

Anti windup

- **A multivariable nonlinear algebraic loop as a QP with applications to MPC**
A Syaichu-Rohman, R H Middleton & M M Seron, University of Newcastle, Australia
- **Anti-windup strategy for linear systems with amplitude and dynamics restricted actuator**
S Tarbouriech, G Garcia & P Langouet, L A AS - C N R S, France
- **Switching predictive control of input-saturated plants under persistent disturbances**
E Mosca & A Vallotti, Università di Firenze, Italy
- **A general framework for robust anti-windup schemes**
J C Moreno, Università di Firenze, Spain
M Berenguel, Universidad de Almeria, Spain
A Banos, Universidad de Murcia, Spain
- **On hazards of using fundamental anti-windup technique for H2 state-space controllers with an explicit observer**
C Olsson, Volvo Car Corporation, Sweden
- **The equivalence of the anti-windup control design and the explicit model-based parametric controller**
V Sakizlis & E N Pistikopoulos, Imperial College, London, UK
T Geyer & M Morari, ETH-Zurich, Switzerland

Sliding Mode 1

- **Dynamic output feedback sliding mode control for nonlinear systems with mismatched uncertainty**
X Yan, S K Spurgeon & C Edwards, University of Leicester, UK
- **Simple output-feedback 2-sliding controller for systems of relative degree two**
M K Khan & S K Spurgeon, University of Leicester, UK
A Levant, Tel-Aviv University, UK

- **A descriptor approach to sliding mode control of systems with time-varying delays**
E Fridman, Tel-Aviv University, Israel
F Gouaisbaut, M Dambrine & J P Richard, LAIL UMR 8021, France
- **Sliding mode control of uncertain time-delay systems**
Y Orlov, CICESE Research Center, USA
W Perruquetti & J P Richard, LAIL, CNRS, UMR 8021, France
- **Sliding mode control with adaptive fuzzy approximator for MIMO uncertain systems**
N Manamanni, A Hamzaoui & N Essounbouli, Université de Reims Champagne Ardenne, France
- **Discontinuous regulator for a class of linear time delayed systems**
A G Loukianov, B Castillo-Toledo, J E Hernandez & E Nunez-Perez, CINVESTAV IPN Unidad Guadalajara, Mexico

Stability 1

- **Necessary and sufficient conditions for lur'e system incremental stability**
V Fromion, LASB-INRA, France
M G Safonov, University of Southern California, USA
G Scorletti, LAP-ISMRA, France
- **On practical input to state stabilization for nonlinear discrete-time systems: a dynamic programming approach**
S Huang & M R James, Australian National University, Australia
D Netic & P Dower, The University of Melbourne, Australia
- **Local stability analysis of piecewise affine systems**
H Nakada & K Takaba, Kyoto University, Japan
- **A fractional ideal approach to stabilization problems**
A Quadrat, INRIA Sophia antipolis, CAFÉ project, France

- **On upper bounds for real proportional stabilising controllers**

P Batra, Technical University of Hamburg-Harburg, Germany

Linear Systems 1

- **Equivalent conditions for exponential stability for a special class of conservative linear systems**

G Weiss, Imperial College, London, UK

M Tucsnak, University of Nancy, France

- **Fixed poles for the disturbance rejection by measurement feedback: The case without any controllability assumption**

B del-Muro-Cuellar, Instituto Mexico del Petroleo, Mexico

M Malabre, Institut de Recherche en Communications et Cybernetique, France

- **Extended geometric conditions for non-interacting controls in linear systems and consequences on related issues**

E Zattoni, Università di Bologna, Italy

- **Parameterization of state feedback gains for pole placement**

H Norlander, Uppsala University, Sweden

Discrete Event Systems 1

- **Product identity and its impact on discrete event observability**

D McFarlane, Cambridge University, UK

- **Frequency domain control synthesis for time-critical planning**

J E Tierno & A Khalak, Alphatech, USA

- **The influence of measurement noise on the parameter estimation of max-plus-linear systems**

G Schullerus, Universität Karlsruhe, Germany

J Fox, Universität des Saarlands, Germany

V Krebs, Universität Karlsruhe, Germany

- **Modular supervisory control problems of asynchronous and hierarchical finite state machines**
B Gaudin & H Marchand, Irisa, France
- **Optimal input signal design for identification of max-plus-linear systems**
G Schullerus & V Krebs, Universität Karlsruhe, Germany
B De Schutter & T van den Boom, Delft University of Technology, The Netherlands

Fault Diagnosis 1

- **Detecting condenser faults in commercial refrigeration systems**
C Thybo, Danfoss A/S, Denmark
R Izadi-Zamanabadi, Aalborg University, Denmark
- **Leak location in water distribution networks based on dynamic tests and parametric identification**
F Casella, L Bascetta, C Maffezzoni & G Bodini, Politecnico di Milano, Italy
- **Residual generation and disturbance de-coupling for a chemical process**
R Diversi, Università di Bologna, Italy
S Simani, Università di Ferrara, Italy
- **Modelling and observer based fault detection for an automotive drive-train**
J A F Vinsonneau & D N Shields, Coventry University, UK
P J King, Jaguar Cars, UK
K J Burnham, Coventry University, UK
- **Model-based fault detection of vacuum cleaner motors**
A Rakar, Jozef Stefan Institute, Slovenia

Communication Networks 1

- **Active queue management for TCP-governed wireless networks**
V Kulkarni, MIT, USA
M Jun, Cornell University, USA
C Rohrs, Brown University, USA
- **Towards a state-space approach to congestion and delay control in communication networks**
H F Raynaud, R Hammi & C Kulcsar, Université Paris Nord, France
- **Control of port-interconnected driftless time-varying systems**
A R Teel, CCEC, USA
A Loria, CNRS, UMR 8506, France
E Panteley, Academy of Sciences of Russia, Russia
D Popovic, CCEC, USA
- **Adaptive rate control for internet video streaming**
L A Grieco & S Mascolo, Politecnico di Bari, Italy
- **Decentralized robust flow controller design for networks with multiple bottlenecks**
I Munyas, O Yelbasi & A Iftar, Anadolu University, Turkey

Iterative Learning

- **Frequency domain iterative learning control for direct-drive robots**
B Bukkems, D Kostic, B de Jager & M Steinbuch, Technische Universiteit Eindhoven, The Netherlands
- **Basis functions, identification and genetic algorithms in norm-optimal iterative learning control**
A V Hatzikos & D H Owens, University of Sheffield, UK
J Hatonen, University of Sheffield, UK/University of Oulu, Finland
- **Parameter optimisation in iterative learning control**
D H Owens & K Feng, University of Sheffield, UK

- **A new optimality based repetitive control algorithm for discrete-time systems**
A J Hatonen, University of Sheffield, UK/University of Oulu, Finland
D H Owens, University of Sheffield, UK
R Ylinen, University of Oulu, Finland

Adaptive and Backstepping

- **Boundary control design for towed cables via backstepping**
Y Turkyilmaz & O Egeland, Norwegian University of Science and Technology, Norway
- **Decentralized nonlinear controller design for multimachine power systems via backstepping**
A R Roosta, D Georges & N Hadj-Said, Laboratoire d'Electronique de Grenoble, France
- **A new way for robustness analysis of nonlinear control systems: application to a magnetic suspension device**
A Henni & H Siguerdidjane, Supelec, France
- **Robust plug-in algorithm for adaptive cancellation of quasi-periodic disturbances in web winding systems**
Y Xu, M de Mathelin & D Knittel, University Louis Pasteur (Strasbourg I), France
- **Finite-form realization of the adaptive algorithms**
I Tyukin, RIKEN, Japan
D Prokhorov, Ford Research Laboratory, USA
C Van Leeuwen, RIKEN, Japan
- **Does direct adaptive control have a future?**
I D Landau & A Constantinescu, Laboratoire d'Automatique de Grenoble, France

Computation Methods

- **Guaranteed accuracy computations in systems and control**
M Kanno & M C Smith, University of Cambridge, UK

- **Computer algebra algorithms for the test on accessibility and observability for implicit dynamical systems**
K Zehetleitner, Johannes Kepler University Linz, Austria
K Schlacher, Christian Doppler Laboratory for Automatic Control of Mechatronic Systems in Steel Industries, Austria
- **On the computation of invariant sets for constrained nonlinear systems: An interval arithmetic approach**
J M Bravo, Universidad de Huelva, Spain
D Limón Marruedo, T Alamo & E F Camacho, Universidad de Sevilla, Spain
- **Method of monotone structural evolution for control and state constrained optimal control problems**
M Szymkat & A Korytowski, AGH University of Science and Technology, Poland
- **Computation of an over-approximation of the backward reachable set using subsystem level set functions**
D M Stipanovic, I Hwang & C J Tomlin, Stanford University, USA
- **A toolbox for computing the stability margin of uncertain systems**
A Piazzì, University of Parma, Italy
A Visioli, University of Brescia, Italy

Nonlinear Systems 1

- **Limit cycling in observer-based controlled mechanical systems with friction**
D Putra & H Nijmeijer, Eindhoven University of Technology, The Netherlands
- **Practical stability and limit cycles of dithered relay feedback systems**
L Iannelli, Università di Napoli Federico II, Italy
K H Johansson & U Jonsson, Royal Institute of Technology, Sweden
F Vasca, Università del Sannio, Italy
- **Optimizing control of over-actuated linear systems with nonlinear output maps via control Lyapunov functions**
T A Johansen, Norwegian University of Science and Technology, Norway
D Sbarbaro, University of Concepcion, Chile

- **Nonlinearity quantification for the optimal state feedback controller**
T Schweickhardt & F Allgower, University of Stuttgart, Germany
F J Doyle III, University of California Santa Barbara, USA

Robust Control 1

- **Development of a skew μ upper bound**
R Holland, North Dakota State University, USA
P Young, Colorado State University, USA
C Zhu, Iowa State University, USA
- **Robust servo control design for mechanical systems using mixed uncertainty modelling**
P Gaspar, Hungarian Academy of Sciences, Hungary
I Szaszi, Budapest University of Technology and Economics, Hungary
J Bokor, Hungarian Academy of Sciences, Hungary
- **Robust performance controller design for vehicle lane keeping**
V Cerone & D Regruto, Politecnico di Torino corso Duca degli Abruzzi 24, Italy
- **On μ -analysis and synthesis for systems subject to real uncertainty**
P Iordanov, M J Hayes & M Halton, University of Limerick, Ireland
- **A multiobjective optimization approach to DK-Iteration**
I A Griffin & P J Fleming, University of Sheffield, UK
- **A novel approach to linear decentralized robust performance stabilization of large-scale systems**
B Labibi, Y Bavafa-Toosi & A Khaki-Sedigh, University of Technology, Iran
B Lohmann, University of Bremen, Germany

System Identification 1

- **Frequency localising basis functions for wide-band identification**
J S Welsh & G C Goodwin, University of Newcastle, Australia

- **Image de-noising and restoration using wavelet transform**
A Prochazka, Institute of Chemical Technology, Czech Republic
I Sindelarova, University of Economics, Czech Republic
J Ptacek, Institute of Chemical Technology, Czech Republic
- **Synthesis of inverse filters with projected dynamical systems**
K Kuhnen, Saarland University, Germany
- **On adaptive optimal input design**
J D Stigter, D Vries & K J Keesman, Wageningen University and Research Center, The Netherlands
- **Closed loop identification of systems within cascade connected control strategies**
J Crowe, M A Johnson & M J Grimble, University of Strathclyde, UK

H Infinity Control 1

- **Continuous-time H₂/H_∞ control with non-common Lyapunov variables via convergent iterations**
J Wang & D A Wilson, University of Leeds, UK
- **Parameterised H-infinity controller design for adaptive trade-off by finite dimensional LMI optimisation**
M Dinh & G Scorletti, LAP ISMRA, France
V Fromion, LASB, INRA-Montpellier, France
E Magarotto, LAP ISMRA, France
- **Reduced-order robust H-infinity filtering for linear parameter varying systems**
G I Bara & M Boutayeb, LSIIIT-UMR CNRS-ULP 7005, France
- **H₂/H-infinity-based PID control via genetic algorithms: An experimental evaluation**
R Lagunas, C Martinez-Garcia & A Soria-Lopez, CINVSTAV - IPN, Mexico
G Fernandez-Anaya, Universidad Iberoamericana, Mexico
- **Operator theoretic solution to the MIMO extension of ORDAP**
S M Djouadi, University of Arkansas, USA

