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International Federation of Automatic Control

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Newsletter

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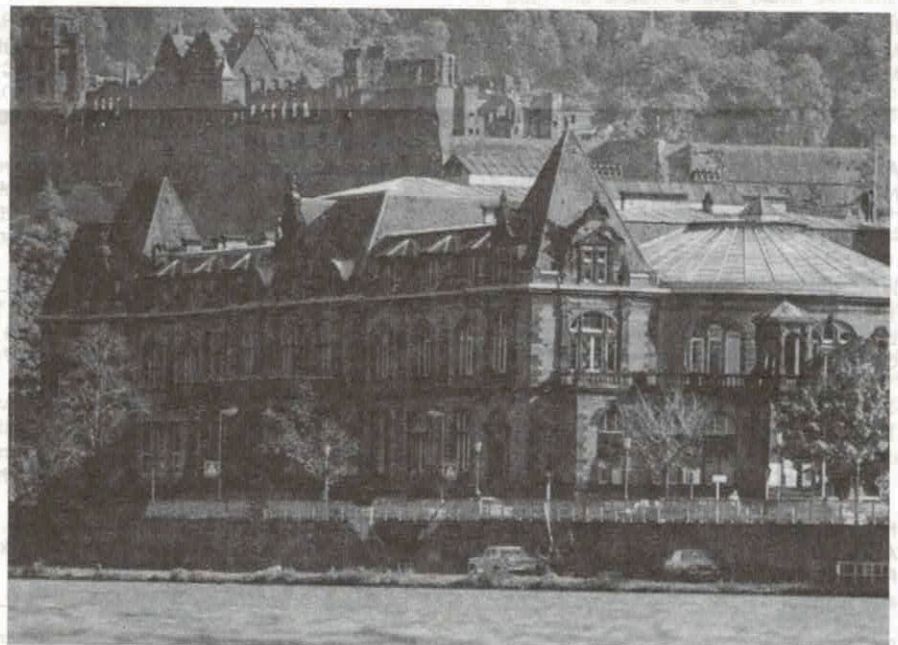
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IFAC Anniversary Day: Past meets Present and Future

When the representatives of the newest technology — Automatic Control — met in Heidelberg for IFAC's 25th Anniversary, they were hosted by the oldest German University — founded in 1386 — in the 250 year old building where the beautiful Aula is located. In this fascinating environment of the past the International Colloquium on "Impact of Automatic Control: Present and Future" was held.

The fascination of old and new thus merging into a new entity, the pleasure of meeting old friends maybe from the other end of the world — all that was no doubt a memorable event. The strongest impression, however, was mediated by the lectures, when nine outstanding personalities reported on the state of the art of their particular field and developed their vision of the future.



IFAC President, Academician T. Vamos welcomed the more than 200 participants, among them many of the pioneers who, 25 years earlier, had also gathered in Heidelberg to prepare the founding of the International Federation of Automatic Control. The list of participants further comprised outstanding scientists and control engineers from all parts of the world, representatives of FIACC and of our sister organisations in FIACC-IFIP, IFORS, IMEKO and IMACS, as well as other national and international organisations, such as UNIDO, IIASA, IFSR, IEEE, VDI and many others. Both the German and the Austrian Government, host countries of the Anniversary Day and of the IFAC Secretariat respectively had sent official representatives.

The 25 years gone by since IFAC was founded have changed this world. More and even deeper changes are to be expected. But the enormous development of science and technology has not been matched by social and human progress. The question for the future then, posed by practically every speaker during Anniversary Day, is the question whether and how we shall be able to transform development (of science and technology) into progress (for the individual and for society). And the answer, explicitly given in most of the speeches clearly puts the responsibility for the future upon man himself, upon every one of us whose ideas and actions will influence the direction we take at present and future crossroads.

FORTHCOMING EVENTS

This list has been brought up to date in accordance with decisions taken by the meeting of the Technical Board on September 28/29, 1982 in Baden-Baden.

