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Das Sekretariat der IFAC befindet sich seit 1978 aufgrund eines Übereinkommens mit der Österreichischen Bundesregierung mit der Österreichischen Akademie der Wissenschaften in Laxenburg.
Der 'IFAC Newsletter' erscheint sechsmal jährlich in englischer Sprache unter der Redaktion des Generalsekretärs der IFAC, Dipl.Ing.Dr. Gusztáv Hencsey. Die Zeitschrift dient der Information über die Aktivitäten der IFAC. Sie wird kostenlos an Abonnenten in 50 Länder versandt. Die Kosten werden von der IFAC aus Beiträgen der derzeit 52 Mitgliedsländer getragen.
Präsident der IFAC für 2002-2005 ist Prof. Vladimir Kucera (Tschechische Republik), Vizepräsidenten sind Prof. Michael Masten (USA) und Prof. Peter Fleming (Grossbritannien). Alle Funktionen werden ehrenamtlich ausgeübt.

(To our readers: To comply with the Austrian 'Media Act', every publication must contain a declaration once a year concerning ownership and purpose, as above.)

IFAC TECHNICAL BOARD
Technical Committees and their Scopes
(revised November 2002)

Following the reorganization of the Technical Board (cf IFAC Newsletter No 5 – October 2002), the Technical Committees are now grouped into three areas (Theory, Technology, Applications) and coordinated by nine Coordinating Committees. The scopes of the now 39 Technical Committees were carefully revised and adapted where necessary. In this issue of the Newsletter the scopes of all Technical Committees are given. In future issues of the Newsletter some of the Technical Committees will be introduced in greater detail

1 SYSTEMS AND SIGNALS

1.1 Modelling, Identification, and Signal Processing

Short Version
All aspects of system modeling and identification, from theoretical and methodological developments to practical applications.

Long Version
Addresses all aspects of system modelling and identification, from theoretical and methodological developments to practical applications. Considers model selection, model fitting, identification methods, robust estimation, tracking and adaptation, measures of model fit, model validation, fault detection, linear/nonlinear models, experiment design, and automatic methods. Includes non-parametric, state-space, and frequency domain methods as well as distributed parameter models.

1.2 Adaptation and Learning Systems

Short Version
Continuous and discontinuous adaptation and learning rules for prediction, control and signal processing.

Long Version
Addresses continuous and discontinuous adaptation and learning rules for prediction, control and signal processing. Focuses on model-based and data-based adaptive control, adaptation schemes for prediction, filtering and modelling, functional relationships for adaptive control, migrating intelligence into adaptive systems, gain scheduling including linear parameterically varying (LPV) methodologies, auto-tuning, iterative schemes, switching control, randomized algorithms, fault detection and isolation.

1.3 Discrete Event and Hybrid Dynamic Systems

Short Version
All aspects of analysis and control of Discrete Event Systems (DES) and Hybrid Systems (HS).

Long Version
Focuses on the analysis and control of Discrete Event Systems (DES) and Hybrid Systems (HS). Discrete event systems are characterized by countable state spaces and state trajectories evolving through "jumps" (discrete events) from one state to another. Hybrid systems combine event-driven dynamics with conventional time-driven dynamics. Issues involved in the design, analysis, and controller synthesis for such systems include synchronization, concurrency, and conflict of events.

1.4 Stochastic Systems

Short Version
All aspects related to probabilistic and statistical methods in modeling, identification, estimation and control.

Long Version
Promotes and disseminates knowledge related to probabilistic and statistical methods in modelling, identification, estimation and control. Fields of interest include: stochastic control, estimation theory, system identification, realization theory, synthesis of stochastic systems, learning theory, randomized methods, statistical analysis and simulation of dynamic systems. Emphasis is on methodological and conceptual aspects, both in theory and in applications.

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2 DESIGN METHODS

2.1 Control Design

Short Version
Various topics in the design of feedback systems, including data-based control, fault tolerant control, switching control, supervision and computational techniques.

Long Version
Considers a wide variety of aspects in the design of control systems, ranging from methodologies to computational techniques and simulation studies. Includes issues on controller constraints and structure, decentralization, digital implementation, model validation, supervision and testing. Addresses also topics on parametric optimization, analytic design, data-based control system design, fault tolerant and switching control.