Modelling 1

- **On mechanical mixed potential, content and co-content**
D Jeltsema & J M A Scherpen, Delft University of Technology, The Netherlands
- **Speed-gradient approach to modeling dynamics of physical systems**
A Fradkov, Russian Academy of Sciences, Russia
- **Classification of human actions into dynamics based primitives with application to drawing tasks**
D Del Vecchio, R M Murray & P Perona, California Institute of Technology, USA
- **A formalism for models with a metadynamically varying structure**
M Baguelin, J Le Fevre & J-P Richard, Ecole Central de Lille, France
- **Using the bicausality concept to build reduced order observers in linear time invariant systems modelled by bond graph**
C Pichardo-Almarza, A Rahmani & G Dauphin-Tanguy, Ecole Centrale de Lille, France
M Delgado, Universidad Simon Bolivar, Venezuela
- **Reduction of positive real non integer order models: Initial conditions determination**
N Guijarro & G Dauphin-Tanguy, Ecole Centrale de Lille, France

Special Session 1 - Anti-Windup and Bumpless Transfer

- **Global and local analysis of coprime factor-based anti-windup for stable and unstable plants**
S Crawshaw, AMS, UK
- **Discrete-time anti-windup: Part 1 - Stability and performance**
M C Turner, G Herrmann & I Postlethwaite, University of Leicester, UK
- **Discrete time anti-windup: Part 2 - Extension to the sampled data case**
G Herrmann, M C Turner & I Postlethwaite, University of Leicester, UK
- **A synthesis method for static anti-windup compensators**
S Solyom, Lund Institute of Technology, Sweden

- **High performance anti windup for robot manipulators**

F Morabito, University of Rome, Italy

A R Teel, University of California, USA

L Zaccarian, University of Rome, Italy

- **Stability of reset switching systems**

J P Paxman & G Vinnicombe, Cambridge University, UK

Sliding Mode 2

- **Advanced sliding mode stabilisation of a levitation system**

O B Bethoux, Control of System Research Team, France

T F Floquet, Ecole Centrale de Lille, France

J P Barbot, Control of System Research Team, France

- **Nonlinear control and observation of induction motors. Validation on an industrial benchmark**

J de Leon-Morales, L Dugard, J M Dion & R Alvares-Salas, Laboratoire d'Automatique de Grenoble, France

- **Angular velocity and position control of a permanent magnet stepper motor**

R Castro-Linares, J Alvarez-Gallegos & E Alvarez-Sanchez, CINVESTAV-IPN, Mexico

- **Stabilization of a unicycle-type mobile robot using higher order sliding mode control**

J P Barbot & M Djemai, ENSEA, France

T Floquet & W Perruquetti, Ecole Centrale de Lille, France

- **Stability of limit cycles with chattering in relay feedback systems**

A E Barabanov & Q-G Wang, St Petersburg State University, Russia

Stability 2

- **A unifying framework for the circle criterion and other quadratic stability criteria**
R N Shorten & O Mason, Hamilton Institute, Ireland
F O'Cairbre, NUI Maynooth, Ireland
P Curran, NUI Dublin, Ireland
- **Switched integrator control schemes for integrating plants**
K Lau & R H Middleton, The University of Newcastle, Australia
- **Passivity-based PI control of switched power converters**
M Perez, Universidad de Concepcion, Chile
R Ortega, CNRS-SUPELEC, France
J Espinoza, Universidad de Concepcion, Chile
- **On stabilization of first-order plus dead-time unstable processes using PID controllers**
C Hwang, National Chung Cheng University, Taiwan
J-H Hwang, Chinese Petroleum Corporation, Taiwan
- **Disturbance decoupling problem with stability for LPV systems**
G Stikkel, J Boker & Z Szabo, Hungarian Academy of Sciences, Hungary

Linear Systems 2

- **Characteristic modes of time-variable linear differential systems**
K Zenger, Helsinki University of Technology, Finland
R Ylinen, University of Oulu, Finland
- **On the computation of viable polytopes for linear systems**
Y Gao, University of Shanghai for Science and Technology, China
J Lygeros, University of Patras, Greece

- **Optimal regulator for linear systems with time delay in control input**
M Basin & J Rodriguez-Gonzalez, Autonomous University of Nuevo Leon, Mexico
R Martinez-Zuniga, Autonomous University of Coahuila, Mexico
- **Componentwise stabilizability and detectability of linear systems**
O Pastravanu & M Voicu, Technical University "Gh. Asachi" of Iasi, Romania
- **Feedbacks for non-autonomous regular linear systems**
R Schnaubelt, Martin Luther Universität, Germany

Discrete Event Systems 2

- **Decentralized supervisory control with coalgebra**
J Komenda & J H van Schuppen, CWI, The Netherlands
- **A comparison of synthesis tools for supervisory controllers**
A Sanchez, J Reza & R Gonzalez, Centro de Investigacion y Estudios Avanzados (Cinvestav), Mexico
- **Petri net control of systems under discrete-event supervision**
G Music & D Matko, University of Ljubljana, Slovenia
- **Robust hybrid LQ controller**
V Z Filipovic, RCT, Yugoslavia
- **Identification of stochastic max-plus-linear systems**
T J J van den Boom, B De Schutter & V Verdult, Faculty of Information Technology and Systems, The Netherlands
- **A reachable throughput upper bound for live and safe free choice nets via T-invariants**
F Basile & C Carbone, Università degli Studi di Salerno, Italy
P Chiacchio, Università degli Studi di Napoli Federico II, Italy

Fault Diagnosis 2

- **On fault tolerant estimation in sensor networks**
M Staroswiecki, University Lille I, France

- **Encoders and fault detection**
C De Persis, Università di Roma "La Sapienza", Italy
- **A novel family of weighted average voters for fault-tolerant computer control systems**
G Latif-Shabgahi & A J Hirst, Open University, UK
S Bennett, University of Sheffield, UK
- **Fault detection and diagnosis using fuzzy models**
L F Mendonca, J M G Sa da Costa & J M Sousa, Technical University of Lisbon, Portugal
- **Comparison of fuzzy modelling approaches for fault detection systems**
P Baranyi, R J Patton & F J Uppal, University of Hull, UK
- **Fault tolerant fuzzy IMC control in a PH process**
S Saludes & M J Fuente, University of Valladolid, Spain

Communication Networks 2

- **Feedback data rates for nonlinear systems**
G Nair, R J Evans, I M Y Mareels & B Moran, University of Melbourne, Australia
- **Development and experimental verification of a mobile client-centric networked controlled system**
A Tzes, G Nikolakopoulos & Y Koutroulis, University of Patras, Greece
- **A control based traffic controller in wireless and satellite downlink channels**
F D Priscoli, D Pompili & G Sette, Università di Roma "La Sapienza", Italy
- **Control-based resource management procedures for satellite networks**
F D Priscoli & A Pietrabissa, Università di Roma "La Sapienza", Italy

MPC 1

- **A semi-explicit MPC set-up for constrained piecewise affine systems**
M Lazar & W P M H Heemels, Eindhoven University of Technology, The Netherlands

- **Stability and feasibility of constrained receding horizon control**
P Grieder, L Lüthi, P A Parrilo & M Morari, Swiss Federal Institute of Technology, Switzerland
- **Improved MPC design based on saturating control laws**
D Limon, T Alamo & E F Camacho, Universidad de Sevilla, Spain
J M Gomes da Silva Jr, UFRGS - Depto. De Engenharia Electrica, Brazil

Nonlinear Systems 2

- **Extended input-output linearization of nonlinear systems**
K Guemghar, Institut d'Automatique - EPFL, Switzerland
- **Singular value analysis of hankel operators for general nonlinear systems**
K Fujimoto, Kyoto University, Japan
J M A Scherpen, Delft University of Technology, The Netherlands
- **The local output regulation problem: convergence region estimates**
A Pavlov, N van de Wouw & H Nijmeijer, Eindhoven University of Technology, The Netherlands
- **On feedback stabilization of a class of systems with time delays**
W Aggoune-Bouras, ENSEA, France
- **Operator functions in theory of nonlinear continuous, discrete and retarded control systems**
M I Gil, Ben Gurion University of the Negev, Israel

Robust Control 2

- **A lower bound on achieved closed-loop performance based on finite data**
P Date, Brunel University, UK
M Cantoni, The University of Melbourne, Australia
- **Validation of closed-loop behaviour from noisy frequency response measurements**
P Date, Brunel University, UK
M Cantoni, The University of Melbourne, Australia

- **Vinnicombe metric as a closed-loop nonlinearity measure**
G Tien Tan, M Huzmezan & K Ezra Kwok, University of British Columbia, Canada
- **Is the $\sqrt{\cdot}$ -gap metric useful for industrial applications?**
U Christen, Ford Forschungszentrum Aachen, Germany
- **Generalised LFT-based representation of parametric uncertain models**
S Hecker & A Vargra, German Aerospace Centre, Germany
- **Stability margin via reflection vectors**
Ü Nurges, Tallinn Technical University, Estonia

System Identification 2

- **Initialisation aspects for subspace and output-error identification methods**
L Ljung, Linköping University, Sweden
- **Stochastic realization on a finite interval via 'LQ decomposition' in hilbert space**
H Tanaka & T Katayama, Kyoto University, Japan
- **Optimal quantization of signals for system identification**
K Tsumura, The University of Tokyo, Japan
J Maciejowski, University of Cambridge, UK
- **Adaptive encoding and prediction of hidden markov processes**
L Gerencsér & G Molnár-Sáska, Computer and Automation Institute, Hungarian Academy of Sciences, Hungary
- **Maximum entropy based numerical algorithms for approximation of probability density functions**
A Balestrino, A Caiti, A Noe' & F Parenti, University of Pisa, Italy

Systems Identification 2

- **Why are errors-in-variables problems often tricky?**
T Söderström, Uppsala University, Sweden

H Infinity Control 2

- **On the validity domain of H infinity controllers under saturation constraints**
G Bianchini, Università di Siena, Italy
A Tesi, Università di Firenze, Italy
- **Control of descriptor systems: an example from binary distillation control**
A Rehm & F Allgower, University of Stuttgart, Germany
- **Advanced control politics and optimal performance for an irrigation canal experimental validation**
X Litrico, Cemagref UR Irrigation, France
V Fromion, INRA, LASB, France
- **Adaptive robust H infinity control for nonlinear systems with parametric uncertainties and external disturbances**
M Wu & L B Zhang, Central South University, China
G Liu, University of Nottingham, UK
- **Robust regulation of a class of nonlinear systems using singular perturbation approach**
R Amjadifard & M T H Beheshti, Tarbiat Modares University, Iran
M J Yazdanpanah, University of Tehran, Iran

Modelling 2

- **Nonlinear modelling and control of a long river stretch**
X Litrico, Cemagref, UR Irrigation, France
J-B Pomet, INRIA, France
- **Control design for an irrigation channel from physical data**
S K Ooi & E Weyer, The University of Melbourne, Australia

- **Modelling and PI control of an irrigation canal**
X Litrico & J P Baume, Cemagref, UR Irrigation, France
V Fromion, INRA, LASB, France
M Rijo, Universidade de Évora, Portugal
- **Modelling and state observation of simulated moving bed processes**
T Kleinert & J Lunze, Ruhr-Universität Bochum, Germany
- **Reachability analysis of particle size distribution in semibatch emulsion polymerization**
Y Wang & F Doyle III, University of California at Santa Barbara, USA
- **Modelling and control of oxygen partial pressure in an underwater breathing apparatus with gas recycle**
F Garofalo, S Manfredi & S Santini, Università di Napoli Federico II, Italy

Gain Scheduling

- **Pole-placement vs. loop-shaping design for gain-scheduling control of machine tools with position dependant dynamics**
W Symens, H Van Brussel & J Swevers, Katholieke Universiteit Leuven, Belgium
- **Wheel slip control using gain-scheduled LQ - LPV/LMI analysis and experimental results**
I Petersen, SINTEF Electronics and Cybernetics, Norway
T A Johansen, Norwegian University of Science and Technology, Norway
J Kalkkuhl & J Ludemann, Daimler-Chrysler AG, Germany
- **Tracking of piecewise constant references for constrained nonlinear systems**
L Chisci, P Falugi & G Zappa, Università di Firenze, Italy
- **Region of attraction estimates for LPV-gain scheduled control systems**
F Bruzelius, S Pettersson & C Breitholtz, Chalmers University of Technology, Sweden

- **Steering assistance system for driver characteristics using gain scheduling control**
Y Fujiwara, Honda R&D Co/Utsunomiya University, Japan
S Adachi, Utsunomiya University, Japan

Sliding Mode 3

- **Sliding mode model based predictive control for non minimum phase systems**
W García-Gabin, Universidad de Los Andes, Venezuela
E F Camacho, Universidad de Sevilla, Spain
- **Higher order sliding mode control based on optimal linear quadratic control**
S Laghrouche, F Plestan & A Glumineau, IRCCyN, France
- **MIMO 2-sliding control design**
A Levant, Tel-Aviv University, Israel
- **Discrete sliding mode control using fast output sampling feedback**
C M Saaj & B Bandyopadhyay, Indian Institute of Technology, India
- **Sliding mode control of structures with uncertain coupled subsystems and actuator dynamics**
N Luo, R Villamizar & J Vehi, Universidad de Girona, Spain
J Rodellar & V Manosa, Universidad Politècnica de Catalunya, Spain