Title	1983	Place	Deadlines	Further Information
IFAC/IFIP Symposium on Real Time Digital Control Applications	January 15—21	Guadalajara City, Mexico	—	Dr. Roberto Canales Ruiz, Chairman of IPC Dept. of Automation, Instituto de Ingenieria, UNAM Apdo Postal 70-472 Delegacion Coyoacán 04510 Mexico, D.F.
IFAC Symposium on Systems Approach to Appropriate Technology Transfer	March 21—23	Vienna, Austria	—	IFAC — Symposium "Appropriate Technology Transfer" Ö P W Z, Renngasse 5 1014 Vienna, Austria
12th IFAC/IFIP/Workshop on Real Time Programming	March 29—31	Hatfield, UK	not yet known	Real Time Programming Organizing Committee, Dr. G. M. Bull, School of Information Sciences The Hatfield Polytechnic, P. O. Box 109 Hatfield, Herts, AL10 9AB, England
4th IFAC/IFIP/IFORS Int. Conference on Control in Transportation Systems	April 20—22	Baden-Baden, FRG	—	VDI/VDE Gesellschaft Meß- und Regelungstechnik Postfach 1139, D-4000 Düsseldorf 1, FRG
IMACS/IFAC Int'l Symposium Simulation in Engineering Sciences	May 9—11	Nantes, France	—	A.F.C.E.T. IMACS Symposium 1983 156, Bd. Péreire 75017 Paris, France
5th IFAC Workshop Distributed Computer Control Systems	May 18—20	Johannesburg, South Africa	not yet known	Prof. M. G. Rodd University of the Witwatersrand 1 Jan Smuts Avenue, Johannesburg, South Africa
IFAC Workshop Management Control Systems Modelling of Dynamics	May	Dubrovnik, YU	not yet known	Dr. Rajkov Faculty of Organizational Sciences/ IFAC Workshop Ul. Osobodjenja 1 11090 Beograd, Yugoslavia
AF CET/IFAC/IFIP Symposium New Techniques and Ergonomics	May 31 — June 2	Valenciennes, F	—	University of Valenciennes Le Mont Houy 59326 Valenciennes, Cedex France
IFAC/IFIP Conference Training for Tomorrow: Educational Aspects of Computerized Automation	June 7—10	Leiden, NL	—	Mr. L. Immink c/o Twente University of Technology Dept. C.T., P. O. Box 217 NL-7500 AE Enschede, The Netherlands
4th IFAC/IFORS Conference The Modelling and Control of National Economies	June 17—19	Washington D.C., USA	—	Dr. M. Canzoneri 4th IFAC/IFORS Conf. Board of Governors, Federal Reserve Washington DC 20551, USA
IFAC Workshop Applications of Nonlinear Programming to Optimization and Control	June 20—21	San Francisco, USA	Abstracts: Feb. 1, 1983 (6 copies)	Prof. H. E. Rauch Lockheed 52-56/205 3251 Hanover Street Palo Alto CA 94304, USA
3rd IFAC/IFORS Symposium Large Scale Systems: Theory and Applications	July 11—15	Warsaw, Poland	—	Dr. Z. Nahorski 3rd IFAC/IFORS LSSTA Systems Research Institute Polish Academy of Sciences ul. Newelska 6, 01-447 Warsaw, Poland
IFAC/IFIP/IFORS Symposium Fuzzy Information, Knowledge Representation and Decision	July 19—21	Marseille, France	not yet known	Prof. M. Roux Laboratoire de Biomathématique Faculté de Médecine 27, Blvd. Jean-Moulin F-13385 Marseille, Cedex 5, France
4th IFAC Symposium Mining, Mineral and Metal Processing	August 22—25	Helsinki, SF	—	IFAC 4th MMM Symposium 1983 Secretariat P. O. Box 192 SF-101 Helsinki 10, Finland

FORTHCOMING EVENTS (ctd.)

Title	1983	Place	Deadlines	Further Information
IFAC Workshop Simulation and Validation Techniques to establish Control System Performance	August 22—26	Stanford, Univ., USA	Jan. 14 1983	Prof. D. B. DeBra Dept. Aero & Astro Stanford University Stanford CA 94305, USA
3rd IFAC Symposium Control in Power Electronics and Electrical Drives	Sept. 12—14	Lausanne, CH	October 31, 1982	Prof. H. Bühler Ecole Polytechnique Fédérale de Lausanne Laboratoire d'électronique industrielle 16, ch. de Bellerive CH-1007 Lausanne, Switzerland
IFAC Workshop Supplemental Ways of Improving International Stability (SWIIS)	Sept. 13—15	Laxenburg, A	—	ÖPWZ, „SWIIS 1983“ P. O. Box 131 Hohenstaufengasse 3 A-1014 Vienna, Austria
IFAC Workshop Modelling and Control of Electric Power Plants	Sept. 22—23	Milan, (or Como) Italy	—	Prof. C. Maffezzoni Politecnico di Milano Senior Researcher at ENEL Via Valv. Peroni, 77 I-20133 Milano, Italy

ICCAS '82, the 4th International Conference on Computer Applications in the Automation of Shipyards Operation and Ship Design

A General Report by Bruce C. Nehrling

ICCAS '82 was the fourth in a series of triannual conferences on the interrelated subjects of computer aided design and computer assisted ship production. It was held at the United States Naval Academy from 7—10 June, 1982 and was attended by about 240 international delegates.