2.2 Linear Control Systems

Short Version
Various topics in the design of linear control systems, including the study of n- and infinite dimensional, implicit, nonstationary systems and systems with time delays.

Long Version
Fosters methods for analysis, synthesis and design of control systems described by linear differential or difference equations. This includes the study of n-dimensional systems, implicit or non-stationary linear systems, systems with time delays and infinite dimensional linear systems. Considers design methods for decoupling, disturbance rejection, model following. Promotes investigation of structural properties of linear control systems, analyses H-infinity and other robust control and filtering methods.

2.3 Non-linear Control Systems

Short Version
Methods for analysis and design of control systems described by nonlinear differential or difference equations including the application of these methods.

Long Version
Fosters methods for analysis and design of control systems described by nonlinear differential or difference equations. Considers all nonlinear controller design methods including, but not limited to, methods for asymptotic stabilization, regulation, tracking, disturbance rejection and output feedback control. Includes robust control of nonlinear systems, control of constrained systems, nonlinear observer and filter design and the application of nonlinear analysis and design techniques to all fields.

2.4 Optimal Control

Short Version
Methods for optimal control including large scale optimisation, nonsmooth and discontinuous optimization, optimization under uncertainties, singularities, algorithms and software.

Long Version
Fosters classical and modern optimization methods used for solving optimal control problems (calculus of variations, dynamic programming, nonlinear programming, optimal control, differential games, evolutionary algorithms). Includes modelling for control optimization, large scale optimization problems and methods, static optimization problems, non-smooth and discontinuous problems of control and optimization, optimization under uncertainties, singularities in optimization, algorithms and software and industrial applications of optimal control.

2.5 Robust Control

Short Version
Modelling of systems affected by uncertainty and the development of computational techniques for analysis, optimal controller synthesis and implementation.

Long Version
Focuses on the analysis and optimal controller synthesis for systems affected by uncertainties. Includes the development of tools for investigating the trade-off between uncertainty size and achievable controller performance, with emphasis on relaxation schemes resulting in efficient numerical algorithms even for systems of high complexity. Considers the entire process of controller design from system modelling by identification, via optimization-based controller synthesis, up to real-life implementation, with robustness guarantees for all sources of potential uncertainties

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3 COMPUTERS, COGNITION AND COMMUNICATION

3.1 Computers for Control

Short Version
Computer-based control systems for real-time computing and communications, for distributed control and safety-critical applications, and their development methodologies.

Long Version
Considers all aspects of computer-based control including real-time computing systems, real-time communications and distributed control systems, hardware and software architectures and platforms, development methodologies, software engineering and software tools, hardware and software in safety-critical applications, as well as control of the operational processes in computing systems themselves.

3.2 Cognition and Control

Short Version
Knowledge-based, fuzzy and neural systems relevant to control, structure optimization by genetic algorithms, performance objectives, operation constraints, and awareness for computational issues.

Long Version
Considers all aspects of knowledge-based, fuzzy and neural systems relevant to control including modelling, identification, stability analysis, design, learning, adaptation, evaluation, implementation, optimization of structure and parameters by means of genetic algorithms, definition of performance objectives and operation constraints, as well as awareness for computational issues and computer-aided design tools.

3.3 Computers and Telematics

Short Version
Computerized and telecommunication-based automation systems providing services to remote equipment for tele-operation, tele-maintenance, tele-medicine and tele-education, and their methodologies.

Long Version
Considers all aspects of computerized and telecommunication-based automation systems, providing services to remote equipment, particularly methods of remote and distributed control, remote sensor data acquisition, the Internet, and tele-presence, for tele-operation, tele-maintenance, tele-diagnosis, tele-medicine, tele-education, traffic control, robots for hazardous environments, remote industrial production, maritime and aerospace systems, and smart homes.

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4 MECHATRONICS, ROBOTICS AND COMPONENTS

4.1 Components and Instruments

Short Version
Components, instruments and embedded systems for process control, perception and positioning systems, robotics and automation, environmental systems, vehicles, and human assistance. Diagnosis, data-fusion, fault tolerance, signal and image processing.

