



Prague is Expecting You 16th IFAC World Congress July 4 – 8, 2005

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Hardly half a year to go and the 16th IFAC World Congress will take place in Prague, the beautiful historic capital of the Czech Republic. Preparations for this most important event in an IFAC triennium are well on track.

The organizers are proud to state that the number of submitted papers is over 3200.

Already now we can give you a glimpse at the list of most distinguished Plenary and Semi-Plenary Speakers

Plenary Speakers

Prof. Rudolf E. Kalman, Swiss Federal Institute of Technology, Zurich, Switzerland
The Evolution of System Theory: My Memories and Hopes

Dr. Sujeet Chand, Vice President, Rockwell Automation, Milwaukee, US
Distributed Control Architecture for Industrial Automation

Prof. Rolf Isermann, TU Darmstadt, Germany
Mechatronic Systems: Innovative Products with Embedded Control

Mrs. Nagin Cox, Deputy Team Chief - Mars Exploration Rover Project, Jet Propulsion Laboratory, Pasadena, US
Mars Exploration Rovers: Hitting the Road on Mars

Prof. Michael Athans, Universidade Técnica de Lisboa, PT; formerly Massachusetts Institute of Technology, Cambridge, US
Issues on Robust Adaptive Control

A Distinguished Speaker from Siemens, Germany. Name and title are yet to be specified

Semi-Plenary Speakers

Prof. Manfred Morari, Swiss Federal Institute of Technology, Zurich, Switzerland
Hybrid Systems

Prof. Iven Mareels, The University of Melbourne, Australia
Irrigation Systems: Systems Engineering Successes and Challenges

Prof. Vladimír Havlena, Senior Fellow, Honeywell Prague Laboratory, Czech Republic
A Distributed Automation Framework for Plantwide Control

Prof. József Bokor, Hungarian Academy of Science, Budapest, Hungary
Linear Parameter Varying Systems: A Geometric Theory and Applications

PRE-CONGRESS WORKSHOPS & TUTORIALS

Ten pre-congress Workshops & Tutorials will be held on Saturday and Sunday, July 2 and 3, 2005 at the Czech Technical University in Prague, Technicka 2, 166 27 Praha 6 (www.feld.cvut.cz, www.fsid.cvut.cz)

Each workshop and tutorial requires the minimum of 10 participants and the organizers reserve the right to cancel it in case of insufficient registrations.

Saturday, July 2 WORKSHOPS

Wireless Sensor Networks & Cooperating Objects (Anibal Ollero et. al.) half day, 09:00-13:00

Nonlinear Model Predictive Control: Introduction & Current Topics, (Rolf Findeisen et. al.) one day, 09:00-13:00, 14:00-18:00

Fault Tolerant Control of Large Complex Systems, (Lorenzo Marconi et. al.) one day 09:00-13:00, 14:00-18:00

Limits to Control Performance: Model-Based & Data-Based Approaches, (Sirish L. Shah et. al.) one day, 09:00-13:00, 14:00-18:00

Recent Advances in Subspace System Identification: Linear, Nonlinear, Closed-Loop, & Optimal with Applications, (Wallace Larimore et. al.) 2 days, 09:00-13:00, 14:00-18:00

Sunday, July 3 WORKSHOPS

Recent Advances in Subspace System Identification: Linear, Nonlinear, Closed-Loop, & Optimal with Applications, (Wallace Larimore et. al.) one day, 09:00-13:00, 14:00-17:00

Sunday, July 3 TUTORIALS

MEMS Enabled Microsystems: Designing Intelligent Sensors (Elena Gaura) one day, 09:00-13:00, 14:00-17:00

Control Applications in Physics: From Control of Chaos to Quantum Control (Alexander Fradkov et. al.) half day, 09:00-13:00

Inverse Simulation Methods & Applications (David Murray-Smith et. al.) half day, 09:00-13:00

True Time: Real-Time Control System Simulation Using MATLAB/Simulink (Dan Henriksson et. al.) half day, 09:00-13:00

Techniques for Control of Distributed Process Systems (Panagiotis Christofides et. al.) one day, 09:00-13:00, 14:00-17:00

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A special Workshop with the title: "The Power, Beauty and Excitement of the Cross-Boundaries Nature of Control" to take place on Sunday, July 3 is directed at high school students; high school teachers; first and second year undergraduate students. It will be organized by Profs. Bozenna Pasik-Dunkan and Ljubo Vlacic in cooperation with the IEE-CSS TC on Education. This Workshop has the following aim:

To promote the field of automatic control in order to inspire the interest from high school students towards studies in automatic control. The Workshop will be composed of several, short but effective presentations on various problems from the real world that have been solved by way of using control engineering methods, techniques and technologies. Live interactions between the presenters and the audience is to be an important feature of the Workshop.

