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# Newsletter

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### NOTE NOTE NOTE NOTE

Following the Newsletter Survey conducted in issue 1/1991 of the IFAC Newsletter, all those who have returned the Affiliate Registration Card have been registered as IFAC Affiliates and, as such, will continue to receive the IFAC Newsletter in the current triennium.

## A Structure of Future IFAC Symposia

IFAC organizes some forty more or less specialized technical meetings each year. It is a strength of IFAC to be able to offer such a wide selection of conferences to the control community around the world. It is, however, also a source of some problems. One important problem is that the list of symposia and workshops may lack some structure: The individual events may not be sufficiently visible and the connection between two events with the same or similar topic may not be clear.

To deal with this problem, IFAC's Technical Board decided in Tallinn to reserve the name **symposium** for technical meetings that are part of a series of regular events, typically one every three years. Symposia will be devoted to sub-areas of the control engineering field where the interest is expected to remain for some time. While the focus of the individual events may shift according to current trends, the continuity between the events is secured by a steering committee appointed by the sponsoring technical committee.

This means that **IFAC symposia** represent a long term commitment on IFAC's part to regularly sponsor - as long as sufficient interest in the topic remains - high quality international technical meetings on specific control topics. The continuity and "predictability" of the events should be helpful to promote the topic and to establish international contacts in the corresponding community of engineers and researchers. As is the case for the IFAC Congress, the participants of symposia, too, should know where to meet "next time".

Of course, IFAC will also continue to sponsor **workshops** as smaller and more flexible meetings. Larger meetings that are not necessarily part of a series of events will be called **IFAC conferences**.

The list of symposia that was agreed upon in Tallinn is as follows. The sponsoring technical committee is given in parenthesis and already decided future locations are also indicated.

- Automatic Control in Aerospace (AEROSPACE); Munich, 92
- Advanced Control in Chemical Processes (APCOM); Toulouse, 91, College Park, 92
- Fault Detection, Supervision and Safety for Technical Processes (APCOM); Baden-Baden, 91
- Mining, Mineral and Metal Processing (APCOM); Beijing, 92
- Power Systems and Power Plants (APCOM); Munich, 92
- Modelling and Control of Biomedical Systems (BIOMED); Monterey, 92
- Intelligent Components and Instruments for Control (COMP&INSTR.); Malaga, 92
- Low Cost Automation (COMP&INSTR.); Vienna, 92
- Real Time AI (COMPUT); Napa, 91, Noordwijkerhout, 92
- Modelling and Control of National Economies (EMSCOM); Beijing, 92
- Information and Control in Manufacturing (MAN.TECH.); Toronto, 92
- Robot Control (MAN.TECH.); Vienna, 91
- Non-Linear Control Systems (MOC); Bordeaux, 92
- Automated Systems Based on Human Skill (SOC.EFF.); Boston, 92
- Computer Aided Design (SECOM); Swansea, 91
- Distributed Intelligence Systems (SECOM); Washington DC, 91, Wuppertal, 94
- Large Scale Systems (SECOM); Beijing, 92
- Man-Machine Systems (SECOM); The Hague, 92
- Transportation Systems (SECOM)
- Adaptive Control (THEORY); Grenoble, 92
- Control Design (THEORY); Zürich, 91
- Distributed Parameter Systems (THEORY)
- System Identification (THEORY); Budapest, 91, Copenhagen, 94

More information about the symposia will be found in this and future issues of the IFAC Newsletter. The IFAC Secretariat will also be happy to supply further information.