Long Version
Considers components, instruments and embedded systems for process and decentralized control, perception and positioning systems, robotics and automation, environmental systems, vehicles, and human assistance. Includes microsensor and micro-actuators, virtual instruments, communication and automation networks, and field-buses. Addresses also components and instruments diagnosis, self-diagnosis, auto-configuration, measurement validation, data fusion, learning, fault tolerance, control and soft computing, signal and image processing, and real time constraints

4.2 Mechatronics Systems

Short Version
The synergistic combination of precision mechanical engineering, electronic control and systems thinking in the design of products and processes.

Long Version
Covers integrated design of mechanical parts with an embedded control system and information processing. This integration, an increasingly common feature in modern technical processes and products, brings together the components (hardware) and the information-driven functions (software). It results in integrated systems that require an optimal balance between the basic mechanical structure, sensor and actuator implementation, automatic digital information processing and control functions.

4.3 Robotics

Short Version
Robots manipulators and stationary robots, mobile and flying robots, autonomous systems, telerobotics and Internet robots. Intelligent robotics, perception and sensing, information and sensor fusion, guidance, navigation and control.

Long Version
Covers robots manipulators and stationary robots, mobile and flying robots, autonomous systems, telerobotics and Internet robots. Addresses intelligent robotics, perception and sensing, information and sensor fusion, guidance, navigation and control. Applications include manufacturing and process industry, mining, transportation, services, medicine, agriculture, space and underwater operations, unmanned aerial vehicles (UAV), autonomous ground vehicles (AGV), data and intelligence gathering, entertainment robots

4.4 Cost-Oriented Automation

Short Version
Cost effective reference architecture and development approaches for production and transportation that properly integrate human skill, technical solutions and maintenance issues.

Long Version
Promotes reference architectures and development approaches for production and transportation that properly integrates human skill and technical solutions. Includes shop floor production support and decentralized process control strategies, addresses automation integrated with information processing as well as automation of non-sophisticated and easily handled operations for productive maintenance.

4.5 Human-Machine Systems

Short Version
All conditions where humans (individuals as well as groups) use, control or supervise tools,

machines or technological systems.

Long Version
Considers all conditions where humans (individuals as well as groups) use, control or supervise tools, machines or technological systems. Fosters analysis, design, modelling and evaluation of HM-systems and includes: decision making and cognitive processes, modelling of human performance (reliability, mental load, predictability), real and virtual environments, design methodology, task allocation-sharing and job design, intelligent interfaces, human operator support, work organization, and selection and training criteria

5 MANUFACTURING SYSTEMS

5.1 Manufacturing Plant Control

Short Version
All applications of automation, information and communication technologies in order to control the manufacturing plant within the e-enterprise.

Long Version
Addresses the automation scientific challenges and issues raised by the integrated manufacturing systems (IMS) paradigm in order to apply micro electro-mechanical systems (MEMS), mechatronics, manufacturing execution systems (MES), multi-agents systems (MAS), holonic manufacturing systems (HMS) and e-technologies to digitally control with more agility the entire manufacturing chain, from design through manufacturing, to maintenance and service, over the whole product and process life cycle.

5.2 Manufacturing Modelling for Management and Control

Short Version
Models of e-manufacturing and supply chain systems, for production and service management, design, and control in communication and Internet based enterprises.

Long Version
Addresses theory and application of descriptive and prescriptive models of e-manufacturing and supply chain systems, from simulation and information to optimization, analytic and knowledge-based models oriented to production and service management, including enterprise and multi-enterprise resource planning, communication- , agent- , and Internet-based manufacturing.

5.3 Enterprise Integration and Networking

Short Version
Enterprise-wide Internet-based working models, applications, and protocols. Mathematical control models and applications for enterprise networks. Unified enterprise modeling language.

Long Version
Fosters research in enterprise networking and integration, in particular, enterprise networking reference architectures, enterprise engineering methodologies, enterprise modelling and application protocols. Aims to identify theoretically sound and practically viable techniques for the enterprise Internet-based collaboration, enterprise networking, and Unified Enterprise Language to support the exchange of enterprise models among various user communities and modelling tools.

5.4 Large Scale Complex Systems

Short Version
Theory of complex systems, decentralized control and estimation, decision-making, hierarchical optimization and control, networked / interconnected systems, communication-based information systems.