Stability 3

- **Nested strategies for the quantized feedback stabilization**
F Fagnani, Politecnico di Torino, Italy
S Zampieri, Università di Padova, Italy
- **On the robust stability of uncertain neutral systems with time-varying discrete and distributed delays**
Q-L Han, Central Queensland University, Australia
- **Stability analysis of some class of nonlinear time delay systems with applications**
D M Aguilar & S I Niculescu, Université de Technologie de Compiègne, France

Special Session 2 - Matrix Equations in Systems and Control

- **Large periodic Lyapunov equations: Algorithms and applications**
D Kressner, Technische Universität Berlin, Germany
- **A structure-preserving method for generalized algebraic Riccati equations based on pencil arithmetic**
R Byers, University of Kansas, USA
P Benner, Technische Universität Berlin, Germany
- **Solvability condition for a nonsymmetric Riccati equation appearing in Stackelberg games**
G Freiling, Universität Duisburg, Germany
G Jank & D Kremer, RWTH Aachen, Germany
- **A survey of balancing methods for model reduction**
S Gugercin & A C Antoulas, Rice University, USA
- **Passivity preserving model reduction via interpolation of spectral zeros**
D C Sorensen, Rice University, USA
- **Solving linear matrix equations with SLICOT**
V Sima, National Institute for Research & Development in Informatics, Romania
P Benner, Institut für Mathematik, Germany

Fault Diagnosis 3

- **Auxiliary signal design for failure detection in uncertain sampled-data systems**
R Nikoukhah, INRIA, France
S L Campbell, North Carolina State University, USA
- **Optimal sensor location for fault detection and isolation in linear structured systems**
C Commault & J-M Dion, Laboratoire d'Automatique de Grenoble, France
- **Fault decoupling via generalized output injection**
C Join, J-C Ponsart, D Sauter & H Jamouli, CRAN, Université Henri Poincaré, France

- **Robust fault detection using interval models**
S Tornil & T Escobet, University of Catalonia, Spain
L Travé-Massuyes, Laboratory for Analysis and Architecture of Systems, France
- **Adaptive threshold generation using interval models: time versus frequency domain approaches**
V Puig, J Quevedo & A Stancu, Universidad Politécnica de Cataluna, Spain
- **Joint synthesis of control and fault detection algorithms: study of PI. controller influence**
P Jacques, F Hamelin, C Aubrun & H Jamouli, CRAN, Université Henri Poincaré, France

Communication Networks 3

- **Nonlinear set-theoretic position estimation of cellular phones**
J Horn, K Heesche & W Hauptmann, Siemens AG, Germany
U D Hanebeck, Universität Karlsruhe, Germany
K Riegel
- **A predictive control approach based on the virtual collision concept for best effort traffic control of IP networks**
B A Costa, M S Nunes & J M Lemos, IST/INESC-ID, Portugal
- **Using token leaky buckets for congestion feedback control in packets switched networks with guaranteed boundedness of buffer queues**
V Guffens & G Bastin, Université Catholique de Louvain, Belgium
H Mounier, Ecole Nationale Supérieure des Mines de Paris, France
- **Internal model hop-by-hop congestion control for high-speed networks**
A Pietrabissa, Università di Roma "La Sapienza", Italy

Fuzzy Control 1

- **Multivariable fuzzy control for the simultaneous administration of the anaesthetic and analgesic drugs**
C S Nunes, University of Porto, Portugal
M Mahfouf & D A Linkens, University of Sheffield, UK
J Peacock, Royal Hallamshire Hospital Sheffield, UK
- **Neuro-fuzzy models for air quality planing: the case study of ozone in Northern Italy**
M Volta, Università degli Studi di Brescia, Italy
- **Vision-based feedback control of an industrial band oven**
C G L Bianco, M Romano & A Piazzi, Università di Parma, Italy
- **Fuzzy predictive control strategies and its application to a laboratory tank**
D Sáez, Universidad de Chile, Chile
E Kemerer, Universidad Nacional de Quilmes, Argentina
- **On utilising structural information for adaptive control of a PH neutralisation process**
W W Tan & C H Lo, National University of Singapore, Singapore

MPC 2

- **On optimality and certainty equivalence in output feedback control of constrained uncertain linear systems**
H Haimovich, T Pérez & G C Goodwin, The University of Newcastle, Australia
- **A neural approximation to the explicit solution of constrained linear MPC**
H Haimovich, M M Seron, G C Goodwin & J C Aguero, The University of Newcastle, Australia
- **Efficient model predictive control with prediction dynamics**
S Drageset, L Imsland & B A Foss, Norwegian University of Science and Technology, Norway
- **CRHPC under input constraints; a barrier function approach**
D Jerzy & A Królikowski, Poznań University of Technology, Poland

- **Design of cross-directional controllers with optimal steady state performance**
W P Heath & A G Wills, The University of Newcastle, Australia
- **Predictive storage control for a class of power conversion systems**
B de Jager, Technische Universiteit Eindhoven, The Netherlands

Linear Matrix Inequalities 1

- **Finite-time control with pole placement**
F Amato, Università degli Studi Magna Graecia di Catanzaro, Italy
M Ariola & C Cosentino, Università degli Studi di Napoli Federico II, Italy
- **Robust pole-clustering for descriptor systems a strict LMI characterization**
B Marx, D Koenig & D Georges, Laboratoire d'Automatique de Grenoble, France
- **A simple derivation of ARE solutions to the standard H infinity control problem based on LMI solution**
K-Z Liu & R He, Chiba University, Japan
- **MIMO H-infinity controller design for simultaneous guaranteed input and output stability margins**
V N Chestnov & P A Agafonov, Moscow State Institute of Steel and Alloys, Russia
- **A note on the complex matrix procrustes problem**
J Kiskiras & G D Halikias, City University, UK

Nonlinear systems 3

- **Equivalence of discrete-time nonlinear systems to the feedforward form**
E Aranda-Bricaire, CINVESTAV, Mexico
C H Moog, IRCCyN, France
- **Realisation of nonlinear systems described by input/output differential equations: equivalence of different methods**
U Kotta & T Mullari, Institute of Cybernetics at TTU, Estonia

- **Global tracking for a class of nonlinear systems subject to unknown sinusoidal disturbances**
R Marino & P Tomei, Università di Roma Tor Vergata, Italy
- **A path-following problem for a class of non-linear uncertain system**
M Tosques & L Consolini, Università di Parma, Italy
- **An ellipsoidal state estimation algorithm for nonlinear systems subject to bounded disturbances**
Y Becis-Aubry & M Darouach, CRAN, Université Henri Poincaré, France
M Boutayeb, LSIT-CNRS, Université Louis Pasteur, France

Robust Control 3

- **On the robustness of generalized PI control with respect to parametric uncertainties**
V M Hernández & H Sira-Ramirez, CINVESTAV-IPN, Mexico
- **Synthesis of robust PID controllers for time delay systems**
N Hohenbichler, RWTH Aachen University, Germany
J Ackermann, German Aerospace Centre, Germany
- **On a synthesis method for robust PID controllers for a class of uncertainties**
A Ingimundarson, Edifici TRII, Spain
S Solyom, Lund Institute of Technology, Sweden
- **Classical control theory approach to enzymatic reactions**
E Gershon, Holon Academic Institute of Technology, Israel
R Hiller & U Shaked, Tel-Aviv University, Israel
- **Study of two robust controls for an hydraulic actuator**
V Pommier, ENSICA, France
R Musset, CRAN-AC, FRANCE
P Lanusse & A Oustaloup, Université Bordeaux, France

- **Robust two-time scale control system design for a reactive ion etching system**
N Tudoroiu, K Khorasani & V Yurkevich, Concordia University, Canada

H₂ Control

- **A design procedure for robust H₂ control using a multiplier approach**
A Farag & H Werner, Technical University Hamburg-Harburg, Germany
- **K-S-Phi iteration for robust H₂ controller synthesis**
A Farag & H Werner, Technical University Hamburg-Harburg, Germany
- **New results for H₂ state feedback control of large-scale systems**
H Mukaidani, Hiroshima University, Japan
- **An iterative algorithm for the mixed H₂/H control problem using H₂ norm decreasing controller sets**
Y Kami & E Nobuyama, Kyushu Institute of Technology, Japan
- **A Lyapunov approach to H₂ iterative adjustment for fixed structure controllers**
P Mouyon & C Cumer, ONEA/DCSD, France
Y Losser, SUPAERO, France

Modelling 3

- **Neuro-mechanical modelling and control of winding processes**
P Kabore, H Wang, W Hamad & H Jaafar, UMIST, UK
- **Modelling of microturbine systems**
S Haugwitz, Lund Institute of Technology, Sweden
- **Low order modelling and optimal control design of a heated plate**
M Hazenberg, GOVA Scheepselektronica, The Netherlands
P Astrid & S Weiland, Eindhoven University of Technology, The Netherlands

- **Classification of short duration faults (voltage sags) in transmission and distribution power systems**
D Llanos, J J Mora, J Meléndez, M Ruiz & J Colomer, Universidad de Girona, Spain
J Sánchez & X Corbella, ENDESA Distribucion S.L., Spain
- **The simulation and implementation of an active noise control system in a laboratory duct**
S Sadeghi, J Poshtan & M H Kahaei, Iran University of Science and Technology, Iran

Special Session 3 - New Analysis Techniques for Clearance of Flight Control

- **Harrier aircraft control law clearance analysis using a bifurcation-based method**
M H Loweberg & C D C Jones, University of Bristol, UK
- **Clearance of VAAC harrier CL002 flight control law using μ -analysis techniques**
D G Bates & R Kureemun, University of Leicester, UK
T Mannchen, University of Stuttgart, Germany
- **Flight control system validation using global nonlinear optimisation algorithms**
L S Forssell & A Hyden, Swedish Defence Research Agency (FOI), Sweden
- **Improved computation of mixed μ bounds for flight control law analysis**
T Mannchen, University of Stuttgart, Germany
D G Bates, University of Leicester, UK
- **Clearance of a small scale remotely piloted aircraft by means of a polynomial based analysis method**
F Corraro, E De Lellis, A Giovanni & C Marrone, CIRA, Italy

Variable Structure Control

- **Robustness versus unmatched uncertainties of a hybrid variable structure control strategy**
A Ferrara & R Scattolini, Dipartimento di Informatica e Sistemistica, Italy
- **Linear fractional order control of a DC-DC buck converter**
A J Calderón & V Feliu, University of Castilla, Spain
B M Vinagre, University of Extremadura, Spain

- **Second order variable structure systems: behaviour under an unknown input delay**
L Levaggi, DIMA University of Genova, Italy
E Punta, ISSIA CNR, Italy
- **Robust variable structure model following load frequency controller**
B M Patre & D P Chaudhari, S.G.G.S College of Engineering and Technology, INDIA
B Bandyopadhyay, Indian Institute of Technology, India
- **A variable structure approach to energy shaping**
A Macchelli & C Melchiorri, Università di Bologna, Italy
C Secchi & C Fantuzzi, Università di Modena e Reggio Emilia, Italy

Stability 4

- **A simple extension of contraction theory to study incremental stability properties**
J Jouffroy, IFREMER, France
- **Asymptotic characterizations of integral input - output to state stability**
D Angeli, University of Firenze, Italy
- **Solvability of norm-type discrete algebraic Riccati equation**
M Kono, N Takahashi & M Sakamoto, Miyazaki University, Japan

Sampled-Data Systems

- **Controller transfer under sampling rate dynamic changes**
P Albertos, M Valles & A Valera, Universidad Politécnica de Valencia, Spain
- **Multirate sampled-data stabilization of nonlinear systems**
I G Polushin & H J Marquez, University of Alberta, Canada
- **H-infinity controller reduction for nonlinear sampled-data systems**
Y-F Li, Ming Hsin University of Science and Technology, Taiwan
C-F Yung, National Taiwan Ocean University, Taiwan

- **On reduced-order H-infinity filtering for nonlinear systems with sampled measurements**
Y-F Li, Ming Hsin University of Science and Technology, Taiwan
C-F Yung, National Taiwan Ocean University, Taiwan
H-T Sheu, National Taiwan University of Science and Technology, Taiwan

Fault Diagnosis 4

- **Multiobjective design of fault detection filters**
S X Ding, P Zhang & P M Frank, University of Duisburg-Essen, Germany
E L Ding, University of Applied Sciences Gelsenkirchen, Germany
M Sader, University of Applied Sciences Lausitz, Germany
- **Dynamic functional-link neural networks genetically evolved applied to fault diagnosis**
T Marcu, B Köppen-Seliger, P M Frank & S X Ding, University of Duisburg-Essen, Germany
- **Multiple fault isolation in diagnostics of industrial processes**
J M Koscielny & M Bartys, Warsaw University of Technology, Poland
- **Fault diagnosis in nonlinear systems through an adaptive filter under a convex set representation**
M Adam-Medina, M Rodrigues, D Theilliol & H Jamouli, CNRS UMR, France
- **Bayesian network for fault diagnosis**
C H Lo, Y K Wong & A B Rad, The Hong Kong Polytechnic University, Hong Kong