# FORTHCOMING EVENTS 1992

Title	1992	Place	Deadlines	Further Information
IFAC Symposium Control of Power Plants and Power Systems	March 9-11	Munich FRG	15 May 1991	VDI/VDE-GMA Secretariat Symposium Power Plants and Systems, POB 1139 D-W-4000 Düsseldorf 1, FRG
IFAC Conference Modelling and Control of Biotechnical Processes	April 5-8	Monterey, CA USA	*	Prof. M. Karim, Dept. of Agriculture/ Chem. Engg, Colorado State Uni. Fort Collins, CO 80523, USA
IFAC Workshop AI, Control and Advanced Technology in Marine Automation	April 8-10	Genoa Italy	*	Prof. E. Volta, Ist. Automazione Navale C.N.R., Viale Causa 18R I-16145 Genoa, Italy
IFAC Symposium On-Line Fault Identification and Control in the Chemical Process Industries	April 22-24	Newark Delaware USA	1 June 1991	Dr. P. Dhurjati, Dept. of Chem. Engg., Univ. of Delaware Newark, DE 19711, USA
IFAC Symposium Advanced Control in Chemical Processes	April 27-29	College Park MD, USA	1 June 1991	Dr. T. McAvoy, Dept. of Chem. & Nuclear Engg. University of MD, College Park MD 20742-2111, USA
IFAC Symposium Intelligent Components and Instruments for Control Applications	May 20-22	Malaga Spain	30 June 1991	Prof. A. Ollero, Automatic Control Dept. Faculty of Information, Plaza El Ejido s/n E-29013 Malaga, Spain
IFAC Symposium (7th) Information Control Problems in Manufacturing Technology	May 25-28	Toronto Canada	30 Aug. 1991	Dr. J. Scrimgeour, Advanced Manufacturing Technologies & Ind. Automation, Div. of EE, National Research Council, Ottawa, Ont. K1A 0R8, Canada
IFAC Workshop Automatic Control for Quality and Productivity	June 3-5	Istanbul Turkey	*	Prof. A. Talha Dinibütün, Istanbul Techn. Univ. Inst. of Science and Technology Ayazaga 80626, Istanbul, Turkey
IFAC/IFIP/IFORS/IEA Symposium Man-Machine Systems	June 9-11	The Hague Netherlands	15 April 1991	Prof. P. L. Brinkman, Delft Univ. of Technology Fac. of Mech. Engg. & Marine Tech Mekelweg 2, NL-2628 CD Delft Netherlands
IFAC Symposium Artificial Intelligence in Real-Time Control	June 16-18	Delft Netherlands	*	Prof. ir. H. B. Verbruggen, Delft Univ. of Technology Dept. of EE, POB 5031 NL-2600 GA Delft, Netherlands
IFAC Workshop Real-Time Programming	June 23-25	Bruges Belgium	*	Mr. Luk Pauwels, Coordinator, BIRA Desguinlei 214, B-2018 Antwerp, Belgium
IFAC Symposium Nonlinear Control Systems Design NOLCOS	June 24-26	Bordeaux France	1 Oct. 1991	Dr. M. Fliess, CNRS, Lab. des Signaux & Systèmes, Plateau de Moulon, F-91192 Gif s/Yvette, France
IFAC/IFORS Workshop Support Systems for Decision and Negotiation Processes	June 24-26	Warsaw Poland	Sept. 1991	Dr. Nahorski, DNS '92, System Res. Inst. Newelska 6, PL-01 447 Warsaw Poland
IFAC Symposium Adaptive Control and Signal Processing	July 1-3	Grenoble France	*	L. Dugard, Lab d'Automatique de Grenoble-ENSIEG, BP 46 F-38402 St. Martin d' Hères, France
IFAC/IFORS/(IFIP)/(IIASA) Symp. (7th) Modelling and Control of National Economies	August 18-20	Beijing China, P.R.	15 Dec. 1991	Ms. Wang Hong, MCNE '92 c/o Chinese Association of Automation POB 2728, Beijing 100080, China, P.R.
IFAC/IFORS Symposium (6th) Large Scale Systems: Theory and Applications	August 22-25	Beijing China, P.R.	15 Aug. 1991	Prof. Y. P. Zhang, IFAC LSS92 Chinese Association of Automation POB 2728, Beijing 100080 China, P.R.
IFAC/IFIP Workshop Distributed Computer Control Systems - DCCS '92	August 23-25	Beijing China, P.R.	15 Jan. 1992	Prof. Bing Zhong Gong POB 927, Beijing 100080 China, P.R.
IFAC Symposium (7th) Automation in Mining, Mineral and Metal Processing	August 26-28	Beijing China, P.R.	20 Aug. 1991	Prof. Huang Tai-Yi, Chinese Association of Automation Institute of Automation, Academia Sinica, POB 2728 Beijing, China, P.R.
IFAC Workshop (2nd) System Structure and Control	Sept. 3-5	Prague CSFR	10 Jan. 1992	2nd IFAC Workshop Inst. of Inf. Theory and Automation, POB 18 CS 182 08 Prague, CSFR
IFAC/IAF Symposium Automatic Control in Aerospace	Sept. 8-11	Munich FRG	Sept. 1991	Dr. Ing. E. Gottzein, c/o MBB POB 801169 D-W-8000 Munich 80, FRG
IFAC Symposium Automated Systems Based on Human Skills	Sept. 23-25	Boston USA	*	Dr. Frank Emspak, Center f. Applied Techn. 9 Park Street, Boston, MA 02108, USA
IFAC/IFIP Symposium SAFECOMP '92	Nov. 1992	Baden Switzerland	*	Dr. H. Kirrmann, ABB Corporate Research Segelhof, CH-545405 Dättwil, Switzerland

\* not yet known  
- deadline past

## IFAC Congratulates

On 11 January, 1991, Professor Thomas B. Sheridan, Professor of Machine Systems at the MIT and Vice-Chairman of the IFAC TC on Social Effects of Automation, was awarded an Honorary Doctorate Degree of the Delft University of Technology on the occasion of its traditional Dies Natalis celebration. The fact that this doctorate was awarded in the field of Man-Machine Systems, a field in which IFAC has been very active for a long time, can be considered an indication of the growing interest and importance of this field.