Long Version
Focus on manufacturing and related systems characterized by a large number of variables, non-linearities, uncertainties, and/or a networked structure of interconnected subsystems. It aims at developing new hierarchical control methods, decision-making and risk analysis techniques together with practical solutions based on new advances in computer and communication tools.

6 INDUSTRIAL SYSTEMS

6.1 Chemical Process Control

Short Version
Development of new control techniques and algorithms for application in pilot and industrial sized plants that involve the knowledge of chemistry and, increasingly, biology.

Long Version
Focuses on development of new chemical process control techniques and algorithms for application in pilot and industrial-sized plants. Processes of interest include all techniques used in petroleum, chemical, petrochemical, specialty chemical, and pharmaceutical processes as well as in food, cement, and paper and pulp industries. Has a strong interest in treatment of biological processes. Also considers system descriptions, component selection, sensors, actuators, monitoring, local control, plant-wide control, real-time optimization, planning and scheduling and technology transfer.

6.2 Mining, Mineral and Metal Processing

Short Version
All aspects of process control in the fields of mining, mineral processing, and metal processing.

Long Version
Fosters all aspects of process control in the fields of mining, mineral and metal processing, by providing a forum for discussion and dissemination of information on related control theory and applications, measurements, automation and optimization. Also includes exploration of fossil materials, recycling system control and internet-based control.

6.3 Power Plants and Power Systems

Short Version
All aspects of modelling, operation, and control of power plants and power systems

Long Version
Addresses all aspects of modelling, operation, and control of power plants and power systems. Includes load forecast and flow calculation, dynamic interactions of power plants and power systems, constraint and security control concepts, tools for control system design, test and documentation, real time simulation and dispatching, technical impact of deregulation on power system control, and security monitoring as well as analysis and control in deregulated power systems.

6.4 Safeprocess

Short Version
On-line fault detection and isolation; fault decision theory; diagnosis, monitoring and supervision based on hardware and analytical redundancy.

Long Version
Promotes on-line fault detection and isolation (FDI), estimation and diagnosis, with a view to predictive maintenance and supervision, as well as fault tolerant control. Addresses residual generation, residual evaluation, performance monitoring, statistical hypothesis testing, on-line change detection, software sensors, active input signal generation for FDI, decision making, controller reconfiguration and switching. Promotes analysis tools such as failure mode effect analysis (FMEA), severity analysis and reliability theory to achieve fault tolerant designs.

7 TRANSPORTATION SYSTEMS AND VEHICLES

7. 1 Automotive Control

Short Version
Modeling, supervision, control, and diagnosis of automotive systems, power trains, vehicle dynamic systems, automotive sensors, integrated traffic, and in-vehicle communication.

Long Version
Considers modeling, supervision, control, and diagnosis of automotive systems, automobile power trains, propulsion, vehicle dynamic systems, electrical and alternative drive vehicles. Includes integrated traffic management, general automobile/road-environment strategies, and distributed discrete-event systems. Considers also automotive sensors, in-vehicle communication networks, man-machine interfaces, and information displays/systems.

7.2 Marine Systems

Short Version
Theory and application of control engineering and artificial intelligence techniques to the maritime field. Navigation, guidance and control, monitoring and surveillance, fault diagnosis, optimization, planning, modelling, identification, human factors and control architectures.

Long Version
Considers theory and application of automatic control engineering and artificial intelligence techniques to the maritime field. To include surface vessels, floating structures, subsea systems, underwater vehicles, human factors, autonomous craft, and other devices within the marine environment. Addresses navigation, guidance and control, monitoring and surveillance, fault diagnosis, optimization, planning, modelling, identification, and control architectures. Interests also span total vessel control to computer systems for marine applications, and detailed control of ancillary and auxiliary subsystems.

7.3 Aerospace

Short Version
Dynamics, control, and mission control of all aeronautical and space related vehicles and vehicle systems.

Long Version
Deals with every aspect of dynamics, control, and mission control of aeronautical and space related systems including missiles, launch and re-entry vehicles, aircraft, satellites, space stations, helicopters, and autonomous aerospace

systems. Addresses conceptual definition, design, simulation, testing, verification, operations and post-operational analysis. Also includes systems in vehicles (e.g. pointing systems and manipulators); man-in-the-loop systems; guidance, navigation and vehicle control; mission control and operations.