Process Control

- **Feedforward control under the presence of uncertainty**
A Faanes & S Skogestad, Norwegian University of Science and Technology, Norway
- **Control structure selection for open-loop unstable plant with pure integrators using multi-projected systems**
P Saha & Y Cao, Cranfield University, UK
- **A new ratio control architecture**
A Visioli, University of Brescia, Italy

- **Multivariable control configurations for fluid catalytic cracking units**
H Puebla, Instituto Mexicano del Petroleo, Mexico
J Valencia & J Ramirez, Universidad Autonoma Metropolitana-Iztapalapa, Mexico
- **Process control teaching on laboratory plant supported by intelligent tutoring system**
N Bolf & J Bozicevic, University of Zagreb, Croatia
S Stankov, University of Split, Croatia
- **Design of a new IPC-Mode chemical process operator-training simulator**
Z Y Zou, Beijing Research Institute of Pharmaceutical Chemistry, China
G P Liu, University of Nottingham, UK

Fuzzy Control 2

- **Amplitude, phase and frequency fuzzy controllers of a fast ferry vertical motion**
M Santos, R López & J M de la Cruz, Universidad Complutense de Madrid, Spain
- **Chattering reduction via fuzzy logic: Application to a stepper motor**
B Rincón Márquez, A G Loukianov & E N Sanchez, CINVESTAV IPN Unidad Guadalajara, Mexico
- **Switching fuzzy logic control for a reconfigurable system considering communication time delays**
H Benitez-Pérez & F Garcia-Nocetti, IIMAS, UNAM, Mexico
- **Implementation of a fuzzy lyapunov-based control strategy for a macro-micro manipulator**
A Mannani, H A Talebi & Y N Asbagh, Amirkabir University of Technology, Iran

Robust MPC

- **An efficient maximization algorithm with implications in min-max predictive control**
T Alamo, D Muñoz de la Peña & E F Camacho, Universidad de Sevilla, Spain
- **On robust optimisation and the optimal control of constrained linear systems with bounded state disturbances**
E C Kerrigan & J M Maciejowski, University of Cambridge, UK

- **Robust receding-horizon estimation for uncertain discrete-time linear systems**
A Alessandri, National Research Council of Italy, Italy
M Baglietto & G Battistelli, DIST - University of Genoa, Italy
- **A GPC controller robustification towards measurement noise and parameter uncertainty constraints**
P Rodriguez & D Dumur, Supélec, France
E Mendes, CNRS, Supélec, France
- **Design of robust explicit model predictive controller via orthogonal search tree partitioning**
A Grancharova & T A Johansen, Norwegian University of Science and Technology, Norway

Linear Matrix Inequalities 2

- **An LMI approach to stability of discrete delay systems**
E Fridman & U Shaked, Tel-Aviv University, Israel
- **A stability analysis and synthesis for slowly time varying systems based on non-common Lyapunov matrices**
G Chen & T Fujinaka, University of Osaka Prefecture, Japan
H Shibata, Doshisha University, Japan
- **LMI-based control design for discrete polytopic LPV systems**
Q Rong & G W Irwin, Queen's University Belfast, UK
- **A new delay-dependent stability criterion for neutral delay systems with norm-bounded uncertainty**
Q-L Han, Central Queensland University, Australia

Nonlinear Systems 4

- **Further results on the existence of a continuous storage function for nonlinear dissipative systems**
I G Polushin & H J Marquez, University of Alberta, Canada
- **An adaptive PID-type iterative learning controller for unknown nonlinear systems with initial state errors**
Y-C Wang & C-C Teng, National Chiao-Tung University, Taiwan
C-J Chien, Huafan University, Taiwan

- **Switching adaptive control of affine nonlinear system**
D V Efimov, Institute of Problem Mechanical Engineering, Russia
- **Adaptive stabilization of nonlinear system with functional uncertainty**
A A Bobstov, St. Petersburg State Institute of Fine Mechanics and Optics, Russia
D V Efimov, Institute of Problem Mechanical Engineering, Russia

Robust Control 4

- **Stability criteria for systems with bounded uncertain time-varying delay**
C-Y Kao & A Rantzer, Lund Institute of Technology, Sweden
- **Two-norm optimal controllers deliver optimal robust disturbance attenuation**
A M Holohan, Dublin City University, Ireland
- **Robustness bounds for matrix Du-stability**
J Bosche, O Bachelier & D Mehdi, Ecole Superieure d'ingenieurs de Poitiers, France
- **Persistent bounded disturbance rejection for impulsive systems with polytopic uncertainties**
F Hao, L Wang, T Chu & L Huang, Peking University, China
- **Robust stabilization of jumping system via static output feedback**
P V Pakshin & D M Retinsky, Nizhny Novgorod State Technical University at Arzamas, Russia
- **Robust predictive control for linear systems subject to norm-bounded model uncertainty**
A Casavola & G Franzè, DEIS Università della Calabria, Italy
D Famularo, ICAR Consiglio Nazionale della Ricerche, Italy

Optimal Control 1

- **Singular structure convergence for linear quadratic problems**
J Yuz, G Goodwin & J De Doná, The University of Newcastle, Australia
A Feuer, The Technion, Israel

- **LQ optimal control problem in a behavioral setting: new perspectives on the problem statement and solution**
G Parlangei, Università di Lecce, Italy
M E Valcher, Università di Padova, Italy
- **Optimal control of uncertain piecewise affine/mixed logical dynamical systems**
M P Silva, M A Botto & J Sá da Costa, Technical University of Lisbon, Portugal
A Bemporad, Università di Siena, Italy
- **ℓ_1 -optimal control with asymmetric bounds**
M Naib & A Benzaouia, Faculty of Sciences Semlalia, Morocco
F Tadeo, Universidad de Valladolid, Spain
- **Optimal input design for low-dimensional systems: An haldane kinetics example**
K J Keesman & J D Stigter, Wageningen University, The Netherlands

Polynomial Methods

- **Some remarks on static output feedback stabilisation problem: necessary conditions for multiple delay controllers**
V L Kharitonov, CINVESTAV-IPN, Mexico
S I Niculescu, Université de Technologie de Compiègne, France
J Moreno, Ciudad University, Mexico
W Michiels, K.U.Leuven, Belgium
- **Comparison of algorithms for computing infinite structural indices of polynomial matrices**
J C Zúñiga & J C Zuniga, Centre National de la Recherche Scientifique, France
D Henrion, Centre National de la Recherche Scientifique, France/Academy of Sciences of the Czech Republic, Czech Republic
D Henrion, Academy of Sciences of the Czech republic, Czech Republic
- **Aspects on analysis and synthesis of linear discrete systems over the finite field F_q**
J Reger & K Schmidt, Universität Erlangen-Nürnberg, Germany

- **Regularizing for polynomial matrices and its applications**
W Kase, Osaka institute of technology, Japan
Y Mutoh, Sophia University, Japan
- **On the reduction of an arbitrary 2-D polynomial matrix to GSS form**
M S Boudelloua & B Chentouf, Sultan Qaboos University, Oman
- **New results on the convex direction with respect to a given Hurwitz polynomial**
Z Wang & W Yu, Chinese Academy of Sciences, China
L Wang, Peking University, China
G Liu, University of Nottingham, UK

Tuesday Posters

- **The describing function method accuracy in first order plants with rate-limited feedback**
M Román & E Ponce, Universidad de Sevilla, Spain
- **Application of two-degree-of-freedom control to electrodynamic shaker using adaptive filter based on H-infinity filter**
M Fujita, Kanazawa University, Japan
Y Uchiyama, IMV Corporation, Japan
- **Influence of time-delay mismatch on robustness and performance**
L Keviczky & Cs Bányász, Hungarian Academy of Sciences, Hungary
- **Comparing the performance of some neural fraud detectors in telecommunications**
M R Arahal, F Pavón & E F Camacho, Universidad de Sevilla, Spain
M Berenguel, Universidad de Almeria, Spain
- **Guaranteed stabilised plants**
A G Alexandrov, Institute of Control Science, Russia

- **Symbolic computation environment for nonlinear L2 control: Application examples**
A Consegliere & M J López, Universidad de Cadiz, Spain
- **Control of discrete linear repetitive processes with application to a material rolling process**
B Sulikowski & K Galkowski, University of Zielona Gora, Poland
E Rogers, Univeristy of Southampton, UK
D H Owens, University of Sheffield, UK
- **Robust stabilization of interval plants**
B M Patre & P J Deore, SGGGS College of Engineering and Technology, India
- **On modification of a class of lyapunov-based robust controllers subject to bounded input**
S-T Peng, Southern Taiwan University, Taiwan
- **Fault detection and isolation in a fed-batch penicillin fermentation process**
H Zhang, North East Wales Institute of Higher Education, UK
B Lennox, University of Manchester, UK
- **Discrete sliding mode control of permanent magnet stepper motor using flatness property**
V Thakar & B Bandyopadhyay, IIT Bombay, India
- **Decentralised controller design to enforce boundedness, liveness and reversibility in petri nets**
A Aybar & A Iftar, Anadolu University, Turkey
- **Direct adaptive control design and synchronization of Chua's circuit**
L Acho Zuppa, CITEDI-IPN, USA
- **H-Infinity performance of interval systems**
L Wang, Peking University, China
- **State estimation and bath control for the electroless nickel-plating process**
R Tenno & H Koivo, Helsinki University of Technology, Finland

- **Higher order sliding mode precision-limit positioning of a direct drive system**
S K Spurgeon & C Edwards, University of Leicester, UK
C Hsieh & C L Chen, National Cheung Kung University, Taiwan
- **Solving weighted mixed sensitivity H-infinity problem by decentralised control feedback**
B Labibi, A Khaki Sedigh & P Jabedar Maralani, University of Technology, Iran
B Lohmann, University of Bremen, Germany
- **Polynomial methods and LMI optimization: new robust control functions for the polynomial toolbox 3.0**
D Henrion, Centre National de la Recherche Scientifique, France/Academy of Science of the Czech Republic, Czech Republic
M Šebek, Czech Technical University, Czech Republic
- **Functional safety analysis of safety-related systems using majority decision according to IEC 61508**
K Suyama, Tokyo University of Mercantile Marine, Japan
- **Asymptotically exact input-output linearization using carleman linearization**
J Deutscher, Universität Erlangen-Nürnberg, Germany
- **Robust stabilization of nonlinear plants with uncertain hysteresis-like actuator nonlinearities**
M L Corradini & G Parlangeli, Università di Lecce, Italy
G Orlando, Università Politecnica delle Marche, Italy
- **Synthesis of anti-windup loops for enlarging the stability region of time-delay systems with saturating inputs**
J M Gomes Da Silva Jr, UFRGS, Brazil
S Tarbouriech & G Garcia, LAAS-CNRS, France
- **Solution to the general robust strictly positive real synthesis problem for polynomial segments**
W Yu, Chinese Academy of Sciences, China
L Wang, Peking University, China
J Ackermann, German Aerospace Centre, Germany

- **Anti-windup circuits in adaptive pole-placement control**
D Horla & A Królikowski, Poznań University of Technology, Poland
- **Robust stability of time-delay continuous-time systems in polytopic domains**
P L D Peres, University of Campinas, Brazil
S Tarbouriech & G Garcia, LAAS du CNRS, France
V J S Leite, CEFET-MG, Brazil
- **On weight adjustments in H-infinity control design**
A Lanzon, The Australian National University, Australia
X Bombois, Delft University of Technology, The Netherlands
B D O Anderson, National ICT / The Australian National University, Australia
- **Robust stability analysis of simple control algorithms in communication networks**
Q-C Zhong, Imperial College London, UK
- **Robust control design of linear systems with polytopic time-varying uncertainty: an iterative SDP approach**
Q Rong & G W Irwin, Queen's University Belfast, UK
- **Further results on dynamic feedback linearization**
S Battilotti & C Califano, Antonio Ruberti Università degli Studi di Roma, Italy
- **Modifications of sliding mode controller by neural network with application to a flexible link**
M J Yazdanpanah, University of Tehran, Iran
A Ghafari, University of Technology, Iran
- **Locally positive non-linear systems**
T Kaczoreck, Warsaw University of Technology, Poland
- **Stability of a networked control system using linear matrix inequalities**
M Garcia & A Barreiro, Campus Universitario As Lagoas, Spain

Aerospace Applications 1

- **Visual servoing with orientation limits of a X4-flyer**
N Metni, LCPC - Paris, France
T Hamel, Cemif-SC FRE-CNRS 2494, France
I Fantoni, Heudiasyc, UMR CNRS 6599, France
- **Global stabilizing control design for the PVTOL aircraft using saturation functions on the inputs**
I Fantoni, R Lozano & A Palomino, Heudiasyc, UMR CNRS, France
- **Aircraft angle-of-attack virtual sensor design via a functional pooling NARX methodology**
P A Samara, G N Fouskitakis, J S Sakellariou & S D Fassois, University of Patras, Greece
- **Aircraft parameter and delay identifiability**
C Jauberthie, University of Technology Compiègne, France
L Belkoura & L Denis-Vidal, University of Sciences and Technology, France
- **Resolving actuator redundancy - control allocation vs linear quadric design**
O Härkegard, Linköping University, Sweden