All relevant information concerning registration, hotel reservation, the technical program of the Congress and the sightseeing options as well as the social program is available on the Congress Homepage, which you can either access directly at <http://www.ifac.cz/> or via the IFAC Homepage at <http://www.ifac-control.org>

Real-Time Programming – WRTP'04 IFAC/IFIP Workshop Istanbul, Turkey, 6 – 9 September, 2004

The latest IFAC/IFIP Workshop on Real-Time Programming (WRTP04) – the 28th event in a conference series with a long tradition dating back to 1971 was held in the Turkish metropolis Istanbul from 6 – 9 September 2004. The meeting was carried out jointly with the International Workshop of Software Systems (IWSS).

The goal of this Workshop was to communicate the state-of-the-art methods to assess quality and reliability of software-based systems with the help of validation, verification and tests across various domains, and to advance the state-of-practice in validating software and software-based control ("embedded") systems. It brought together leading experts on such diverse aspects in the development of complex control systems with safety relevance as systems engineering, software engineering, risk and reliability engineering, real-time computing, control engineering and ergonomics. They addressed key issues, shared experiences, discussed emerging and common technical approaches, and presented their respective methods to construct complex systems composed of hardware, software and humans. In addition to the presentation of high quality technical papers, the programme also featured four world class keynote addresses on the following subjects:

Technical Issues and Regulatory Approaches for the Safe Use of Advanced Digital Systems, Steven A. Arndt, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission

Certification and Licensing of Pre-developed Software Components for Safety-relevant Applications, Francesca Saglietti, Department of Software Engineering, University of Erlangen-Nürnberg, Germany

An International Consensus on the Software Engineering Body of Knowledge (SWEBOK), Alain Abran, P. Bourque, R. Dupuis, J. W. Moore, L. Tripp

IFAC Journals

The Tables of Contents of the IFAC Journals can be found respectively at

Automatica

<http://www.elsevier.com/wps/find/journaldescription.librarians/270/description>

Please note the Table of Contents given in this issue of the Newsletter of the Special Issue of Automatica on Data Based Modelling and System Identification

Control Engineering Practice

<http://www.elsevier.com/wps/find/journaldescription.librarians/123/description>

Engineering Applications of Artificial Intelligence

<http://www.elsevier.com/wps/find/journaldescription.librarians/975/description>

Journal of Process Control

<http://www.elsevier.com/wps/find/journaldescription.librarians/30445/description>

Annual Reviews in Control

<http://www.elsevier.com/wps/find/journaldescription.librarians/429/description>

Envisioning Conscious Controllers, Ricardo Sanz, Universidad Politecnica de Madrid, Spain

Further, several intensive panel discussions took place. Accordingly, the Workshop Proceedings – which will still appear in the IFAC Workshop Series of Elsevier – comprise the keynote speeches, the papers presented and the three summaries of the discussions. The contributions come from Brazil, Canada, France, Germany, Greece, India, Italy, Latvia, Poland, Slovenia, Spain, Sweden, Turkey and the USA.

As it holds for all successful events, this joint Workshop required the effort of many individuals and organizations. Formal co-sponsorship was provided by IFIP, the United States Regulatory Commission, the OECD Nuclear Energy Agency with its Committee on Safety of Nuclear Installations, the (US) National Aeronautics and Space Administration, the American Nuclear Society, the University of Maryland Center for Technology Risk Studies, and the Turkish National Science Foundation. The Turkish National Organization Committee of Automatic Control as National Member Organization of IFAC and the Center for Technology Risk Studies of the University of Maryland supported the Workshop generously. Members of this Center, of whom Mrs. Nihal Kececi ist to be specially mentioned, volunteered significant time to organize and run the Workshop. The financial support provided by the United States Nuclear Regulatory Commission was highly appreciated.

All attendees enjoyed the Turkish hospitality. The meeting took place in an Istanbul hotel overlooking the magnificent scenery of the Bosphorus, where Europe and Asia meet. This allowed a fruitful exchange among the participants in a very friendly and relaxed atmosphere.

The logo for the journal Automatica, featuring the word "automatica" in a blue, lowercase, sans-serif font. Above the letter 'i' is a stylized graphic of a control loop or a signal path.