7.4 Transportation Systems

Short Version
Ground transportation systems (road and guided transport) and air traffic control systems for both passengers and transported goods.

Long Version
Addresses ground transportation systems (road and guided transport) and air traffic control systems for both passengers and transported goods with regard to modelling, simulation, surveillance, control, optimization, real-time operations, information processing, and decision support. Also addressed are common aspects and generic techniques for all transportation modes (road, rail, air, maritime, and intermodal), in the areas of system engineering, human-machine interface, human factors navigation, logistics, safety, simulation, surveillance, control, and intelligent transportation systems (ITS).

7.5 Intelligent Autonomous Vehicles

Short Version
Generic system methodologies and technologies applicable to intelligent autonomous vehicles including mobile robots on land, at sea, or in space.

Long Version
Develops and promotes generic system methodologies and technologies applicable to intelligent autonomous vehicles. Includes mobile robots on land, at sea, or in space. Addresses sensing and perception, architectures, planning, motion control, navigation techniques, teleoperation, and practical applications. Includes vehicle control as well as auxiliary system support.

8 BIO AND ECOLOGICAL SYSTEMS

8.1 Control in Agriculture

Short Version
Control aspects of agricultural processes. Methodologies for crop production and animal husbandry, post-harvest processes (grading, drying, storage of crops), food processing (quality and safety). Environmental and climate control of greenhouses, warehouses and animal houses, energy issues.

Long Version
Fosters modelling and control aspects of agriculture. Methodologies for agricultural production lines such as photosynthesis of crops under environmental stresses, soil-plant atmosphere cycle and metabolism of farm animals. Post-harvest processes such as grading, drying, storage of crops including fruits and vegetables. Food processing (quality and safety). Environmental and climate control of greenhouses, warehouses and animal houses. Energy issues in agriculture such as heating, cooling, lighting, and energy saving.

8.2 Modelling and Control of Biomedical Systems

Short Version
Applications of systems, modelling, informatics and control concepts, methodology and techniques in biology, physiology, medicine and healthcare.

Long Version
Considers applications of systems, modelling, informatics and control concepts, methodologies and techniques in biology, physiology, medicine and healthcare. Specific topics include: drug delivery and pharmacokinetics; control of physiological and clinical variables in high dependency medicine and in managing chronic disease; signal and image analysis; rehabilitation engineering; healthcare delivery; clinical decision support, telemedicine and e-Health.

8.3 Modelling and Control of Environmental Systems

Short Version
Modelling and control methodologies for reliable management of natural resources and prevention and mitigation of environmental hazards and disasters.

Long Version
Promotes the development of modelling and control methodologies for natural systems. Emphasis is placed on the synergistic role of risk analysis, impact evaluation, management of natural resources with the design of planning and management systems for participatory decision making, to ensure an effective integration of technology and environment through a multi-objective approach.

8.4 Control of Biotechnological Processes

Short Version
Promotion of research and development in all major areas of biotechnology where computers are used to aid bio-process design, supervision, diagnosis, operation, optimisation and control.

Long Version
Fosters academic research and industrial development in all major areas of biotechnology where computers are used to aid bio-process design, supervision, diagnosis, operation, optimization and control. Topics of particular emphasis include: metabolic engineering, fault diagnosis and monitoring, integrated bioprocessing and life-cycle analysis. Application areas include: microbial technology, pharmaceutical processes, food engineering and wastewater treatment processes.

9 SOCIAL SYSTEMS

9.1 Economic and Business Systems

Short Version
Modelling and control of economic, management, and business systems. Optimization, decision and control in economics, business and finance. Interface between engineering and economic/business techniques and approaches.

Long Version
Addresses modelling theory and problem-solving techniques for management, business, financial, and economic systems, including well established (econometric, general equilibrium models, operations research, etc.) as well as more recent approaches (event studies, agent-based models, neural networks, etc.). Includes optimization, decision and control in business and economics with one or more decision-makers. Applications of quantitative and systems engineering methods to the analysis, forecasting, and planning of global, national, regional, and sectoral economies, firms and financial systems (risk analysis, portfolio management, asset and derivative pricing).

9.2 Social Impact of Automation

Short Version
Relations between automated systems and social environments, including social effects of automation, requirements for automation development, and environmental and health implications.