Robotics 1

- **Nearly passive dynamic walking of a kneeless biped robot**
N Khraief & K M Sirdi, Université de Versailles Saint-Quentin en Yvelines, France
M W Spong, University of Illinois, USA
- **Intelligent control techniques for humanoid robots**
D Katić & M Vukobratovic, Mihaito Pupin Institute, Yugoslavia
- **G3-splines for the path planning of wheeled mobile robots**
A Piazzi, M Romano & C Guarino Lo Bianco, Università di Parma, Italy
- **Adaptive vision-based path following control of a wheeled robot**
L Lapiere, D Soetanto & A Pascoal, Institute for Systems and Robotics - IST, Portugal

- **Multi-scenario data driven fuzzy TSK nonholonomic mobile robot modelling**
J T Economou, A Tsourdos, P C K Luk & B A White, Cranfield University-RMCS, UK

Automotive Applications 1

- **Brush tire model with increased flexibility**
J Svendenius, Haldex Brake Products AB, Sweden
B Wittenmark, Lund Institute of Technology, Sweden
- **Design of a control law for a magneto-rheological suspension**
A Giua, M Melas & C Seatzu, University of Cagliari, Italy
- **Collaboration between braking torques and active suspension forces to control a vehicle**
B d' Andrea-Novel & H Chou, Centre de Robotique, France
M Pengov, PSA-Peugeot-Citroën, France
- **Control of the sideslip and yaw rate in 4-wheel steering car using decoupling and individual channel design**
M A Vilaplana, D Leith & W E Leithead, Hamilton Institute, Ireland
- **Lateral vehicle stabilization using constrained nonlinear control**
P Tondel & T A Johansen, Norwegian University of Science and Technology, Norway

Power Systems 1

- **Hybrid emergency voltage control in power systems**
T Geyer & M Morari, ETH Zentrum - ETL, Switzerland
M Larsson, ABB Switzerland, Switzerland
- **Harmonic voltage compensation for single phase power systems**
D Noriega-Pineda & G Espinosa-Perez, Universidad Nacional Autonoma de Mexico, Mexico
- **Development of a hybrid simulator of a fossil fuel steam power plant**
A Aminzadeh, A A Safavi & A R Seifi, Shiraz University, Iran

- **Decoupling control of the active and reactive power for a three-phase inverter**
J Liang, T C Green, G Weiss & Q C Zhong, Imperial College, London, UK

Transport

- **Nonlinear and cooperative control of multiple hovercraft with input constraints**
W B Dunbar, R Olfati-Saber & R M Murray, California Institute of Technology, USA
- **Classical controllers to reduce the vertical acceleration of a high-speed craft**
F J Velasco, T M Rueda & E Moyano, Universidade de Cantabria, Spain
E López, Universidade del Pais Vasco, Spain
- **Modelling and robust control of traffic signal systems**
Y Wakasa & K Tanaka, Yamaguchi University, Japan
K Iwaoka, Matsushita Communication Industrial Co., Japan
- **Motorway traffic state estimation based on extended kalman filter**
Y Wang & M Papageorgiou, Technical University of Crete, Greece
A Messmer, Germany

Process Control Applications

- **Inferential sensor for the olive oil industry**
C Bordons, Escuela Superior de Ingenieros, Spain
M L Zafra, Northwestern University, USA
- **Optimal control of a fermentation process**
G E Carrillo-Ureta & P D Roberts, City University, UK
V M Becerra, University of Reading, UK
- **QFT control of a rotary dryer**
D Jiménez, F Castano & F R Rubio, Universidad de Sevilla, Spain

- **Control of the amplitude in a surging balling drum circuit, a new approach to an old problem**
K Rapp & P-O Nyman, Narvik University College, Norway
- **Catalyst control using a real-time process model**
P L Hastings, Dupont Sabanci Polyester, UK
- **Control methods utilizing energy optimizing schemes in refrigeration systems**
L S Larsen & C Thybo, Danfoss A/C, Denmark
J Stoustrup & H Rasmussen, Aalborg University, Denmark

Neural Networks

- **A ship's minimum time maneuvering system with neural network and non-linear model based super real-time simulator**
N Mizuno, Nagoya Institute of Technology, Japan
Y Mitake, Mitsubishi Electric Co. Ltd, Japan
T Okazaki, National Maritime Research Institute, Japan
K Ohtsu, Tokyo University of Mercantile Marine, Japan
- **Neural state space model based approximation pole assignment control for a class of unknown nonlinear systems**
Q Wu & Y J Wang, Huazhong University of Science and Technology, China
H Wang, UMIST, UK
- **EKF learning for feedforward neural networks**
A Alessandri, M Cuneo & S Pagnan, ISSIA-CNR National Research Council of Italy, Italy
C Cirimele & M Sanguineti, University of Genoa, Italy
- **An iterative nonlinear predictive control algorithm based on linearisation and neural models**
M Lawrynczuk & P Tatjewski, Warsaw University of Technology, Poland
- **Refined qualitative analysis for a class of neural networks**
M-H Matcovschi & O Pastravanu, Technical University "Gh. Asachi" of Iasi, Romania

Nonlinear MPC

- **Nonlinear model predictive control using automatic differentiation**
Y Cao & R Al-Seyab, Cranfield University, UK
- **Output-feedback nonlinear model predictive control using high-gain observers in original coordinates**
R Findeisen & F Allgöwer, University of Stuttgart, Germany
L Imsland & B A Foss, NTNU, Norway
- **Approximate robust receding horizon control for piecewise linear systems via orthogonal partitioning**
M Mukai, T Azuma & M Fujita, Kanazawa University, Japan
A Kojima, Tokyo Metropolitan Institute of Technology, Japan
- **Nonlinear trajectory generation for the caltech multi-vehicle wireless testbed**
J Chauvin & L Sinegre, Ecole Nationale Supérieure des Mines de Paris, France
R M Murray, California Institute of Technology, USA
- **Robust MPC of constrained discrete-time nonlinear systems based on zonotopes**
J M Bravo, Universidad de Huelva, Spain
T Alamo, D Limon & E F Camacho, Universidad de Sevilla, Spain
- **Long horizon model predictive control for nonlinear industrial processes**
A A Tiagounov & S Weiland, Eindhoven University of Technology, The Netherlands
J Buijs & B De Moor, Katholieke Universiteit Leuven, Belgium

Linear Matrix Inequalities 3

- **Stability analysis and control synthesis with D C relaxation of parameterized LMIs**
H Ichihara, T Ishii & E Nobuyama, Kyushu Institute of Technology, Japan
- **Linear matrix inequalities in integrated process design**
O Pérez & W Colmenares, Universidad Simon Bolivar, Venezuela
P Vega, Universidad de Salamanca, Spain

- **Multivariable PID controllers via LMI approach applied to a gyrometer**
B Boivin, L Rambault, P Coirault, D Mehdi & J Bosche, LAII-ESIP, France
- **Dynamic optimization for activated sludge integrated design**
M Francisco & P Vega, Universidad de Salamanca, Spain
O Pérez, Universidad Simon Bolivar, Venezuela
M Poch, Universidad de Girona, Spain

Nonlinear Systems 5

- **A regularization method for nonlinear inverse problems by using a volterra model**
R Ouvrard, G Bibes & P Coirault, LAII-ESIP, France
- **Infinity norm measurement of sensitivity function based on limit cycles in a closed-loop experiment**
D Garcia, A Karimi & R Longchamp, EPFL, Switzerland
- **Differential universes in external dynamic linearization**
Z Bartosiewicz & E Pawluszewicz, Bialystok Technical University, Poland
- **Feedback stabilizers for a class of imperfectly known hereditary descriptor systems**
Y Y Lin-Chen & D P Goodall, Coventry University, UK
- **Semiactive control of base isolated structures with actuator dynamics**
R Villamizar, N Luo & J Vehi, Universidad de Girona, Spain
J Rodellar, Universidad Politécnica de Catalunya, Spain
- **A numerical control design method for prototypical aerolastic wing section with structural non-linearity**
P Baranyi & R J Patton, University of Hull, UK

Robust Control 5

- **Robustness of multiple model control**
J Stecha & J Roubal, Czech Technical University, Czech Republic
V Havlena, Honeywell Prague Laboratory, Czech Republic

- **Robust tracking performance enhancement through uncertainty division**
M Gil-Martinez, University of la Rioja, Spain
M Garcíá-Sanz, Public University of Navarra, Spain
- **Projections of dead-zones: a non-singular performance comparison in robust adaptive control**
A Saneí & M French, University of Southampton, UK
- **Ellipsoidal output-feedback sets for robust multi-performance synthesis**
D Peaucelle & D Arzelier, LAAS - CNRS, France
- **New numerical method for the polynomial positivity invariance under coefficient perturbation**
B Tibken & K F Dilaver, University of Wuppertal, Germany
- **The applications and a general solution of a fundamental matrix equation pair**
C-C Tsui, Devry Institute of Technology, USA

Nonlinear Identification 1

- **Local modelling with a priori known bounds using direct weight optimization**
J Roll & L Ljung, Linköping University, Sweden
A Nazin, Institute of Control Sciences, Russia
- **Identification of MISO wiener and hammerstein systems**
F Guo & G Bretthauer, Institute for Applied Computer Science, Germany
- **Instrumental variables approach to identification of polynomial wiener systems**
A Janczak, University of Zielona Góra, Poland
- **Nonlinear system identification in presence of nuisance parameters**
N Ramdani, Université Paris XII - Val de Marne, France
T Poinot, LAIL-ESIP, France
- **A new fast algorithm for identification of non-linear dynamic systems using radial basis function networks**
K Li, Queen's University Belfast, UK

Optimal Control 2

- **Optimisation of a space vector control using MOAM algorithm and extended kalaman filter**
A M Mendoza, S Saludes, R Arnanz & M A Pacheco, Centro de Automatizacion, Robotica y Tecnologias de la Informacion y Fabricacion, Spain
J R Perán, Escuela Técnica Superior de Ingenieros Industriales, Spain
- **Investigation of optimal filtering and smoothing algorithms for one class of applied problems**
O A Stepanov, State Research Center of Russia, Russia
- **Inversion in indirect optimal control**
F Chaplais & N Petit, Ecole Nationale Supérieure des Mines de Paris, France
- **Optimal cost convergence with respect to the time horizon**
E F Costa & J B R do Val, UNICAMP, Brazil
- **Computation of time-optimal switchings for linear systems with complex poles**
F Grognaud, INRIA Sophia-Antipolis, France
R Sepulchre, Université de Liege, Belgium
- **Optimal tuning of PI controllers for first order plus dead time/long dead time models using dimensional analysis**
S Tavakoli & P Fleming, The University of Sheffield, UK

Special Session 4 - Polynomial Methods

- **Comparison of algorithms for computing infinite structural indices of polynomial matrices**
J C Zúñiga, Centre National de la Recherche Scientifique, France
D Henrion, Centre National de la Recherche Scientifique, France/Academy of Sciences of the Czech Republic, Czech Republic
- **Frequency domain design of reduced order H-infinity filters for discrete time systems**
P Hippe & J Deutscher, Universität Erlangen-Nürnberg, Germany

- **FFT based algorithm for polynomial plus-minus factorization**
M Hromčík & M Šebek, Czech Technical University, Czech Republic
- **Inverses of multivariable polynomial matrices by discrete fourier transforms**
S Vologianidis & N Karampetakis, Aristotle University of Thessaloniki, Greece

Aerospace Applications 2

- **Aircraft conflict detection: a method for computing the probability of conflict based on markov chain approximation**
J Hu, University of California at Berkley, USA
M Prandini, Politecnico di Milano, Italy
- **Collision risk modelling of air traffic**
H Blom, B Bakker, M Everdij & M Van Der Park, National Aerospace Laboratory NLR, The Netherlands
- **Star sensor specification standard**
D Dungate & C Van den Kolk, Analyticon Limited, UK
S P Airey, ESA/ESTEC, TOS-ESC, The Netherlands
- **Modelling and control of a single degree-of-freedom dynamic wind tunnel rig**
P M Davidson, M di Bernardo & M H Lowenberg, University of Bristol, UK
- **A path following controller for model-scale helicopters**
R Cunha, C Silverestre & A Pascoal, Institute for systems and robotics, Portugal
- **Control reconfiguration demonstrated at a two-degrees-of-freedom helicopter model**
J Lunze, D Rowe-Serrano & T Steffen, Ruhr Univeristät Bochum, Germany
- **Nonlinear H infinity helicopter hovering control and implementation using CSIA**
C-C Kung, National Defense University, Taiwan
C-D Yang, National Cheng Kung University, Taiwan