The three previous ICCAS conferences were held in Japan (Tokyo, ICCAS '73), Sweden (Gothenburg, ICCAS '76), and Scotland (Glasgow, ICCAS '79). The stated purpose and eventual result of these three conferences was to provide the international maritime community with a forum for the exchange of ideas, experiences, and future expectations for the application of computers to ship design and shipbuilding. ICCAS '82 continued to provide this important service.

The success of ICCAS '82 must be attributed to the individual efforts of many. Certainly that list would include the members of the Conference's three organizing committees. The International Organizing Committee (IOC), chaired by Mr. John J. Nachtshiem, the International Program Committee (IPC), chaired by Professor David F. Rogers, and the Local Organizing Committee (LOC), chaired by Professor Bruce C. Nehrling all contributed heavily to making ICCAS '82 a most resounding success both professionally and socially. Also on this list, of course, would be the numerous authors who wrote and presented an outstanding array of excellent papers.

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Technical Program

The International Program Committee reviewed more than 60 high-quality abstracts. From this collection, the IPC selected 36 technical papers which were grouped into the Conference's six topic areas:

- Management and Economics
- Computer Aided Ship Design
- Computer Aided Hull Design
- Computer Aided Ship Production
- Information Systems for Shipbuilding
- Man/Machine Communication

In addition to these six areas, stimulating panel discussions were conducted in three broad categories:

- Ship Design Education and Modern Computing Systems
- Cost-Effectiveness of Computer Aided Design Systems
- Design and Implementation of Computer Aided Systems

In both the technical and panel sessions some time was allowed for questions and discussions from the floor.

A professional program was also offered to the delegates who had the opportunity to tour any one of five outstanding facilities in or near Annapolis.

To balance out a comprehensive technical and professional program, ICCAS '82 offered three social events: A welcoming reception, a trip to Baltimore's recently restored and highly acclaimed inner harbor and the Conference's banquet which was held in Annapolis on the third evening. The banquet program featured a speech by the Honorable George A. Sawyer, Assistant Secretary of the Navy for Shipbuilding and Logistics.

Singular Perturbations in Systems and Control

Summary of a Workshop

Submitted by Mark D. Ardema, Workshop General Chairman

Over the past decade, singular perturbation theory has been applied to problems in systems and control. The singular perturbation approach has resulted in increased insight into dynamical and other systems and has led to high-efficiency computational algorithms. Consequently, the field has rapidly expanded to become one of the most active research areas in systems and control.

The 1982 Workshop on Singular Perturbations in Systems and Control held July 5—8, brought together many of the leading researchers in singular perturbations for the purpose of providing a current, comprehensive review of the subject. The seminar was co-sponsored by the International Centre for Mechanical Sciences (CISM), the Italian National Research Council, the United

Nations Educational Scientific and Cultural Organization (UNESCO), and the National Aeronautics and Space Administration (NASA). It was held at the CISM facility in Udine, Italy. The 24 attendees (representing ten different countries) heard thirteen invited lectures and participated in many lively and fruitful discussions.

The types of systems considered at the Workshop included linear and nonlinear, discrete and continuous, and stochastic and deterministic ones. Both ordinary and partial differential equations were covered. The emphasis was on a concise statement of the existing theory but applications were considered as well. The proceedings of the Workshop will be published in the CISM Lecture Series by Springer-Verlag.

New Book Information

Control Science and Technology for the Progress of Society

Proceedings of the 8th Triennial World Congress of IFAC
Kyoto, Japan, August 24—28, 1981

Editor: H. AKASHI, Kyoto University, Japan

A vital reference work for control and industrial engineers, operations research and systems scientists, presenting over 570 technical and review papers, this major seven volume work provides a link between the theory and applications of automatic control emphasizing the latest developments and practical applications. Contains numerous case histories, discussions and conclusions.

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b) Aerospace and Transportation
522pp \$ 115.00
- Vol. 5: Process Control
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412pp \$ 100.00

The price for the whole set of seven volumes is \$ 750.00; orders should be sent to:

Pergamon Press
Headington Hill Hall
Oxford OX3 OBW, Great Britain

Computers in Materials Technology

Proceedings of the Conference held in Linköping, June 1980

Edited by T. ERICSSON, Linköping University, Sweden

An authoritative review of the use of computers in materials technology. Includes: the use of computers in materials section of metals and polymers; heat treatment and hardenability of control steel; quantitative metallography; alloy design and composite material design; phase diagram calculations. For materials scientists and engineers.

