IFAC Council- and Related Meetings
Sun City, South Africa

August 25 – 28, 1995

It was with great pleasure that the IFAC Council had accepted the invitation extended by the South African Council of Automatic Control, SACAC, to hold its annual meetings in South Africa. After a successful visit to the Council meeting was convened on the African continent. It stresses the truly international character of the Federation that not only the technical meetings but also the administrative meetings have been held on all continents. Apart from venues in Europe and in North America, the IFAC Council has held meetings in South America (Argentina in 1989), in Asia (Japan in 1981) and in Australia (in 1993).

As is already a tradition, the IFAC Council also made use of the opportunity of its visit to South Africa by listening to a lecture given by Dr. Peter van Eldik on August 28, with the title: Challenges Facing Science, Engineering & Technology, and by visiting the CSIR in Pretoria in the course of a pre-Council excursion. At that very interesting institution, the IFAC group was, among others, welcomed by Dr. Geoff Garrett, Acting President of CSIR and by Dr. Naude van Wyk from the Foundation of Research and Development. The Council members had the opportunity to listen to lectures and tours. Prof. V. Kucera, Vice-President of IFAC (Technical Board) presented a short overview over IFAC objectives and activities.

The Council meeting was preceded by the meetings of the Executive Committees, i.e. the Administrative and Finance Committee, the Policy Committee, the Publications Committee, which held part of its meeting in conjunction with the Publications Managing Board. Of particular interest in this context was a report by the Task Force on Publications which focused on the problems and opportunities arising from the electronic availability of technical information. The subject of electronic means of communication also took up considerable space in the discussions on all levels. It is a fact that IFAC must be at the cutting edge of developments in this area. To achieve this, the Secretariat was asked to set up an internet link to permit installation of a Home Page on the World Wide Web. It is planned to do this within the next half year. The Executive Board, at its meeting on August 28 discussed the reports put before it. One particularly important subject were the applications for membership which the Executive Board has to consider before they go to Council followed by a postal ballot among the National Member Organizations. IFAC is proud to say that at the current moment three applications for membership are pending approval by the NMOs. Now new NMOs have recently been approved (NMOs in Indonesia and in Malaysia) and some further applications have just been received.

Before the Council meeting, the meetings of the International Program Committee for the Sun Francisco World Congress and the Meeting of the Technical Board were held as well. A major issue at that meeting was the discussion on various aspects of the new structure of the Technical Board. It was stated that care must be taken that technical areas that are 'going out of fashion' are detected and eliminated in time. At the same time it is essential to spot upcoming developments. To do this is one of the major tasks of the Coordinating Committee Chairmen. The CC Chairmen were also asked to continue looking at the Technical Committees under their guidance to see whether there are overlaps, and to either add, merge or eliminate Technical Committees as the need arises. The Technical Board studied the Master Plan and decided to add the Symposium on Transportation Systems to the updated Master Plan. A few of them are still seeking their next venues. NMOs are invited to host these events. More detailed information is available from the IFAC Secretariat. It may be stated quite generally that the new structure of the Technical Board, now in operation for the second year, is functioning well, but will be constantly monitored and updated.

The Council meeting proper took place on Monday, August 28, one day before the opening of the Symposium on Mining, Mineral and Metal Processing. One of the major issues at this Council Meeting was the vote on the venue for the 16th IFAC World Congress in 2005. In a Closed Council Meeting the decision was made in favour of Prague, Czech Republic, with Vladimir Kucera as President.

The next Council- and Related Meetings will take place in the framework of the 13th IFAC World Congress in San Francisco. At this Council Meeting, the dates for these meetings were specified. Meetings will start on Wednesday, June 26 and will last until Saturday, July 6, 1996. The General Assembly will take place on Monday, July 1, 1996. A more detailed schedule will soon be forthcoming.
TRANSPORTATION AND VEHICLES COORDINATING COMMITTEE

Control systems are essential for all vehicles whether they operate on land, in air, at sea, or in space. The six IFAC Technical Committees which compose the Transportation and Vehicles Coordinating Committee arrange technical meetings, publish research results, and engage in other activities which promote guidance, navigation, and control of all vehicle types. Our attention also focuses on ancillary functions including mission support, decision making, man-machine interfaces, and transportation systems management.

* The 'Aerospace' Technical Committee focuses on aeronautical and space-related systems including missiles, launch vehicles, satellites, space probes, airplanes, and autonomous aerospace vehicles.

* The 'Air Traffic Control Automation' Technical Committee addresses automated aircraft and air traffic control systems including time and fuel optimization, communications, safety, reliability, regulatory, and other air traffic system integration issues.

* The 'Automotive Control' Technical Committee is concerned with control of automotive powertrains, vehicle dynamics, intelligent highway systems, and traffic management. The automobiles include internal combustion, electric, and other alternative vehicles.

* The 'Marine Systems' Technical Committee addresses planning, control, operations, and safety of surface vessels, floating structures, sub-sea vehicles, and any other device which operates within the marine environment.

* The 'Transportation Systems' Technical Committee focuses on ground transportation systems including road-highway systems and guided transports (rail, metro/subway, monorail) for both passengers and goods transportation.

* The 'Intelligent Autonomous Vehicles' Technical Committee is concerned with sensing, perception, data fusion, planning, and navigation for autonomous vehicles or robots operating on land, at sea, or in space.

Transportation and Vehicles is a challenging application area because many technologies contribute to overall success. In addition to automatic control, engineers in these fields must address vehicle design and dynamics, performance measurement, communications, signal processing, power trains, roadways, airspace control, safety, reliability, and man-machine systems management. Advances in any of these areas impact all of the others. Furthermore, the importance of remote control applications is increasing as autonomous operation is required in construction, mining, agriculture, manufacturing, and space exploration.