Robotics 2

- **Digital implementation of non-integer control and its application to a two-link robotic arm**
D Valério & J Sá Da Costa, Technical University of Lisbon, Portugal
- **Extension of the algorithms with saturation functions for a nonlinear H-infinity/PID controller**
M G Ortega, F R Rubio & T Alamo, Universidad de Sevilla, Spain
- **Preshaping command inputs for explicit fractional derivative systems: application to crane control**
A Poty, P Melchior, F Levron, B Orsoni & A Oustaloup, Université Bordeaux, France
- **Fault detection and isolation in flexible-joint manipulators**
N Vasegh, K.N. Tossi University of Technology, Iran
M J Yazdanpanah, University of Tehran, Iran

Automotive Applications 2

- **Backlash gap position estimation in automotive powertrains**
A Lagerberg, Jönköping University, Sweden
B S Egardt, Chalmers University of Technology, Sweden
- **Control strategies for a spark ignition engine during the warm-up phase**
M C De Gennaro, G Fiengo & L Glielmo, Università del Sannio, Italy
S Santini, Università degli Studi di Napoli Federico II, Italy
- **Auxiliary power unit control for hybrid electric vehicles**
G Fiengo & F Vasca, Università del Sannio, Italy
C Di Fiore & D Lepore, Centro Ricerche FIAT, Italy
- **Recursive spline interpolation method for real time engine control applications**
A Stotsky & A Forgo, Volvo Car Corporation, Sweden

Power Systems 2

- **Robust transient stabilization of a synchronous generator with parameter uncertainty**
R Marino & C M Verrelli, Università de Roma Tor Vergata, Italy
T Shen, Sophia University, Japan
- **Modelling and controller design for VSC-HVDC attached to an AC network**
M Durrant & H Werner, Technical University of Hamberg-Harburg, Germany
K Abbott, ALSTOM T&D Ltd, UK
- **Control of shunt active filter based on the internal model principle: tuning procedure and experimental results**
F Ronchi, A Tilli & L Marconi, DEIS - University of Bologna, Italy
- **LQG control of steam temperature in power plants**
B Codrons, Laborelec SCRL, Belgium

Manufacturing 1

- **Synchronous control of linear servo systems for CNC machine tools**
M-C Tsai, M-F Hsieh & W-S Yao, National Cheng Kung University, Taiwan
- **A generic engine for alarm filtering in automated production systems**
A K A Toguyéni, A Ghariani & E Craye, Laboratoire d'Automatique et d'Informatique Industrielle de Lille, France
- **A novel work in progress based production control system**
D L Capozzi, AMS-jv, UK
C Del Vecchio & L Glielmo, Università degli Studi del Sannio, Italy
- **Controller benchmarking based on economic benefits**
H Xia, P Majecki, A Ordys & M Grimble, University of Strathclyde, UK
- **A framework based on corba and OO technologies for remote access to industrial plants**
I Calvo, M Marcos & D Orive, University of the Basque Country, Spain

- **Deadlock avoidance based on banker's algorithm for FMS**

X Gang & W Zhiming, Shanghai Jiaotong University, China

Railway

- **Robust output feedback control for the lateral dynamics of a railway car**

A Cavallo, C Natale & P Capasso, Seconda Università degli Studi di Napoli, Italy

- **Parameter estimation of railway vehicle dynamic model using Rao-Blackwellised particle filter**

P L Li & R Goodall, Loughborough University, UK

V K Kadiramanathan, University of Sheffield, UK

- **Active steering of railway vehicles: a feedforward strategy**

S Shen & T X Mei, University of Leeds, UK

R M Goodall & J Pearson, Loughborough University, UK

G Himmelstein, Bombardier Transportation, Germany

- **Control system design methodology of an active stabilisation system for a high speed railway vehicle**

J T Pearson & R M Goodall, Loughborough University, UK

T X Mei & S Shuiwen, University of Leeds, UK

C Kossmann, Bombardier Transportation, Switzerland

G Himmelstein, Bombardier Transportation, Germany

- **Modelling and study of a railway wheelset with traction**

J Lu & T X Mei, University of Leeds, UK

Water Treatment

- **Linear-quadratic regulators applied to sewer network flow control**

M Marinaki & M Papageorgiou, Technical University of Crete, Greece

- **Robust optimal control of one-reach open-channels**

H Ouarit, L Lefèvre & D Georges, Domaine Universitaire, France

- **Fuzzy supervisory control and substrate addition to improve effluent quality in an activated sludge wastewater treatment plant**

E N Sanchez & G Vera, CINVESTAV, Mexico

J-F Beteau & C Cadet, Institut National Polytechnique de Grenoble, France

- **Predictive control of dissolved oxygen in an activated sludge wastewater treatment plant**

A Sanchez & M R Katebi, University of Strathclyde, UK

Special Session 5A - Automatic Drug Delivery in Health Care

- **Clinical anesthesia and control engineering: Terminology, Concepts and issues**

S Bibian, C R Ries, M Huzmezan & G A Dumont, The University of British Columbia, Canada

- **Regulation of hemodynamic and anesthetic states**

X-S Zhang, Siemens Corp, USA

R Roy, Albany Medical Centre, USA

B Aufderheide, Keck Graduate Institute, USA

R R Rao, Aspen Technology, USA

B W Bequette, Rensselaer Polytechnic Institute, USA

- **An Intelligent system for the control of depth of anesthesia**

D A Linkens & M F Abbod, University of Sheffield, UK

- **Modelling and closed-loop control of skeletal muscle relaxation during general anaesthesia using mivacurium**

K S Stadler & A H Glattfelder, Swiss Federal Institute of Technology (ETH), Switzerland

D Leibundgut, D Leibundgut, P M Schumacher, P M Schumacher, Th Bouillon & A M Zbinden, University Hospital Berne, Switzerland

MPC Applications

- **Identification and predictive control of laser beam welding using neural networks**

A Bollig, D Abel, Ch Kratzsch & S Kaierle, Aachen University, Germany

- **Min-max model predictive control of a laboratory plant**
T Alvarez, J Cuesta, M Ontaria & F Tadeo, Universidad de Valladolid, Spain
J C Allwright, Imperial College London, UK
- **Fuel consumption reduction with a starter-alternator using an MPC-based optimisation**
M Eifert, Ford Forschungszentrum Aachen, Germany
- **Explicit model predictive control of gas-liquid separation plant**
A Grancharova & T A Johansen, Norwegian University of Science and Technology, Norway
J Kocijan, Jozef Stefan Institute, Slovenia
- **Model predictive control for tracking of repetitive organ motions during teleoperated laparoscopic interventions**
R Ginhoux, J A Gangloff & M F de Mathelin, Strasbourg I University, France
L Soler, J Leroy & J Marescaux, University Hospital of Strasbourg, France
- **Robust nonlinear predictive flight control**
A Yousef, M Grimble, A Ordys & A Dutka, University of Strathclyde, UK
D Anderson, Industrial Systems and Control Ltd, UK

Nonlinear Applications

- **Geometric energy based analysis and controller design of hydraulic actuators applied in rolling mills**
G Grabmair & K Schlacher, J.K.University, Austria
A Kugi, Saarland University, Germany
- **State feedback control of a class of positive systems: application to gas lift stabilisation**
L Imsland, B A Foss & G O Eikrem, Norwegian Univeersity of Science and Technology, Norway
- **Transient control and voltage regulation of power systems using approximate solution of HJB equation**
M J Kharaajoo & M J Yazdanpanah, University of Tehran, Iran

- **Compensation of the backlash effects in an electrical actuator**
R Merzouki, J C Cadiou & N K M'Sirdi, Laboratoire de Robotique de Versailles, France
- **A cascaded tracking control concept for pneumatic muscle actuators**
A Hildebrandt & O Sawodny, Technische Universität Ilmenau, Germany
R Neumann & A Hartmann, Festo AG & Co., Germany
- **Zero dynamics of continuous and fed-batch bioreactors**
G Szederkenyi & K M Hangos, Hungarian Academy of Sciences, Hungary
T Schné, University of Veszprém, Hungary

Special Session 6A - Nonlinear modelling and control of (bio) chemical process

- **Identification of reaction schemes for bioprocesses: Determination of an incompletely known yield**
O Bernard, INRIA-COMORE, France
G Bastin, UCL-CESAME, France
- **Hybrid extended Luenberger – asymptotic observer for bioprocess state estimation**
X Hulhoven, Université Libre de Bruxelles, Belgium
A Vande Wouwer, Faculté Polytechnique de Mons, Belgium
Ph Bogaerts, Université Libre de Bruxelles, Belgium
- **Nonlinear control for algae growth models in the chemostat**
L Mailleret, J-L Gouzé & O Bernard, INRIA-COMORE, France
- **A two-level hybrid control strategy for the start-up of a coupled distillation plant**
A Itigin, Universität Stuttgart, Germany
J Raisch, Universität Magdeburg, Germany / Max-Planck-Institut für Dynamik komplexer technischer Systeme, Germany
T Moor, Australian National University, Australia
A Kienle, Max-Planck-Institut für Dynamik komplexer technischer Systeme, Germany / Otto-von-Guericke Universität Magdeburg, Germany

- **Simultaneous estimation of nitrification / denitrification kinetics and influent nitrogen load using ORP and DO dynamics**

I Queinnec, LAAS-CNRS, France

M Spérandio, Laboratoire d'Ingénierie des Procédés, France

Nonlinear Identification 2

- **Nonlinear system identification based on evolutionary dynamic neural networks with complex weights**

L Ferariu, GH. Asachi Technical University of Iași, Romania

- **Direct identification of nonlinear structure using gaussian process prior models**

W E Leithead & D J Leith, Hamilton Institute, Ireland

E Solak, University of Strathclyde, UK

- **A real-time multiple-model based control and identification of a nonlinear process**

A Aminzadeh, A A Safavi & A Khayatian, Shiraz university, Iran

Observers 1

- **Integral action - a disturbance observer approach**

J Akesson & P Hagander, Lund Institute of Technology, Sweden

- **Strictly positive real problem with observers**

J Collado, CINVESTAV, Mexico

R Lozano, HEUDYASIC, France

R Johansson, Lund University, Sweden

- **A state bounding observer based on zonotopes**

C Combastel, ECS-ENSEA,, France

- **What is the minimum function observer order**

C-C Tsui, Devry Institute of Technology, USA

- **Enlarging the class of linear systems admitting adaptive observers without persistent excitation**
H Shim & J Back, Seoul National university, Korea
Y I Son, Myongji University, Korea
N H Jo, Soongsil university, Korea

Systems Theory 1

- **Compatibility of behaviour interconnections**
A A Julius & A J Van De Schaft, University of Twente, The Netherlands
- **Reduced complexity estimation for large scale hidden markov models**
S Dey & I Mareels, University of Melbourne, Australia
- **A combinatorial approach to the (positive) reachability of 2D positive systems**
E Fornasini & M.E. Valcher, Università di Padova, Italy
- **A note on gramian-based interaction measures**
W Birk, Volvo Cars Corporation, Sweden
A Medvedev, Uppsala University, Sweden
- **Data validation in the presence of imprecisely known correlations**
U D Hanebeck, Technische Universität Karlsruhe, Germany
J Horn, Siemens AG, Germany
- **Large deviations and deterministic measures of information**
C D Charalambous, University of Ottawa, Canada
S M Djouadi, University of Arkansas at Little Rock, USA

Aerospace Applications 3

- **Mixed μ -analysis applied to the control of the metop spacecraft**
C Beugnon, B Girouart & B Frapard, EADS-Astrium, France
K Lagadec, Airbus, France

- **Tracking control using attitude measurements for flexible spacecraft**
S Di Gennaro, Università di l'Aquila, Italy
- **Receding horizon control of an F-16 aircraft: a comparative study**
T Keviczky & G J Balas, University of Minnesota, USA
- **Combined adaptive controller for UAV guidance**
B R Andrievsky & A L Fradkov, Russian Academy of Sciences, Russia

Robotics 3

- **Master-slave robot position coordination based on estimated variables**
H Nijmeijer & A Rodriguez-Angeles, Eindhoven University of Technology, The Netherlands
- **The ISS small gain approach to stabilization of bilaterally controlled teleoperators with communication delay**
I G Polushin & H J Marquez, University of Alberta, Canada
- **Smooth variable structure observer-controller with adaptive gains. Application to robot manipulators control**
A Filipescu, L Dugard & J M Dion, Laboratoire d'Automatique Grenoble, France
- **Nonlinear friction estimation for digital control of direct-drive manipulators**
B B Bona, M Indri & N Smaldone, Politecnico di Torino, Italy
- **Stereo vision-based trajectory following without correspondence information**
W C Chang, National Taipei University of Technology, Taiwan

