller Based on Fuzzy Lyapunov Synthesis for a Single-Link Flexible Manipulator (T2-032)**Mannani Amin..... *Amirkabir University of Technology*Talebi H.A. *Amirkabir University of Technology***A Teleoperating System for Underwater Manipulator to Practice a Time Limit Task (T2-025)**Ito Masanori..... *Tokyo University of Mercantile Marine*Shimizu Etsuro..... *Tokyo University of Mercantile Marine*

Tanaka Kensuke

Zhang PING..... *Tokyo University of Mercantile Marine***Derivation of Kinematic Parameters from a 3D Robot Model Used for Collision-Free Path Planning (T2-039)**Kovacic Zdenko *University of Zagreb*Reichenbach Tomislav *University of Zagreb***Design and Implementation of a Vision Based Control System Towards Moving Object Capture for a 3-Joint Robotic Manipulator (T2-038)**Boz Ali Fuat..... *Sakarya University*Ekiz Hüseyin *Sakarya University*Koker Rasit *Sakarya University*Oz Cemil *Sakarya University***Neural Network Based Trajectory Planning for Tip Tracking of a Two-Link Flexible Robot Manipulator (T2-024)**Istefanopulos Yorgo *Bogazici University*Oke Gulay *Bogazici University***Visual Servoing Using Online Calibration (T7-033)**Cho Young-Sik..... *Yeungnam University*Joo Haeho *Yeungnam University*Lee Jeh-Won *Yeungnam University*

TM1-A: Robotics II**Takes Place:** Thursday, 8:30-10:15**Chair(s):** Antonio Tornambe
Adriano Siqueira**A Dexterity Maximizing Continuation Method for the Inverse Kinematics of Redundant Manipulators (T2-013)**Mueller Andreas..... *Chemnitz University of Technology***An Adaptive Neural Controller and Direct Adaptive Controllers for Robot Manipulators in the Joint Space (T2-014)**Martins Nardenio..... *Universidade Estadual de Maringa***Nonlinear Observer Design for Robot Manipulators. A Survey (T2-034)**Abdessameud Abdelkader..... *Univ. of Boumerdes*Khelfi M.F..... *University of Oran Es-Sénia***Output Feedback Nonlinear Hinf Control of Underactuated Manipulators (T2-035)**Buosi Cleber *University of Sao Paulo at Sao Carlos*Siqueira Adriano A.G. *University of Sao Paulo at Sao Carlos*Terra Marco H..... *University of Sao Paulo at Sao Carlos***Robot Manipulators Control via a Variable Structure Observer (T2-033)**Abdessameud Abdelkader..... *Univ. of Boumerdes***State Observers for the Asymptotic Inversion of Nonlinear Maps, When the Reference Trajectory Is Not Differentiable (T2-006)**Galeani Sergio *Universita di Roma Tor Vergata*Menini Laura *Universita di Roma Tor Vergata*Tornambe Antonio *Universita di Roma Tor Vergata***The Numerical Analysis of the Nonlinear Motion of a Flexible Rotating Beam (T7-072)**El-Absy Hanaa *Alexandria University*Elkobrosy Galal..... *Alexandria University*Elnaggar Fathy *Alexandria University*

FA1-A: Robotics III

Takes Place: Friday, 13:30-15:00

Chair(s): Edward S. Kolesar
Teodor Akinfiev

A Distributed Blackboard-Based Control System for Modular Self-Reconfigurable Robots (T2-015)

Ko Albert..... *the University of Hong Kong*
Lau H.Y.K. *the University of Hong Kong*
Lau T.L. *the University of Hong Kong*

Design and Control of a MEMS Microengine Fabricated from Symmetrical Polysilicon Surface Micromachined Electrothermal Microactuators (T7-001)

Jayachandran Alfred J. *Texas Christian University*
Kolesar Edward S. *Texas Christian University*
Odom William E. *Texas Christian University*
Ruff Matthew D. *Texas Christian University*

Development of a Nanohandling Robot Cell (T2-008)

Fahlbusch Stephan..... *University of Oldenburg*
Fatikow Sergej *University of Oldenburg*
Garnica Stefan *University of Oldenburg*
Huelsen Helge..... *University of Oldenburg*
Kortschack Axel..... *University of Oldenburg*

Modelling and Control of the Dual Smart Drive (T7-046)

Akinfiev Teodor *Industrial Automation Institute*
Armada M..... *Industrial Automation Institute*
Fernandez Roemi *Industrial Automation Institute*

Recognition and Modeling of Smart Sensor Integration on Robotic Control Application (T2-016)

Auner Gregory..... *Wayne State University*
Ye Zhengmao *Wayne State University*

Vertical Movement of Resonance Hopping Robot with Electric Drive and Simple Control System (T2-020)

Akinfiev Teodor *Industrial Automation Institute*
Armada M..... *Spanish Council for Scientific Research*
Montes H. *Spanish Council for Scientific Research*