## Introducing IFAC Technical Committees and Working Groups

### Working Group of the IFAC Applications Committee on Mining, Mineral and Metal Processing

This Working Group is currently chaired by Dr. Gunter Sommer and has the following aims and scope:

"The aim of this Working Group is to provide a forum for discussion on measurement, automation and optimization based on control theory, to enhance the understanding of measurements for process control in the fields of mining and of mineral and metal processing. The area of activity of this Working Group also includes the exploration and exploitation of organic material such as coal, gas and oil, but excludes the refining of these materials since this specialized field is covered by the Group on Chemical Process Control."

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## Special Offer on Selected IFAC Titles

Below follows a list of IFAC titles published between 1986 and 1988 which are available at a reduced rate until September 1991.

Send your order to:

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EDITOR	TITLE	SPECIAL PRICE IN £
Adali	Microcomputer Application in Process Control (278pp) (1987)	27.50
Albertos	Components, Instruments & Techniques for Low Cost Automation & Applications (424pp) (1988)	41.50
Åström	Adaptive Systems in Control and Signal Processing 1986 (462pp) (1987)	38.00
Atherton	Multivariable Technological Systems (666pp) (1978)	50.00
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Barker	Identification & System Parameter Estimation 1985 2 volumes (2066pp) (1985)	217.50
Basanez	Robot Control (SYROCO '85) (576pp) (1987)	55.00
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Florian	Software for Computer Control 1986 (270pp) (1987)	27.50
Geering	Large Scale Systems: Theory & Applications 1986 2 volume set (920pp) (1987)	75.00
Genser	Control in Transportation Systems 1986 (396pp) (1987)	36.00
Hruz	Automatic Measurement & Control in the Woodworking Industry (298pp) (1986)	25.00
Isermann	Automatic Control 1987-10thWorld Congress 10-volume set (4391pp) (1988)	305.00
Jansen	Reliability of Instrumentation Systems for Safeguarding and Control (190pp) (1987)	19.50
Kaya	Instrumentation and Automation in the Paper, Rubber, Plastics & Polymerization Industries 1986 (274pp) (1987)	20.00
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Nalecz	Control Aspects of Biomedical Engineering (321pp) (1987)	27.50
Norrie	Automation for Mineral Resource Development (365pp) (1986)	33.50

**Papers**

- A Practical Study of Adaptive Control of an Alumina Calciner (P.M. Mills, P.L. Lee, P. McIntosh)  
Adaptive and Robust Cascade Schemes for Thyristor Driven DC-Motor Speed Control (R.M. Stephan, V. Hahn, J. Dastych, H. Unbehauen)  
Quality Control of Binary Distillation Columns Via Nonlinear Aggregated Models (J. Lévine, P. Rouchon)  
Drag-Law Effects in the Goddard Problem (P. Triotras, J.H. Kelley)  
Vibrational Control of Nonlinear Time Lag Systems: Vibrational Stabilization and Transient Behavior (J. Bentsman)  
Generalized Zero Sets Location and Absolute Robust Stabilization of Continuous Control Systems (G. Fruchter)

**Brief Papers**

- An Optimal Gas Supply for a Power Plant Using a Mixed Integer Programming Model (K. Akimoto, N. Sannomiya, Y. Nishikawa, T. Tsuda)  
Robust Measurement Selection (J.H. Lee, M. Morari)  
Reduced Order Process Modelling in Self-Tuning Control (C.C. Hang, D. Chin)  
A Sensitivity Approach to Optimal Spline Robot Trajectories (A. De Luca, L. Lanari, G. Oriolo)  
An Algorithm for the Assignment of System Zeros (W.A. Berger, R.J. Perry, H.H. Sun)  
A Lyapunov Robustness Bound for Linear Systems with Periodic Uncertainties (W.L. Chen, J.S. Gibson)  
A Class of Invariant Regulators for the Discrete-Time Linear Constrained Regulation Problem (J.-C. Hennet, J.-P. Beziat)  
Continuous-Time LQ Regulator Design by Polynomial Equations (A. Casavola, M.J. Grimble, E. Mosca, P. Nistri)  
Guaranteed Properties of Gain Scheduled Control for Linear Parameter-Varying Plants (J.S. Shamma, M. Athans)  
Arbitrarily Small Sensitivity in Multiple-Input-Output Uncertain Feedback Systems (O. Yaniv)  
Approximation of Delay Systems by Fourier-Laguerre Series (J.R. Partington)  
The Diagonalizability of Quadratic Functions and the Arbitrariness of Shadow Prices (B. Rustem)  
A Hierarchical-Multiobjective Framework for Risk Management (Y.Y. Haimes, D. Li)