Long Version
Addresses relations between automated systems and social environments. This includes social effects of automation, socially desirable requirements for automation development, and socially acceptable alternatives for automation design. Also addressed are environmental, health, and safety implications of automation, engineering ethics, professional responsibility, and public policy.

9.3 Developing Countries

Short Version
Automation and related topics in developing countries, fostering developing countries' interest in IFAC, invitation and assistance to NMOs in the organization of workshops, symposia and regional conferences.

Long Version
Fosters the development of automation and related topics, such as education and training for automation, in developing countries. Control and automation compatibility with social and economic structures of developing countries. Stimulates developing countries' interest in IFAC, invites and assists NMOs to organize workshops, symposia and regional conferences to bring together scientists and specialists for the purpose of sharing and comparing experiences.

9.4 Control Education

Short Version
Education issues in control engineering. Methodology for improving the theory, practice, accessibility of control systems education. Control Engineering Textbook Prize nomination.

Long Version
Addresses university education and continuing education issues in control engineering. Methodology for improving the theory, practice, and accessibility of control systems education. Control engineering laboratories, experiments, computer aided design, distance and virtual education technologies, e-learning and internet-based teaching technologies. Cooperation and technology transfer between academia and industry. Control engineering education in developing countries (in collaboration with the TC on Developing Countries). Control Engineering Textbook Prize nomination.

9.5 Supplemental Ways of Improving International Stability

Short Version
Identification, definition, and improvement of factors which significantly influence international stability. Cooperation with related groups to improve SWIIS effectiveness.

Long Version
To identify, define, and improve factors which significantly influence international stability. To outline ways in which IFAC can use its own systems and control capabilities to enhance international stability and build a more peaceful world. To interact with other organizations having similar goals. To cooperate with other IFAC TCs regarding SWIIS activities.