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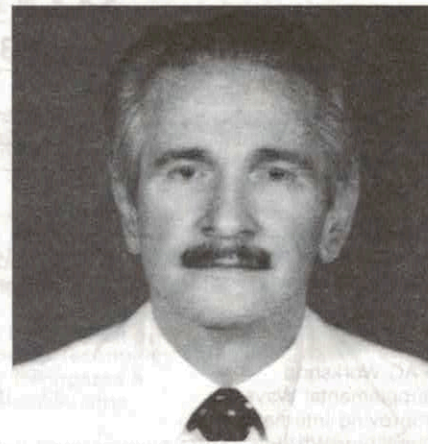
Edited by P. ADULBHAN and M. T. TABUCANON, Asian Institute of Technology, Bangkok, Thailand

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WHO IS WHO IN IFAC



Eng. Ibrahim M. Sharkass
IFAC Council Member

Ibrahim Mohamed Sharkass was born on November 22, 1920 in Alexandria (Egypt). He studied at Cairo University, Faculty of Engineering and took his BSc degree in Mechanical Engineering in 1944.

For 14 years to follow he worked with the Egyptian Salt & Soda Comp. In 1958 he joined the General Organization for Industrialization (GOFI), a governmental institution, whose chairman is the Minister of Industry and Mineral Wealth.

After a period of two years as Chairman of El-Nasr Forgings Co he returned to GOFI to become head of their Central Department of Planning, Technical Affairs, Research and Development. In 1977 he became Deputy Chairman of GOFI, at the same time holding responsible offices in several important institutions, such as the Engineering and Industrial Development Center (Chairman), the Electronic Research and Development Center (Chairman), the El-Tabbin Metallurgical Institute for Higher Studies (Chairman), the Federation of Egyptian Industries (Board Member) and others.

Mr. Sharkass has been active in the international field also, being a Board Member of the International Electrotechnical Commission and of the Atomic Energy Organization as well as Member of the Egypt—U.S. Business Council.

After his retirement in November 1981 he was appointed Consultant to the Minister of Industry and Mineral Wealth as from January 1982. He further holds the office of Council Member of the Academy of Scientific Research and Technology, Council Member of the National Council of Production, Deputy Chairman of the International Research Committee in the Academy of Scientific Research and Technology and Member of the Committee of the Engineering Studies Sector in the Supreme Council of Universities.

In IFAC Mr. Sharkass served as Chairman of the newly formed Special Committee for Developing Countries. Between 1976 and 1978 he laid the foundation to what at the Helsinki Congress became the TC on Developing Countries. He chaired this Committee and led it through the first years of its activities. In 1981, during the 8th IFAC World Congress in Kyoto he was elected Council Member.

IFAC Anniversary Day (ctd. page 1)

"The automatic controls that can be used to guide the apocalyptic armies of missiles and nuclear arms are at the same time the fundamentals of the advanced technologies that can free mankind from famine and drudgery. They have rendered it possible — for the first time in our history — for all mankind to enjoy a dignified human life without oppressing or exploiting others" said President Vamos in his opening speech. "It was here that the 'Heidelberg Catechism' was written 319 years ago to become a symbolic summary of beliefs and of knowledge about the facts of the world and the duties of men as they were perceived at the turn of the middle ages and the modern times. Today we face those same questions: What do we know of the facts of the world, and what do we in consequence, perceive to be the desirable attitudes and conduct of men and women?"

And Prof. Kato from Waseda University in Japan, talking about Robot Technology, concluded:

"As machines become more and more sophisticated and increase in numbers, the social structure must be changed. This presupposes that society is soft or flexible.

This problem has become the center of attention due to the fact that social response is very slow in spite of the accelerating technological progress."

Finally a quotation from Prof. Larson's paper. Robert E. Larson is at present President of IEEE. With respect to the future of IFAC and of automatic control he said:

"The fundamental analytical frameworks established in the past twenty-five years will be expanded to many new areas in the next quarter century. The development of techniques for efficient resource allocation in the industrial section of many national economies is being pursued. To the extent that controls technology presents a broad framework for systematically analyzing competing and cooperating strategies, it is now evident that even issues such as world peace can be usefully examined. These developments promise to make control theory an even more significant contributor to the benefit of mankind".

IFAC's 9th World Congress, 1984 in Budapest, should bear witness to such developments.