Motion Control

- **Iterative learning control for variable setpoints, applied to a motion system**
I Rotariu & G van Baars, Philips Centre for Industrial Technology, The Netherlands
M Steinbuch & R Ellenbroek, Eindhoven University of Technology, The Netherlands
- **Adaptive focus search for Blu-Ray disc recorder**
D Kelbas, M Byung-In, K Kwan-Joon, S Dong-Ho, P In-Sik & J Soo-Yul, Samsung Electronics Co., Korea

- **Pole placement/sensitivity function shaping and controller order reduction in DVD players (focus control group)**
B Hnilicka & A Besancon-Voda, ENSIEG, France
G Filardi & H J Schröder, STMicroelectronics, France
- **Robust H-infinity control of a DVD drive under parametric uncertainties**
G Filardi & H J Schröder, ST Microelectronics, France
O Sename, INRIA Rhone-Alpes, France
A Besancon-Voda, Laboratoire d'Automatique de Grenoble, France
- **Application of H-infinity control to a variable resonance stabilisation mechanism**
D Anderson, University of Strathclyde, UK
N Brignall, BAE Systems, UK

Energy Control

- **Variable speed control of wind turbines using tuning functions design**
M H Casado & D E Corbellini, Universidad de Cádiz, Spain
A F Ameal, Escuela Superior de la Marina Civil, Spain
- **Adaptive nonlinear control of a distributed collector solar field**
J M Igreja, INESC-ID/ISEL, Portugal
J M Lemos, INESC-ID/IST, Portugal
M Barao, INESC-ID/U, Portugal
R N Silva, UNL, Portugal
- **Optimal control of a solar greenhouse**
R J C van Ooteghem, J D Stigter, L G van Willigenburg & G van Straten, Wageningen University, The Netherlands
- **Adaptive control strategies for greenhouse temperature control**
M Berenguel & F Rodriguez, Universidad de Almería, Spain
L J Yebra, CIE MAT, Spain

- **A hierarchical control system for maximizing profit in greenhouse crop production**
F Rodriguez & M Berenguel, Universidad de Almería, Spain
M R Arahul, Universidad de Sevilla, Spain

Manufacturing 2

- **Flatness control of strip in continuous hot rolling processes**
W K Hong & J J Yi, Research Institute of Industrial Science & Technology, Korea
J J Choi & J S Kim, Pusan National University, Korea
- **Benchmarking for process control with applications in the hot strip finishing steel mill**
D Greenwood, M A Johnson & M J Grimble, University of Strathclyde, UK
- **A chance-constrained stochastic inventory problem under imperfect information of state**
O S Silva Filho & W Cezarino, Renato Archer Research Center, Brazil
- **Design of supervisory machine control**
N J M van den Nieuwelaar, J M van de Mortel-Fronczak & J E Rooda, Eindhoven University of Technology, The Netherlands

Induction Motors

- **Simultaneous state and parameter estimation in asynchronous motors under sensorless speed control**
G Besancon & A Ticlea, ENSIEG, France
- **Non-invasive torque estimation for broken bar detection in induction motors**
E El Tabach, A Charara & I Zein, Université de Technologie de Compiègne, France
- **Sensorless control of induction motors with exponential stability property**
M Montanari & A Tilli, University of Bologna, Italy
S Peresada, Kiev Politechnical Institute, Ukraine

- **Adaptive speed control for linear induction motors considering end effect**
K-Y Lian & C-Y Hung, Chung-Yuan Christian University, Taiwan
L-C Fu, National Taiwan University, Taiwan
- **PR-sliding sectors for continuous and discrete time sliding mode controllers for an induction motor**
A Midoun-Oussedik & M Hamerlain, Centre de Developpement des Technologies Avancees, Algeria

Biological Applications

- **Modelling and closed-loop control of skeletal muscle relaxation during general anaesthesia using mivacurium**
K S Stadler, Swiss Federal Institute of Technology, Switzerland
K S Stadler, University Hospital Berne, Switzerland
A H Glattfelder, Swiss Federal Institute of Technology, Switzerland
A H Glattfelder, D Leibundgut, D Leibundgut, P M Schumacher, P M Schumacher, T Bouillon, Th Bouillon, A M Zbinden & A M Zbinden, University Hospital Berne, Switzerland
- **Global analysis of HIV models**
P De Leenheer & H L Smith, Arizona State University, USA

Special Session 5B - Automatic Drug Delivery in Health Care

- **Measurement and control of neuromuscular blockade and depth of anesthesia**
O Simanski, R Kähler, B Pohl, R Hofmockel, R Friedrich & B P Lampe, University of Rostock, Germany
- **Fractal space and time - sources of nonlinearity in drug elimination**
R Marsh, J Fuite & J A Tuszyński, University of Alberta, Canada
- **A model free approach to controlling blood glucose**
L Santoso & I M Y Mareels, University of Melbourne, Australia

Multivariable Control 1

- **Relative gain array analysis of uncertain multivariable plants**
A Khaki-Sedigh & B Moaveni, K.N Toosi University of Technology, Iran

- **Self-optimizing control structure selection via differentiation**
Y Cao, Cranfield University, UK
- **Structural selection for decentralised control schemes**
N Karcanias & J Leventides, City University, UK
- **Independent design of decentralized controllers for specified closed-loop performance**
A Kozáková & V Veselý, Slovak University of Technology, Slovak Republic
- **Evolutionary dominance-based design of linear multivariable controllers**
B Porter, N Munro & N A Nobakhti, UMIST, UK

Flat Systems

- **Flatness-based feedback tracking control of a distributed parameter tubular reader model**
T Meurer & M Zeitz, University of Stuttgart, Germany
J Becker, Institute of Mechanics, Germany
- **Trajectory generation for a remotely operated vehicle**
S L Fraga, J B Sousa & F L Pereira, Universidade do Porto, Portugal
- **Control of an electromagnetic linear actuator using flatness property and systems inversion**
P Mercorelli, K Lehmann, H Muamer & B Reimann, Institut für Automatisierung und Informatik, Germany
S Liu, Harz University of Applied Studies and Research, Germany
- **A method to determine a flat output and the parametrization of the solution of some systems described by partial differential equations**
C Fleck & D Abel, Aachen University of Technology, Germany
- **Flatness based trajectory generation for a system with heat-generation term shown for the inductive heating for thixoforming**
C Fleck, A Schoenbohm & D Abel, Aachen University of Technology, Germany

- **Flatness based open loopcontrol of a parabolic partial differential equation with a moving boundary**
T Paulus, C Fleck & D Abel, Aachen University of Technology, Germany

Special Session 6B - Nonlinear modelling and control of (bio) chemical process

- **A general model of reaction kinetics in biological systems**
J E Haag, A Vande Wouwer & M Remy, Faculté Polytechnique de Mons, France
- **Predicting the onset of filamentous bulking in biological wastewater treatment systems by exploiting image analysis information**
E N Banadda, R Jenné, I Y Smets & J F Van Impe, Katholieke Universiteit Leuven, Belgium
- **A two dimensional bounded error observer for a class of bioreactor models**
V Lemesle & J-L Gouzé, COMORE INRIA, France
- **Coagulation control using the streaming current detector: problems and a possible solution**
A Adgar & C S Cox, University of Sunderland, UK
C A Jones, Northumbrian Water Ltd, UK

Stochastic Systems

- **Function optimization by simultaneous perturbation stochastic approximation with randomly varying truncations**
K Uosaki & T Hatanaka, Osaka University, Japan
A Yonemochi, Seiko Epson Corp, Japan
H-F Chen, Chinese Academy of Science, China
- **Hysteresis-based switching control of stochastic linear systems**
M Prandini, Politecnico di Milano, Italy
J P Hespanha, University of California, USA
M C Campi, University of Brescia, Italy

- **Cascade stochastic differential systems: asymptotic stabilization via a jurdjevic-quinn approach**
L Daumail, Université de Metz, France
- **On systems and control concepts in linear interest rate theory**
M A Petersen, Potchefstroom University, South Africa
- **A prediction-based behavioural model for financial markets**
L Gerencsér & Z Matyás, Computer and Automation Institute of the Hungarian Academy of Sciences, Hungary
- **Stochastic optimal control of dynamic systems under gaussian and poisson excitations**
D V Iourtchenko, University of Miami, USA
A S Bratus, Moscow State University, Russia
M F Dimentberg, Worcester Polytechnic Institute, USA

Observers 2

- **Event-based observer design for observable nonlinear systems with bad input points**
A Vargas & M Zeitz, Universität Stuttgart, Germany
J A Moreno, Instituto de Ingeniería, Mexico
- **A performance comparison between backstepping and high-gain observer control designs**
C Xie & M French, University of Southampton, UK
- **Vehicle sideslip angle observers**
J Stéphant, A Charara & D Meizel, Université de Technologie de Compiègne, France
- **A relaxed criterion for contraction theory: application to an underwater vehicle observer**
J Jouffroy, IFREMER, France
- **Observer design for a class of descriptor systems**
M Hou, Univeristy of Hull, UK
P C Müller, University of Wuppertal, Germany

Systems Theory 2

- **Simulation based algorithms for solving semi-infinite programming problems**
V Tadić, University of Sheffield, UK
S P Meyn, University of Illinois, USA
R Tempo, Politecnico di Torino, Italy
- **Turnpike theorems by a value function approach**
P Cartigny, GREQAM, France
A Rapaport, INDRA-LASB, France
- **Capture into resonance: a novel method of efficient control**
D Vainchtein & I Mezić, University of California, USA
- **A piecewise smooth switching control algorithm for chained form systems**
K-Z Liu, Chiba university, Japan
- **Design of infinite impulse response (IIR) filters with almost linear phase characteristics**
G D Halikias, City of University, UK
I M Jaimoukha, Imperial College of Science, Technology and Medicine, UK
- **Application of uncertain variables in a class of control systems with uncertain and random parameters**
Z Bubnicki, Wroclaw University of Technology, Poland

Wednesday Posters

- **Force control with a velocity observer**
J Gudiño-Lau & M A Arteaga, Universidad Nacional Autónoma de Mexico, Mexico
- **Observer based stabilisation of discrete-time nonlinear systems**
K E Bouazza & M Darouach, Université Henri Poincaré-Nancy I, France
M Boutayeb, Université Louis Pasteur of Strasbourg, France

- **Notes on the nested observers for hybrid systems**
S Di Gennaro, Università di L'Aquila, Italy
- **Predictive control of nonlinear hammerstein systems and application to PH processes**
Z Y Zou, University of Nottingham, UK
G P Liu, University of Nottingham, UK / Chinese Academy of Sciences, China
N Guo, Beijing Research Institute of Pharmaceutical Chemistry, China
- **Low order H infinity controller design: An LMI approach**
G Zhai, S Murao, N Koyama & M Yoshida, Wakayama University, Japan
- **H-Infinity model matching in two degree of freedom control structure**
L Gören, Istanbul Technical University, Turkey
- **Feedback design of control algorithms for dissociation of diatomic molecules**
A Efimov, A Fradkov & A Krivtsov, Russian Academy of Sciences, Russia
- **Numerical algorithm for optimal multi-variable control of aero engines**
O D Lyantsev, G G Kulikov & V Y Arkov, Ufa State Aviation Technical University, Russia
T V Breikin, University of Sheffield, UK
- **The advanced vehicle control algorithm using neural networks**
A Rodić, D Katić & M Vukobratović, Mihajlo Pupin Institute, Serbia & M.N.
- **Brake control to prevent the rollover of heavy vehicles based on a linear parameter varying model**
P Gaspar & J Bokor, Hungarian Academy of Sciences, Hungary
I Szaszi, Budapest University of Technology and Economics, Hungary
- **Estimating the lyapunov exponents of chaotic time series: a model based method**
M Ataei & B Lohmann, University of Bremen, Germany
A Khaki-Sedigh, K N Toosi University of Technology, Iran
C Lucas, University of Tehran, Iran

- **Robust H infinity control of quarter-car semi-active suspensions**
O Sename, INRIA Rhone-Alpes, France
L Dugard, Laboratoire d'Automatique de Grenoble, France
- **Dynamic tracking control of nonholonomic mobile robot with model reference adaptation for uncertain parameters**
A Gholipour & M J Yazdanpanah, University of Tehran, Iran
- **Real-time stabilization and tracking of a four rotor mini-rotorcraft**
P Castillo, A Dzul & R Lozano, Heudiasyc - UTC UMR 6599, France
- **Stability analysis of the RBF-ARX model based nonlinear predictive control**
H Peng, Central South University, China
T Ozaki, The Institute of Statistical Mathematics, Japan
K Nakano, The University of Electro-Communications, Japan
V Haggan-Ozaki, Sophia University, Japan
Y Toyoda, Niihama National College of Technology, Japan
- **Controllers tuning in a power-split continuously variable transmission**
S M Savaresi, Politecnico di Milano, Italy
F Taroni, SAME Deutz-Fahr Group, Italy
F Previdi, Università degli Studi di Bergamo, Italy
- **On robust stability of uncertain linear neutral systems with time-varying discrete delay**
Q-L Han, Central Queensland University, Australia
- **Forced oscillations in first order systems**
A P Loh & J Fu, National University of Singapore, Singapore
- **On the equivalence to feedforward forms**
G Kaliora & A Astolfi, Imperial College, UK