FORTHCOMING EVENTS

2003
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Title	2003	Place	Further Information
IFAC Workshop Optical Systems	February 2 – 5	Breckenridge CO, USA	http://www.ohio.edu/noncredit/optical.htm e-mail: greenfes@ohio.edu
IMACS/IFAC Symposium Mathematical Modelling – 4th MATHMOD	February 5 – 7	Vienna Austria	http://simtech.tuwien.ac.at/MATHMOD e-mail: inge.troch@tuwien.ac.at
IFAC Workshop Programmable Devices and Systems P D S-2003	February 11 – 13	Ostrava Czech Rep.	http://pds2003.vsb.cz e-mail: pds2003@vsb.cz
IFAC Workshop (2nd) Lagrangian and Hamiltonian Methods in Nonlinear Control	April 3 – 5	Sevilla Spain	http://www.esi.us.es/lhmnlc03 e-mail: lhmnlc03@esi.us.es
IFAC Workshop 7th Intelligent Manufacturing Systems IMS2003	April 6 – 8	Budapest Hungary	http://www.conferences.hu/IMS2003/ e-mail: ims2003@conferences.hu
IFAC Conference Intelligent Control Systems and Signal Processing – ICONS 2003	April 8 – 11	Faro Portugal	http://conferences.ptrede.com e-mail: icons03@ualg.pt
IFAC Workshop Guidance and Control of Underwater Vehicles	April 9 - 11	Newport UK	http://gcuv2003.newport.ac.uk e-mail: geoff.roberts@newport.ac.uk
IFAC Workshop Real Time Programming	May 14 – 17	Lagow Poland	http://www.iie.uz.zgora.pl/wrtp03 e-mail: wrtp03@iie.uz.zgora.pl
American Control Conference (in co- operation with IFAC)	June 4 – 6	Denver CO, USA	http://acc2003.me.berkeley.edu/ e-mail: bequeb@rpi.edu
IFAC Symposium 5th Fault Detection, Supervision and Safety of Technical Processes – SAFEPROCESS	June 9 – 11	Washington DC, USA	http://safeproc.gmu.edu e-mail: jgertler@gmu.edu
IFAC Symposium Power Plants and Power Systems 2003	June 9 - 11	Seoul Korea	http://ifacpps2003.org e-mail: ifacpps2003@insession.co.kr
IFAC Symposium 6th Advances in Control Education - ACE 2003	June 16 -18	Oulu Finland	http://ntsat.oulu.fi e-mail: office@atu.fi
IFAC Conference Analysis and Design of Hybrid Systems - ADHS03	June 16 – 18	St. Malo France	http://www.supelec-rennes.fr/adhs03/ e-mail: adhs03@supelec-rennes.fr
IFAC Symposium Advanced Control of Chemical Processes - ADCHEM 2003	June 18 – 20	Hong Kong China	http://www.ust.hk/adchem2003 http://www.adchem2003.uni-stuttgart.de/ e-mail: adchem2003@ist.uni-stuttgart.de
XVII IMEKO WORLD CONGRESS Metrology in the 3rd Millennium	June 22-27	Dubrovnik Croatia	http://www.imeko.org e-mail: imeko2003@hmd.hr
IFAC Symposium 4th Robust Control Design – ROCOND 2003	June 25 – 27	Milan Italy	http://www.elet.polimi.it/ROCOND2003 e-mail: colaneri@elet.polimi.it
IFAC Workshop Automatic Systems for Building the Infrastructure in Developing Countries (Knowledge and Technology Transfer)	June 27 – 28	Istanbul Turkey	http://www.dogus.edu.tr/decom03 e-mail: decom03ifac@dogus.edu.tr
IFAC Workshop 12th Control Applications of Optimization – CAO	June 30 July 2	Visegrad Hungary	http://www.conferences.hu/CAO2003/ e-mail: bars@aut.bme.hu
IFAC Workshop Technology and International Stability	July 3 – 5	Waterford Rep. of Ireland	http://www.ihrt.tuwien.ac.at/swiis03 e-mail: swiis@ihrt.tuwien.ac.at
IFAC Conference Fieldbus Systems and their Applications - FeT2003	July 7 – 8	Aveiro Porutgal	http://www.det.ua.pt/eventos/fet2003 e-mail: fet2003@det.ua.pt
IFAC Symposium Intelligent Components and Instruments for Control Applications – SICICA 2003	July 9 – 11	Aveiro Portugal	http://www.det.ua.pt/eventos/sicica2003 e-mail: sicica2003@det.ua.pt
IFAC Workshop Modelling and Analysis of Logic Controlled Dynamic Systems	July 30 August 1	Irkutsk Lake Baikal Russia	http://giscenter.icc.ru/ifacbaik/ e-mail: snv@icc.ru
IFAC Symposium 10th Transportation Systems	August 4 - 6	Tokyo Japan	http://www.is.aist.go.jp/ifac-cts2003 e-mail: tsugawa.s@aist.go.jp
IFAC Symposium 5th Modelling and Control in Biomedical Systems	August 21 – 23	Melbourne Australia	http://www.tourhosts.com.au/ifac2003 e-mail: ifac2003@tourhosts.com.au
IFAC Symposium 13th System Identification – SYSID 2003	August 27 – 29	Rotterdam Netherlands	http://sysid2003.nl e-mail: info@sysid2003.nl

FORTHCOMING EVENTS (ctd.)