**Book Reviews**

- Expert Systems - Principles and Programming, by J.C. Giarratano and G. Riley (R. Jirousek)  
Large Space Structures: Dynamics and Control, by S.M. Atluri and A.K. Amos (E. Gottzein)  
Applied Control of Manipulation Robots - Analysis, Synthesis and Exercises, by M. Vukobratovic and D. Stokic  
Applied Dynamics of Manipulation Robots - Modelling, Analysis and Examples, by M. Vukobratovic (T. Vámos)  
Dynamic Models and Discrete Event Simulation, by W. Delaney and E. Vaccari (I.M.Y. Mareels)

**WHO IS WHO IN IFAC**



Prof. Atsunobe Ichikawa

Atsunobe Ichikawa received his PhD in Chemical Engineering from the Tokyo Institute of Technology in 1958. Before that he had completed his MS in Chemical Engineering in 1955 and a BS in Chemical Engineering in 1953 at the same Institute. His professional career, among others, includes the position of Deputy Director of the National Institute of Environmental Studies, a position to which he was appointed on April 1, 1990. Until 1990 he was Dean of the Graduate School at Nagatsuta and he still holds the position of Professor at the Department of Systems Science at Nagatsuta Graduate School. In the course of his career, Prof. Ichikawa also worked in the USA as research associate at the Department of Chemistry at Princeton University and at the Systems Research Center of the Case Institute of Technology. Prof. Ichikawa is Member of the Science Council of Japan and Member of the Science Council at the Ministry of Education, Science and Culture. Furthermore, he is a member of IEEE. In 1987 and 1990 he was awarded the "Best Paper Award" of the Society of Control and Instrument Engineers, Japan. His publications include more than 150 original and survey papers as well as several books in the field of systems science and control. He

was editor of several books, including "The Handbook of Automatic Control Theory" (in Japanese), 1985. Professor Ichikawa's major fields of interest include systems science, representation and control of discrete event systems, information science and scientific information systems. In IFAC, Professor Ichikawa was elected member of the IFAC Council for the 1990-1993 Triennium.

**Message  
from the President  
Meeting the Market Demand**

The vast majority of engineers, including control engineers, work in organizations producing goods and services. Those of us from western countries at least, and maybe all of us soon, are imbued with the knowledge that success in such an endeavour requires us to understand the needs of the market. Can this be a metaphor to shape our thinking about IFAC? Certainly in IFAC, we need to reflect on our goods and services, and the extent to which they meet market demand. What are our "goods and services", exactly? Broadly, they are of two types: meetings and publications. And what does the market demand from us? In respect of meetings it wants coverage of a certain range of topics (i.e. such as robotics, adaptive control or whatever), it wants the coverage to be timely (i.e. IFAC's first meeting on, say, discrete-event systems should not occur five years after everybody else's), and it wants quality control in the product (so that the next time someone goes to a meeting, he or she knows it will be good, and not overly expensive). Very much the same applies to our publications. Those of us concerned with the organization of IFAC itself then have a responsibility: though we are not in the business of putting money into shareholders' pockets or generating an efficiency dividend for the national Treasury, we do have to meet our customers' needs in a timely and excellent manner.

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EDITOR	TITLE	SPECIAL PRICE IN £
Paul	Digital Computer Applications to Process Control (619pp) (1986)	49.00
Quirk	Safety of Computer Control Systems 1986 (Safecomp '86) (202pp) (1986)	18.00
Rauch	Control of Distributed Parameter Systems (1986) (515pp) (1987)	49.50
Rodd	Distributed Computer Control Systems 1986 (235pp) (1987)	16.48
Sinha	Stochastic Control (532pp) (1987)	52.80
Skelton	Model Error Concepts & Compensation (154pp) (1986)	16.50
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Yang	Control Science & Technology for Development (444pp) (1986)	35.50
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