A Journal of IFAC the International Federation of Automatic Control

Papers from the March 2005 Issue

Special Issue on Data-based Modelling and System Identification

Guest Editors:
Torsten Söderström
Paul van den Hof
Bo Wahlberg
Siep Weiland

Editorial

Introduction to the Special Issue on Data-based Modelling and System Identification
T. Söderström, P. Van den Hof, B. Wahlberg, S. Weiland

Special Issue Papers

Asymptotic Properties of Subspace Estimators
D. Bauer
Consistency Analysis of Some Closed-loop Subspace Identification
A. Chiuso, G. Picci
From Experiment Design to Closed-loop Control
H. Hjalmarsson
Relations between Uncertainty Structures in Identification for Robust Control
S.G. Douma, P.M.J. van den Hof
Linear Approximations of Nonlinear FIR Systems for Separable Input Processes
M. Enqvist, L. Ljung
Nonlinear System Identification via Direct Weight Optimization
J. Roll, A. Nazin, L. Ljung
Identification of Linear Systems with Nonlinear Distortions
J. Schoukens, R. Pintelon, T. Dobrowiecki, Y. Rolain
Identifiability of Systems Described by Convolution Equations
L. Belkoura
Identifiability of Homogeneous Systems Using the State Isomorphism Approach
R.L.M. Peeters, B. Hanzon
An Analysis of Separable Least Squares Data Driven Local Coordinates for Maximum Likelihood Estimation of Linear Systems
T. Ribarits, M. Deistler, B. Hanzon
Realization and Estimation of Piecewise-linear Output-error Models
F. Rosenqvist, A. Karlsström
Identification of a Moving Object's Velocity with a Fixed Camera
V.K. Chitrakaran, D.M. Dawson, W.E. Dixon, J. Chen

This Newsletter may be reproduced in whole or in part. We encourage reprinting in national and local automatic control periodicals. Acknowledgement to IFAC would be appreciated.



FORTHCOMING EVENTS

2005
No. 1
February

Title	2005	Place	Further Information
IFAC Workshop Advanced Control Circuits and Systems	March 6 – 10	Cairo Egypt	http://www.eri.sci.eg/accs05 e-mail: accs05@eri.sci.eg
EDS/IEEE/IFAC Conference 13th on Solid-State Sensor and Actuators – Transducers05	June 5 – 9	Seoul Korea	e-mail: info@transducers05.org http://www.transducers05.org
American Control Conference – in co-operation with IFAC –	June 8 – 10	Portland OR, USA	http://www.ee.washington.edu/conf/acc2005/ e-mail: SJayasuriya@mengr.tamu.edu
16TH IFAC WORLD CONGRESS	JULY 4 – 8	PRAGUE CZ	http://www.ifac.cz
CACHE/IFAC Conference Foundation of Systems Biology in Engineering	August 7 – 10	St. Barbara, CA USA	http://www.fosbe.org e-mail: craven@fosbe.org
ICINCO/IFAC Conference (2 nd) Informatics in Control, Automation and Robotics	September 14 – 17	Barcelona Spain	http://www.icinco.org secretariat@icinco.org
EWICS Intl. Conference 24 th Computer Safety, Reliability and Security – SAFECOMP2005	Sept. 28 – 30	Fredrikstad Norway	http://www.safecomp.org e-mail: safecomp2005@hrp.no
Title	2006	Place	Further Information
IFAC Symposium Mathematical Modelling – 5 th MATHMOD	February 08 – 10	Vienna Austria	http://simtech.tuwien.ac.at/MATHMOD/ email: inge.troch@tuwien.ac.at
IFAC Workshop Control Applications in Post-Harvest and Processing Technology CAPPT 2006	March 26 – 29	Potsdam Germany	http://CAPPT2006.atb-potsdam.de/ e-mail: CAPPT2006@atb-potsdam.de
IFAC Symposium System Identification – SYSID 2006	March 29 – 31	Newcastle Australia	http://sysid2006.org e-mail: secretariat@sysid2006.org
IFAC Symoisum Advanced Control of Chemical Proceses – ADCHEM 2006	April 2 – 5	Gramado Brazil	http://www.enq.ufrgs.br/adchem2006/ e-mail: luciane@enq.ufrgs.br
IFAC Symposium Information Control Problems in Manu- facturing – INCOM 2006	May 17 – 19	St. Etienne France	http://www.emse.fr/incom.fr e-mail: incom06@emse.fr
IFAC Conference 6th Analysis and Design of Hybrid Systems ADHS'06	June 07 – 09	Alghero Italy	http://www.diee.unica.it/adhs06/ e-mail: adhs06@diee.unica.it
IFAC Symposium 7th Advances in Control Education – ACE 06	June 21 – 23	Madrid Spain	http://www.dia.uned.es/ace2006/index.html e-mail: ace2006@dia.uned.es
IFACConferences Analysis and Control of Chaotic Systems	June 28 – 30	Reims France	http://www.univ-reims.fr/chaos06 e-mail: chaos06@univ-reims.fr
IFAC Symposium 5 th Robust Control – ROCOND	July 05 – 07	Toulouse France	http://www.laas.fr/rocond06 e-mail: arzelier@laas.fr
Asian Control Conference – in cooperation with IFAC –	July 18 – 21	Bali Indonesia	http://www.ascc2006.com e-mail: secretariat@ascc2006.com
IFAC Workshop Fractional Differentiation and its Applications – FDA 06	July 19 – 21	Porto Portugal	http://www.gecad.isep.ipp.pt/FDA06/ e-mail: fda06@dec.isep.ipp.pt
IFAC Symposium Fault Detection, Supervision and Safety of Technical Processes – SAFEPROCESS	August 30 – September 1	Beijing China	http://www.au.tsinghua.edu.cn/safe/safeprocess2006/ e-mail: safeprocess2006@mail.tsinghua.edu.cn