IFAC Symposium 7th Robot Control – SYROCO 2003	September 1 – 3	Wroclaw Poland	http://www.zpcir.ict.pwr.wroc.pl/syroco2003 e-mail: tchon@ict.pwr.wroc.pl
European Control Conference (in co-operation with IFAC)	September 1 – 4	Cambridge UK	http://conferences.iee.org/ECC03/ e-mail: jmm@eng.cam.ac.uk
IFAC Concerence Control Systems Design	September 7 – 10	Bratislava Slovakia	http://www.kasr.elf.stuba.sk/csd2003 e-mail: csd2003@kasr.elf.stuba.sk
IFAC Workshop Time Delay Systems	September 8 – 10	Rocquencourt France	http://www.inria.fr/tds03.html e-mail: tds03@inria.fr
IFAC Workshop 7th Algorithms and Architectures for Real-Time Control – AARTC 2003	September 8 – 10	Sheffield UK	http://www.shef.ac.uk/aartc-2003 e-mail: aartc–2003@sheffield.ac.uk
IFAC Conference 6th Manoeuvring and Control of Marine Systems – MCMC 2003	September 17 - 19	Girona Spain	http://iiia.udg.es/mcmc03 e-mail: mcmc03@iiia.udg.es
IFAC Symposium 8th Automated Systems Based on Human Skill – joint design of technology and organization	September 22 – 24	Gothenburg Sweden	http://www.davinci.chalmers.se/Ifac_2003 e-mail: johan.stahre@hfe.chalmers.se
EWICS/IFAC/IFIP Intl. Conference Computer Safety, Reliability and Security – SAFECOMP 2003	September 23 – 26	Edinburgh UK	http://www.safecomp.org e-mail: info@safecomp.org
IFAC Workshop Intelligent Assembly and Disassembly	October 9 – 11	Bucharest Romania	http://www.iad2003.com e-mail: iad03@icar.pub.ro
IFAC Workshop New Technologies for Automation of the Metallurgical Industry	October 11 – 13	Shanghai China	http://www.baosight.com/ifac03 e-mail: wangwei@dlut.edu.cn
Title	**2004**	**Place**	**Further Information**
IFAC Symposium Computer Applications in Biotechnology	March 28 – 31	Nancy France	http: not yet available e-mail: open
IFAC Symposium 11th Information Control Problems in Manufacturing – INCOM 2004	April 5 – 7	Salvador Brazil	http: not yet available e-mail: open
IFAC Symposium Advances in Automotive Control	April 19 – 23	Salerno Italy	http://www.ifac04.unisa.it e-mail: ifac04@unisa.it
IFAC Symposium Automatic Control in Aerospace	June 14 – 18	St. Petersburg Russia	http://aca2004.aanet.ru e-mail: aca2004@aanet.ru
IFAC Symposium Telematics Applications in Automation and Robotics – TA 2004	June 21 – 23	Helsinki Finland	http://www.automaatioseura.fi/TA04 e-mail: office@atu.fi
American Control Conference - in co-operation with IFAC -	June 30 July 2	Boston MA, USA	http://www.mie.uiuc.edu/acc2004/index.asp e-mail: speyer@seas.ucla.edu
IFAC Symposium Intelligent Autonomous Vehicles - IAV 2004	July 5 – 7	Lisbon Portugal	http://iav04.isr.ist.utl.pt e-mail: iav04@isr.ist.utl.pt
IFAC Conference Control Applications in Marine Systems - CAMS 2004	July 7 – 9	Ancona Italy	http://cams04.unian.it e-mail: cams04@unian.it
IFAC Workshop Fractional Differentiation and its Applications – FDA '04	July 19 – 20	Bordeaux France	http://www.lap.u-bordeaux.fr/fda04/home.html e-mail: fda04@lap.u-bordeaux.fr
IFAC Workshops on - Adaptation and Learning in Control and Signal Processing – ALCOSP - Periodic Control Systems – PSYCO	 August 30 - September 1	 Yokohoma Japan	http://www.contr.sd.keio.ac.jp/ifacws04/main.htm e-mail: katayama@amp.i.kyoto-u.ac.jp e-mail: sano@sd.keio.ac.jp
IFAC Symposium 6th Nonlinear Control Systems	September 1 – 3	Stuttgart Germany	http://www.nolcos2004.uni-stuttgart.de e-mail: nolcos2004@ist.uni-stuttgart.de
IFAC Multitrack Conference Advanced Control Strategies for Social and Economic Systems	September 2 – 4	Vienna Austria	http://www.ihrt.tuwien.ac.at/acs04 e-mail: kopacek@ihrt.tuwien.ac.at
IFAC Symposium 11th Automation in Mining, Mineral and Metal Processing – MMM 2004	September 8 – 10	Nancy France	http://www.cran.uhp-nancy.fr/ifac-mmm2004/ e-mail: mmm2004@cran.uhp-nancy.fr
IFAC Workshop 2nd Advanced Fuzzy/Neural Control	September 16 – 17	Oulu Finland	http://www.ntsat.oulu.fi/ e-mail: office@atu.fi
IFAC Workshop Discrete Event Systems	September 22 – 24	Reims France	http://www.univ-reims.fr/wodes04 e-mail: wodes04@univ-reims.fr
IFAC Symposium Mechatronic Systems	September	Sydney Australia	http: not yet available e-mail: open
IFAC Symposium System Structure and Control	December 8 – 10	Oaxaca Mexico	http://sssc04.cinvestav.mx e-mail: jtorres@cinvestav.mx