- **Impulsive behaviours of discrete and continuous time varying systems: A unified approach**
H Bourles, SAITE, ENS de Cachan and CNAM, France
- **Uniform asymptotic stability of non autonomous parameterized discrete-time cascades: A case study**
A Loria, CNRS, LSS - Supélec, France
D Nešić, The University of Melbourne, Australia
- **Performance of two real time control strategies for AGV systems: A case study**
M Dotoli & M P Fanti, Politecnico di Bari, Italy
- **PID-type controller synthesis via π -sharing theory**
I Kong Fong, J-K Horng & C-C Hsu, National Taiwan University, Republic of China
- **Flatness based asymptotic disturbance rejection for linear and nonlinear systems**
J Deutscher, Universität Erlangen-Nürnberg, Germany
B Lohmann, Universität Bremen, Germany
- **Dynamic optimisation of alternating activated sludge processes**
M Fikar, CNRS-ENSIC, France / FCHFT STU, Slovakia
B Chachuat & M A Latifi, CNRS-ENSIC, France
- **A new power generating units dynamic model**
S Glickman, R Kulesky & G Nudelman, The Israel Electric Corporation Ltd, Israel
- **On-line parameter estimator of an induction motor at standstill**
C-H Fang, S-K Lin & S-J Wang, National Chiao Tung University, Taiwan
- **Robust filtering under randomly varying sensor delay with variance constraints**
Z Wang, Brunel University, UK
D W C Ho, City University of Hong Kong, Hong Kong
- **Positive reachability of discrete-time linear systems**
H Yoshida, T Tanaka & K Yunokuchi, Kagoshima University, Japan

- **Minimization of actuator repositioning using neural networks with application in nonlinear HVAC systems**
M J Yazdanpanah & E Semsar, University of Tehran, Iran
- **Mobile robot modelling using local model networks**
S G Tzafestas & E N Skoundrianos, National Technical University of Athens, Greece
- **Modelling and control of an aluminium strip unwinder-rewinder**
S Leirens & J Pierquin, Pechiney-Research Centre, France
- **Congestion and control of high speed computer networks: A PID method**
L Tan, Central China Normal University, China
S H Yang, Loughborough University, UK

Flow Control

- **Parallel global optimisation based control of boundary layer transition**
G V Veres, O R Tutty, E Rogers & P A Nelson, University of Southampton, UK
- **Adaptive control of separated flows**
M Garwon, L H Darmadi, F Urzyncok, G Bärwolff & R King, Technical University Berlin, Germany
- **Development of model-based sensors and their use for closed-loop control of separated shear flows**
M Garwon, R Becker & R King, Technical University Berlin, Germany

Robotics 4

- **A hybrid neuro-inverse control approach with knowledge-based nonlinear separation for industrial nonlinear system with uncertainties**
T Zhang & M Nakamura, Saga University, Japan
- **Introduction to an integrated design of motion system using over-actuation**
M G E Schneiders, M J G van de Molengraft & M Steinbuch, Eindhoven University of Technology, The Netherlands
- **An optimal smoothing approach for trajectory reconstruction in planetary exploration**
A Brandes, University of Rome "La Sapienza", Italy

- **A comparative study of backlash compensation methods**

T Jukić, Agrokor, Croatia

N Perić, Fakultet Elektrotehnike I Racunarstva, Croatia

Education

- **The quadruple-tank process: an interactive tool for control education**

S Dormido, U.N.E.D, Spain

F Esquembre, Universidad de Murcia, Spain

- **Web based design of virtual teaching in the laboratory of automatic control**

E Granado, W Colmenares, S De Santis, L Conteras & O Perez, Universidad Simon Bolivar, Venezuela

- **Industrial control software teaching at the department of ACS FEI STU**

J Flochová & D Mudrončík, Slovak University of Technology, Slovak Republic

Model Reduction

- **Coprime factor reduction of H infinity controllers**

A Varga, German Aerospace Centre DLR, Germany

- **Recursive low rank hankel approximation and model reduction**

Y Chahlaoui & P van Dooren, Univeriste Cathoilque de Louvain, Belgium

- **Optimal H2 model reduction in state space: a case study**

R L M Peeters, Universiteit Maastricht, The Netherlands

B Hanzon & D Jibeteau, CWI Kruislaan, The Netherlands

- **Model reduction for reaction-convection processes with fast and slow reactions**

M-N Contou-Carrere & P Daoutidis, University of Minnesota, USA

- **A new approach to H infinity suboptimal model reduction for singular systems**

J Wang & Q L Zhang, Northeastern University, China

W Liu, Curtin University of Technology, Australia

Hybrid Systems

- **Discrete-time stability of hybrid systems modelled by linear impulsive systems**
E Joelianto, Institut Teknologi Bandung, Indonesia
D Williamson, University of Wollongong, Australia
- **Observability criteria and estimator design for stochastic linear hybrid systems**
I Hwang, H Balakrishnan & C Tomlin, Stanford University, USA
- **A new algorithm for constrained finite time optimal control of hybrid systems with a linear performance index**
M Baotić, F J Christophersen & M Morari, ETH Zentrum, Switzerland
- **Tracking control of nonsmooth complementarity langrangian systems**
J-M Bourgeot & B Brogliato, INRIA Rhone-alpes, France
- **Linear impulsive differential equations for hybrid systems modeling**
E Joelianto, Institut Teknologi Bandung, Indonesia

Discrete Time Systems

- **Optimal transient response shaping for the discrete-time servomechanism problem**
D E Davison, University of Waterloo, Canada
E J Davison, University of Toronto, Canada
- **One-bit processing for real-time control**
X Wu & R Goodall, Loughborough University, UK
- **Observer based switched control design for discrete-time switched systems**
J Daafouz, P Riedinger & C lung, CRAN - CNRS UMR 7039, France
- **Controllability of switched linear discrete-time systems with multiple time delays**
Y Wang, G Xie & L Wang, Peking University, China

Special Session 7 - Challenges in Computational Biology

- **Some challenges in computational biology**
M Vidyasagar, Tata Consultancy Services, India
- **Computational biology on parallel computers**
S Aluru, Iowa State University, USA
- **Protein structure prediction - An Ab Initio approach**
R Srinivasan & G D Rose, John Hopkins University, USA
- **Alignment algorithms revisited: Alignment algorithms for low similarity protein sequence comparisons**
M J Wise, University of Cambridge, UK
- **Synthesis of hidden Markov models based on finite sample paths and applications to computational biology**
M Vidyasagar, Tata Consultancy Services, USA

Applications General

- **Energy saving benefits of path planning for autonomous underwater vehicles in marine environments with eddies of variable size**
A Alvarez, IMEDEA, Spain
A Caiti, University of Pisa, Italy
- **A nonlinear output feedback control method for magnetic bearing systems**
K-Z Liu & R He, Chiba University, Japan
- **Data mining can help human supervisory control of critical complex industrial systems**
K Li, S Thompson & J Peng, Queen's University Belfast, UK
X Chen, Harbin Institute of Technology, China
- **The state space bounded derivative network superceding the application of neural networks in control**
P Turner & J Guiver, Aspentech Ltd, UK

Multivariable Control 2

- **Algorithm for decoupling and complete pole assignment of linear multivariable systems**
J C Zuniga, Centre National de la Recherche Scientifique, France
J Ruiz-León, Politechnico National, Mexico
D Henrion, Academy of Sciences of the Czech Republic, France
- **Modelling and control of the IES project ROV**
R M F Gomes, J B Sousa & F L Pereira, Porto University, Portugal
- **Control of a laboratory helicopter using feedback linearization**
M López-Martinez & F R Rubio, Universidad de Sevilla, Spain
- **Multivariable LQG optimal control benchmarking and restricted structure controller for benchmark and tuning**
D Greenwood, M A Johnson & M J Grimble, University of Strathclyde, UK
- **ICAD based control of a pressure-level pilot plant**
S Blazic, D Matko & I Skrjanc, University of Ljubljana, Slovenia

Infinite Dimensional Systems

- **Riesz basis and exact controllability of co-groups with one-dimensional input operators**
B Z Guo, Academy of Mathematics and System Sciences, China
G Q Xu, Shanxi University, China
- **On the principle of linearized stability for nonlinear hyperbolic systems**
C Xu & P Amin, Université Claude Bernard, France
D-X Feng, Chinese Academy of Sciences, China
- **Boundary control of non-linear hyperbolic system-migrating object approach**
A D Bogobowicz, Dalhousie University, Canada
- **Boundary stabilization of the wave equation with variable coefficients**
S E Rebiai, Université de Batna, Algeria

Chaos

- **Controlled Lyapunov-exponents in optimisation and finance**
L Gerencsér, M Rásonyi & Z Vagó, Computer and Automation Institute of the Hungarian Academy of Sciences, Hungary
- **Adaptive chaotic synchronization through decentralized extended Kalman-type observers**
D Aubry & F Kratz, LVR-UPRES, France
M Boutayeb, LSIIT-eAVR, France
- **An example of nonlinear discrete-time synchronization of chaotic systems for secure communication**
I Belmouhoub, M Djemai & J-P Barbot, ENSEA, France
- **Chaos may be an optimal plan**
M Papageorgiou, Technical University of Crete, Greece

Repetitive and Periodic Systems

- **A design method of 2-degree-of-freedom repetitive control systems**
K Yamada & T Arakawa, Gunma University, Japan
T Okuyama, Shonai College of Industry and Technology, Japan
- **Digital repetitive control of a single-phase current active filter**
R Grinò, R Costa-Castello & E Fossas, Universidad Politècnica de Catalunya, Spain
- **A behavioral approach to control related analysis of discrete linear repetitive processes**
V R Sule, Indian Institute of Technology, India
E Rogers, University of Southampton, UK
- **Computation of Kalman decompositions of periodic systems**
A Varga, German Aerospace Centre, Germany

- **Fault detection in uncertain linear continuous-time periodic systems**

P Zhang & S X Ding, University of Duisburg-Essen, Germany

G Z Wang & D H Zhou, Tsinghua University, China

T Jeinsch, AE-MOW, Germany

R Noack, Faculty IEM, Germany

Application of Identification

- **Adaptive forward identification and auto-tuning for motor velocity control**

T Kitade, H Ohamori & A Sano, Keio University, Japan

T Miyashita, H Nishida & Y Todaka, Fuji Electric Corporation, Japan

- **Identification of time-varying rotor and stator resistances of induction motor**

G Kenné & F Lamnabhi-Lagarrigue, Université Paris-XI, France

T Ahmed Ali, ENSIETA, France

H Nkwawo, Université Paris XIII, France

- **Time delay temperature control with IMC and closed-loop identification**

N Abe & K Karakawa, Meiji University, Japan

H Ichihara, Kyusyu Institute of Technology, Japan

- **A method for the identification of heat transfers on the surface of a material : application to a plasma assisted chemical vapour deposition process**

S Rouquette, C Chaussavoine & L Thomas, IMP-CNRS, France

L Autrique, DGA/CTA, France

- **Two-dimensional adaptive parameter estimation**

A Madady & M Shafiee, Amir-Kabir University of Technology, Iran

Observers 3

- **The survey for the exact and optimal state observers in hilbert spaces**

W Byrski, AGH University of Science & Technology, Poland

- **An observer design and separation principle for the motion of the n-dimensional rigid body**
H Suzuki & N Sakamoto, Mitsubishi Heavy Industries Ltd, Japan
- **A state space interpretation of simultaneous observation for linear systems**
J A Moreno, Instituto de Ingeniería, UNAM, Mexico
- **Nonlinear observer for nonlinear adaptive guidance law considering target uncertainties and control loop dynamics**
D-K Chwa & A G Sreenatha, The University of New South Wales at ADFA, Australia
K-H Im, J-Y Choi & J H Seo, Seoul National University, Korea

Algebraic Methods

- **Relative structure at infinity and nonlinear semi-implicit DAE's**
P Sérgio Pereira de Silva & N Aparecida Veloso Pazzoto, Universidade de Sao Paulo, Brazil
C Correa Filho, SENAC, Brazil
- **Controllability and reachability criteria for linear piecewise constant impulsive systems**
G Xie & L Wang, Peking University, China
- **Approximate greatest common divisor of many polynomials and generalised resultants**
N Karcanias, S Fatouros & G Halikias, City University, UK
M Mitrouli, University of Athens, Greece
- **Approximate greatest common divisor of polynomials and the structured singular value**
G Halikias, S Fatouros & N Karcanias, City University, UK
- **Matrix pencil: a novel approach for fast shunt compensated controlled switching**
F Boudaoud, H Siguerdidjane & P Bastard, SUPELEC, France