WM1-D: Robust Control

Takes Place: Wednesday, 8:30-10:15

Chair(s): L. Keviczky
Kazuhisa Ito

A Dominance-Based Approach to Robustness Analysis (T6-002)

Munro Neil *University of Manchester*

Nobakhti Amin *University of Manchester*

An Approach to Optimal and Robust Control of Multi-Rate Sampled-Data Systems (T6-005)

Azad A.M. *The University of New South Wales*

Hesketh T. *The University of New South Wales*

LQG Tracking Problem and Its Tracking Robustness (T5-011)

Mosna Jiri *University of West Bohemia*

Pesek Pavel *University of West Bohemia*

Quasi-Monte Carlo Methods in Robust Control Design (T7-029)

Abdallah Chaouki *University of New Mexico*

Dorato Peter *University of New Mexico*

Hokayem Peter *University of New Mexico*

Robust Stability Limit and Robustness Measure for a GTDOF System (T5-016)

Banyasz Cs. *Hungarian Academy of Sciences*

Keviczky L. *Hungarian Academy of Sciences*

Robust Velocity Control of Water Hydraulic Servomotor Systems via Linearization Approach (T5-009)

Ito Kazuhisa *Sophia University*

Static H_2 and H_{∞} Output-Feedback of State Multiplicative Linear Systems (T7-050)

Gershon Eli *Holon Academic Institute of Technology*

Shaked U. *Tel-Aviv University*

FA2-C: Sliding Mode Control

Takes Place: Friday, 15:30-17:00

Chair(s): Ryszard Gessing
Alessandro Beghi

A Note on the Relationships between High-Gain State Feedback and Relay Systems (T1-016)

Beghi Alessandro *Universita di Padova*

Bisiacco Mauro *Universita di Padova*

Application of Sliding Mode Control in Voltage-Controlled Magnetic Levitation Systems (T7-093)

Jalili Mahdi *University of Tehran*

Rashidi Farzan *University of Tehran*

Friction Model for Adaptive Compensation (T5-008)

Lantos Bela *Budapest University of Technology and Economics*

Marton Lorinc *Budapest University of Technology and Economics*

Sliding Mode Control Applied to Pneumatic Servo Drive (T1-009)

Crnekovic Mladen *University of Zagreb*

Petric Josko *University of Zagreb*

Situm Zeljko *University of Zagreb*

Sliding Mode Control with Decreased Chattering for Nonminimum Phase Plants (T1-015)

Gessing Ryszard *Politechnika Slaska*

WA3-B: Speech Recognition

Takes Place: Wednesday, 17:30-18:30

Chair(s): Jalal Karam
Vassilia Pashaloudi

A Faster Recognition of Similar Acoustic Sounds Using Wavelets (T7-004)

Karam Jalal *Arab Open University*

A New Speech Enhancement Method Based on Wavelet Thresholding the Multitaper Spectrum (T7-017)

Hu Yi *University of Texas at Dallas*

Loizou Philipos C. *University of Texas at Dallas*

Feature Extraction and Sign Recognition for Greek Sign Language (T7-060)

Margaritis Konstantinos *University of Macedonia*

Pashaloudi Vassilia *University of Macedonia*

Wavelets Based Modelling for Automatic Recognition of Spoken Words (T7-003)

Karam Jalal *Arab Open University*

FA1-C: Stability**Takes Place:** Friday, 13:30-15:00**Chair(s):** Miklos Vajta
Jelal Ezzine**A New Sufficient Condition for Stability of Decentralized Control: an LMI****Approach** (T7-136)Amirifar Ramin *Sharif University of Technology*Sadati N. *Sharif University of Technology***Factorization and BIBO Stability of Certain Discrete Volterra Systems** (T1-008)Kotsios Stelios..... *University of Athens***Finite Time Stability of Linear Impulsive Dynamical Systems** (T7-064)Kablar Natasa *Lola Institute***Largest Lyapunov Exponent Assignment: A Genetic/Pole Placement Approach**
(T7-138)Ben Cheikh Yosser *ENIT*Ezzine Jelal *ENIT***Norm-Based Approach to Componentwise Asymptotic Stability** (T7-039)Pastravanu Octavian *Technical University "Gh. Asachi" of Iasi*Voicu Mihail *Technical University "Gh. Asachi" of Iasi***Stability of a Heat Process with Exponential Internal Source** (T7-142)Vajta Miklos..... *University of Twente*

WA1-C: Time-Delayed Systems

Takes Place: Wednesday, 14:00-15:30

Chair(s): Sauro Longhi
Carlos F. Alastruey

Asymptotic Stabilizability of Non-Linear Delay Systems By Using Delayed Output (T1-001)

Alastruey Carlos F. *State University of Navarra*

Decentralized Control Networks of Multirate Sampled-Data Systems (T7-125)

Ciferri Roberto *Universita Politecnica delle Marche*

Longhi Sauro *Universita Politecnica delle Marche*

On Delay-Dependent Stability in Lossless Propagation Models: A Liapunov-Krasovskii Analysis (T7-071)

