

SCIENTIFIC EVENTS

The 12-th World Congress of IFAC, Sydney, Australia, 18–23 July 1993

Vasile Sima was born at Lita, Romania, on the 21st of October, 1949. He graduated the Polytechnical Institute of Bucharest in Control Engineering in 1972, and the Department of Mathematics at the University of Bucharest, in 1978. He obtained his doctoral degree in Control Engineering (adaptive control) at the Polytechnical Institute of Bucharest, in 1983. Since 1972 he has held several research positions at the Research Institute for Informatics in Bucharest. He is senior research worker and the Secretary of the Scientific Board of the institute. He is also an associate professor at the Polytechnical Institute of Bucharest. Dr. Vasile Sima published more than 70 scientific papers (more than 30 of them were published in international journals and symposia proceedings). He is also co-author of the books: "Computer-Aided Optimization Practice" and "Adaptive and Flexible Control of Industrial Processes", and author of the book "New Methods in Applied Mathematics", all of them written in Romanian. His research interests include automatic control theory, adaptive and optimal control, computer-aided control systems design, nonlinear programming, numerical linear algebra and scientific computations.

During 18–23 July 1993, Sydney Convention and Exhibition Centre, located in the magnificent landscape of Darling Harbour in Sydney, Australia, hosted the 12-th World Congress of the International Federation of Automatic Control (IFAC). This was the first IFAC Congress to be held in the Southern Hemisphere.

The IFAC World Congress is the most prestigious scientific event of the world in the automatic control domain. It takes place triennially. The 12-th IFAC World Congress in Sydney, 1993, had a profoundly innovative and ample technical program, including mini-symposia, target areas, plenary sessions, invited sessions and contributed sessions. The latest significant achievements in control theory and its applica-

tions (including management, education, social impact of automatic control, etc.) have been presented at this congress.

The congress was sponsored by IFAC, and co-sponsored by International Association for Mathematics and Computer Simulation (IMACS), International Federation for Information Processing (IFIP), International Federation of Operational Research Societies (IFORS), and International Measurement Confederation (IMEKO). The congress was organized and hosted by the Australian National Member Organization of IFAC. "The Institution of Engineers", Australia, with support from the Australian Government, the New South Wales Government, the Sydney Mairie, and from many firms, institutes and foundations.

The International Programme Committee, coordinated by Professor Graham Goodwin and Professor Rob Evans, introduced a novel element related to congress organization: congress structuring was so done that the delegates should be let the option of participating in either a highly specialized session, like a mini-symposium or "target area", or an ordinary session, with papers of broad interest. Each day program has opened with a plenary paper, followed by parallel sessions (three daily rounds). Poster sessions had the same daily frequency.

The congress attracted over 1,200 delegates from all continents. The program included over 1,000 papers, grouped in 12 parallel sessions. The preprints volumes exceeded 5,000 pages. Technical visits and panel discussions adorned

the congress programme. A very attractive social and touristic programme, including post Congress tours to the Barrier Reef, the Red Centre and Kakadu in the North of Australia, was organized.

The opening ceremony took place at the famous Sydney Opera House on Sunday, July 18, 1993, at 2:30 p.m., in the presence of His Excellency Rear Admiral Peter Sinclair AC, Governor of New South Wales.

Generally, the congress covered all issues of control science and technology, in theory, as well as in application. The program included regular sessions on 14 large domains: Aerospace, Applications, Automotive Control Systems, Biomedical Engineering, Components and Instruments, Computers, Developing Countries, Economic & Management Systems, Education, Manufacturing Technologies, Mathematics of Control, Social Effects of Automation, Systems Engineering, Theory. These were complemented by six thematic mini-symposia (Robust Control Design; Interaction between Modelling Control and Adaptation; Real-Time Computing for Control; Measurements and Control Applied to Mining, Minerals and Metal Processing; Chemical Process Control; Nonlinear Control Systems), and eight target areas (Automobile Control, Discrete Event Systems Control, Intelligent Control Systems, Manufacturing Systems, Power Plant Control Issues, Control of Biotechnological Systems, Control of Resonant & Flexible Systems, Control of Biomedical Systems). Five plenary "addresses" were authored by W. Powers, D.Q. Mayne and L. Polak, L. Ljung, M. Brisk, and M. Araki. Talks run on the following subjects: *Control Configured Automobiles in the 21st Century*, *Optimization Based Design and Control of Dynamic Systems*, *The Process of Identification*, *Control Process: Theories and Profits*, and *Recent Developments in Digital Control Theory*, respectively. The innovative technical sessions highlighted: Real Time Artificial Intelligence

for Control, Petri Nets: Theory and Applications, Neural Technologies for Manufacturing Systems, Neural Networks for Process Control, Nontraditional Approaches, Knowledge-Based Systems, Decision Support Systems, Intelligent Controllers, Vision-Based Servomechanism, Intelligent Instrumentation, Intelligent Low Cost CIM Concepts, Numerical and Symbolic Computations for Control System Design & Analysis. Two poster sessions were planned each day.

During the Congress, from July 20 to July 22, 1993, an exhibition of automatic control products of some of the sponsoring companies was organized. The following companies were in the forefront: Fisher-Rosemount (Australia), Asea Brown-Boveri Industry (Australia), CSIRO Division of Mineral and Process Engineering (Australia), Honeywell (Australia), Integrated Systems (U.S.A.), The MathWorks (U.S.A.) and others.

The Congress occasioned several round tables, as, for instance, "Advances in CAD Software in Control Systems Education and Research" (Wednesday, 21st July 1993), where K. Furuta, A. Atherton, M. Jamshidi, H. Rake and other eminent scientists exposed their views.

Books and journals mainly edited by Pergamon Press, Wiley Interscience and Springer-Verlag were also displayed.

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