FORTHCOMING EVENTS (ctd.)

Title	2006	Place	Further Information
IFAC Symposium 8 th Robot Control – SYROCO	September 6 – 8	Bologna Italy	http://www-lar.deis.unibo.it/syroco2006/ e-mail not yet available
IFAC Symposium Mechatronics Systems	September 12 – 14	Wiesloch Germany	http://www.mechatronics2006.com e-mail: ringelmann@vdi.de
IFAC 50th Anniversary Celebration Present and Future of Automatic Control	September 15	Heidelberg Germany	
IFAC Symposium 6th Modelling and Control of Biomedical Systems	September 20 – 22	Reims France	http://www.univ-reims.fr/mcbms06 e-mail: mcbms06@univ-reims.fr
Title	2007	Place	Further Information
IFAC Symposium Nonlinear Control Systems	August 22 – 24	Pretoria South Africa	http://www.nolcos2007.org.za e-mail: noc@nolcos2007.org.za
Title	2008	Place	Further Information
17th IFAC WORLD CONGRESS	July 6 – 11	Seoul Korea	http://www.ifac2008.org e-mail: Secretariat@ifac2008.org

Anniversaries

In 2006 IFAC will celebrate its 50th anniversary. When we look at the Federation we see that it is the sum-total of its National Member Organizations. Many of these NMOs are also celebrating their own anniversaries which take place in the years around the Foundation of IFAC.

In a loose series we shall bring reports on these anniversaries. A start is today made with the Belgian NMO of IFAC, which is organizing many activities with a view to the future to mark this anniversary. And this is the key issue within IFAC. We use our anniversary not only to look back at past achievements, but primarily to look into the future to anticipate developments and to stay at the cutting edge of technological developments. This is also why IFAC is spending considerable effort to attract young people to the subject of automatic control. Activities into this direction are planned for the IFAC World Congress in Prague this summer and will also be part of the activities to celebrate the 50th anniversary in 2006.

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Institut Belge de Régulation et d'Automatisme – IBRA



The French speaking part of the Belgian NMO of the IFAC, the IBRA (Institut Belge de Régulation et d'Automatisme) is celebrating its 50th birthday in 2005. On that occasion, several activities are organized, starting with four study days between February and May, each one being dedicated to one field of application (metallurgical and chemical processes, bioprocesses, mechatronics, electrical systems). One of the major motivations to celebrate this anniversary is to prepare for the future and to involve the younger generation more actively: the members of the IBRA will be consulted mainly via the study days to define and raise the portrait of the IBRA of the new century, and a debate will be organized in September on the theme of the future of automatic control in the new century, the interaction between industry and university, and the future role of the IBRA. Finally an academic ceremony will take place in October in the "Palais des Académies" in Brussels. On that occasion, the IBRA will change its name to IRBRA to become a Royal society. Detailed information about the different activities of the 50th birthday of the IBRA are available at the following webpage address: <http://www.ibra-control.be/50ans.htm>

Offenlegung:

Das Medienwerk 'IFAC Newsletter' wird als Organ der 'International Federation of Automatic Control' (IFAC) verlegt und ist Eigentum dieser Internationalen Föderation, deren Tätigkeit der Förderung von Wissenschaft und Technik automatischer Regelung und Steuerung dient. Die Föderation hat ihren Sitz in Zürich und ist nach Schweizer Recht als gemeinnütziger Verein angemeldet. Sie verfolgt weder wirtschaftliche noch praktische Ziele.

Das Sekretariat der IFAC befindet sich seit 1978 aufgrund eines Übereinkommens mit der Österreichischen Bundesregierung und 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 Ländern versandt. Die Kosten werden von der IFAC aus Beiträgen der derzeit 49 Mitgliedsländer getragen.

Präsident der IFAC ist für 2002-2005 Prof. Vladimír Kucera (Czech Republic), Vizepräsidenten sind Dr. Michael Masten (USA) und Prof. Peter Fleming (United Kingdom). 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.)