Gu Keqin *Southern Illinois University at Edwardsville*

Niculescu Silviu-Iulian *Universite de Technologie de Compiègne*

Rasvan Vladimir *University of Craiova*

Stability Analysis of Low-Order Combustion Systems (T7-084)

Annaswamy Anuradha M. *Massachusetts Institute of Technology*

Niculescu Silviu-Iulian *Universite de Technologie de Compiègne*

Zhong Qing-Chang *Imperial College London*

State Feedback Controller for Distributed Systems with Non-Deterministic Time Delays (T7-067)

Alahakoon S. *University of Peradeniya*

Leksell M. *Royal Institute of Technology KTH*

Samaranayake Lilantha *Royal Institute of Technology KTH*

TA3-C: Traffic Control

Takes Place: Thursday, 17:00-18:00

Chair(s): Elias Kosmatopoulos
Norbert Neuendorf

Apply Adaptive and Cooperative MAS to Urban Traffic Signal Control (T4-010)

Chen Duen-Kai *National Chiao Tung University*

Chen Ruey-Shun *National Chiao Tung University*

Lin Szu-Yin *National Chiao Tung University*

Demands of the Decentralized Autonomous Intersection Management on the Steer-By-Wire System in Passenger Cars (T7-058)

Dierkes Ulrich *University of Paderborn*

Neuendorf Norbert *University of Paderborn*

Implementing Fastest Path Algorithms in a Decentralized Traffic Environment (T4-003)

Kiencke Uwe *University of Karlsruhe*

Kriesten Reiner *University of Karlsruhe*

Stability Analysis of the Freeway Ramp Metering Control Strategy ALINEA (T7-086)

Kosmatopoulos Elias *Technical University of Crete*

Papageorgiou Markos *Technical University of Crete*

WM2-C: Vehicle Control

Takes Place: Wednesday, 11:45-13:00

Chair(s): Miguel Chaves
Houssem Abdellatif

A Study of Passenger Seat Parameters as a Basis for Active Seat Control (T7-109)

Klooster Samuel *Georgia Institute of Technology*

Singhose William E. *Georgia Institute of Technology*

Automatic Tuning of Electronic Throttle Control Strategy (T7-133)

Deur Josko *University of Zagreb*

Jansz Martin..... *Ford Motor Company*

Pavkovic Danijel *University of Zagreb*

Peric Nedjeljko *University of Zagreb*

Experimental Implementation of an Electromagnetic Automobile Suspension System (T7-123)

Chaves Miguel..... *Instituto Politécnico de Setubal*

Esteves Jorge..... *Instituto Superior Técnico*

Maia Jose..... *Instituto Politécnico de Setubal*

Martins Ismenio *Universidade do Algarve*

Nonlinear Identification of Vehicle's Coupled Lateral and Roll Dynamics (T1-005)

Abdellatif Houssem *University of Hanover*

Heimann Bodo..... *University of Hanover*

Hoffmann J. *Volkswagen AG*

Rollover Avoidance for Steer-By-Wire Vehicles By Using Linear Parameter Varying Methods (T7-080)

Bokor Jozsef..... *Hungarian Academy of Sciences*

Gaspar Peter *Hungarian Academy of Sciences*

Szaszi Istvan *Budapest University of Technology and Economics*

WA2-B: Vision**Takes Place:** Wednesday, 16:00-17:30**Chair(s):** Ferenc Tel
Ioannis Anagnostopoulos**3D Projective Reconstruction with Decomposed Projective Depths (T7-066)**Lantos Bela *Budapest University of Technology and Economics*Tel Ferenc *Budapest University of Technology and Economics***A Cellular Neural Network System for Real-Time Image Processing (T3-006)**Guinea Domingo *Instituto de Automática Industrial-CSIC*Montufar-Chaveznavia Rodrigo *Instituto Nacional de Astrofísica, Óptica y Electrónica***A Probabilistic Neural Network for Human Face Identification Based on Fuzzy Logic Chromatic Rules (T3-031)**Anagnostopoulos C. *National Technical University of Athens*Anagnostopoulos Ioannis *National Technical University of Athens*Kayafas E. *National Technical University of Athens*Loumos V. *National Technical University of Athens***Error Computation in the Uniform Color-Spaces sRGB and CIEL*a*b* (T7-008)**Andreadis Ioannis *Democritus University of Thrace*Tsalides Filippos *DUTH*Vonikakis Vasilios *DUTH***Soft Morphological Color Image Processing: A Fuzzy Approach (T7-032)**Andreadis Ioannis *Democritus University of Thrace*Louverdis Gerasimos *Democritus University of Thrace***Vision-Based Human Tracking and Activity Recognition (T7-030)**Bodor Robert *University of Minnesota*Jakson Bennet *University of Minnesota*Papanikolopoulos Nikos *University of Minnesota*