In the last 12 months, nine world-wide IFAC events have been conducted or co-sponsored by the over 250 members in the Technical Committees of the Transportation and Vehicles Coordinating Committee. There will be at least 26 sessions at the 1996 World Congress related to Transportation and Vehicles technology. Special editions of CONTROL ENGINEERING PRACTICE and contributions to AUTOMATICA, as well as other related journals are submitted by our Technical Committees. Some of the committees are planning their own new journals and/or text books. One of the most exciting events last year was an autonomous vehicle competition held in conjunction with the Intelligent Autonomous Vehicle conference.

Looking beyond the 1996 IFAC World Congress, the Transportation and Vehicles Technical Committees have already begun to organize more events; 14 are already in planning with more to be added. Although budgets in some countries for military applications are declining, interest from private industry continues in space exploration, improved automotive-rail-sea vehicles, extended autonomous operations, improved air traffic control, and other challenges which are being addressed by this Coordinating Committee.

The following persons are in charge of the various Technical Committees:

Michael K. Masten, Chair
Transportation and Vehicles Coordinating Committee

Jerrell Mitchell
Aerospace Technical Committee

Satish C. Mohleji
Air Traffic Control Automation Technical Committee

Uwe Kiencke
Automotive Control Technical Committee

Mogens Blanke
Marine Systems Technical Committee

Jean-Paul Perrin
Transportation Systems Technical Committee

Aarne Halme
Intelligent Autonomous Vehicles Technical Committee

For addresses of the persons mentioned above please contact the IFAC Secretariat.

San Francisco Congress
Take the Information Superhighway to the AACC

The next major activity of the AACC and IFAC is the 13th IFAC World Congress, which will be attended by participants from all over the world. In some of the countries the standard means of transmitting information (mail service) is slow, expensive and unreliable. In order to bring up-to-date information about the Congress to every potential participant, IFAC has started a Home Page on the World Wide Web in which the latest information about the program or the registration and other critical information can be found at the click of a button. Of course, the Home Page allows us to provide current information about all major activities involving control, including the American Control Conference, the IFAC technical meetings held in the USA and nomination information for AACC awards.

The location of the AACC Home Page is:

http://web.eecs.nwu.edu/~ahaddad/aacc.html

and it provides a link to the IFAC gopher server as well.

Of course the AACC Home Page is also the official Home Page of the IFAC '96 Congress.

We shall be happy to display any information about other IFAC technical meetings elsewhere, and at the very least to provide a direct link to such information. For additional details contact

aacc@eecs.nwu.edu

Large Scale Systems: Theory and Applications (LSS’95)

IFAC/IFORS/IMACS Symposium

A worldwide representation of 171 participants from 35 countries gave the symposium a truly internatio nal flavour. Of the 158 papers presented, there were three plenary papers and 15 in invited sessions. Although, as is usual, the hosts of the UK had the largest representation of papers with 38, there were substantial representations from Japan (20 papers), Poland and France (17 papers each) and China (16 papers). There were also significant contributions from the newly established states of: Azerbaijan, Belarus, CIS, Czech Republic, Macedonia, Slovenia and Ukraine, CIS.

The Symposium papers covered a wide spectrum of the theory, methodology and applications in large scale systems. Particular areas which were well represented on the theory and methodology side included decentralized control and optimization; while on the applications side, transportation, manufacturing systems, process control, water systems and power systems received significant coverage.

The Symposium showed that the field of Large Scale Systems is very much alive and developments in this area can be looked forward to as we move to the next Symposium in this series in 1998.

P.D. Roberts, IPC Chairman
J.E. Ellis, NOC Chairman

IFAC Meeting Papers - Keyword Listing:

- Computer Applications in Biotechnology, May 1995, Garmisch-Partenkirchen, Germany
- Artificial Intelligence in Agriculture, May 1995, Wageningen, The Netherlands
- Modeling and Control in Biomedical Systems, March 1994, Galveston, TX, USA

Index of IFAC Meeting Papers

- Book Reviews
- Conference Calendar

Nonlinear Control Systems Design – NOLCOS '95

IFAC Symposium
Tahoe City, CA, USA, 25 – 28 June, 1995

Special Sessions

- Limited in number and addressed a variety of theoretical and practical issues including control of chemical processes, (organized by F. Allgöwer), identification and control problems for MIMO systems (A. C. J. M. Martin), external stability of nonlinear control systems (A. Bacciotti), sliding mode control (V. Utkin), and gain and passivity based control of nonlinear systems (D. Hill).

General Sessions

- Apart from the plenary sessions, there were 30 sessions covering a wide range of topics in nonlinear control systems design. These sessions can be broadly classified into the three areas of theory, design and application, with 3 to 6 papers in each session; a total of 160 papers was presented at the conference.

The conference was attended by most of the researchers active in nonlinear control, and the theoretical issues addressed included stability (internal and external), passivity, decoupling, optimal control, homogeneous systems H∞ and risk sensitive filtering and control, feedback linearization, adaptive nonlinear control, differential algebraic systems, nonlinear stabilization, nonholonomic systems, differential inclusions, tracking, observers and observer-based control, nonlinear differential equations, control of linear systems, and operator differential systems.

Design

- There was a number of sessions devoted to design on nonlinear control systems and design-related issues such as feedback linearization, sliding mode control, model predictive control, modeling and computation and frequency domain methods in nonlinear control.

Applications

- A wide range of application studies was presented in sessions devoted to control of chemical processes, identification and control problems in computer vision, control of chemical processes, control of mobile robots and acrobots, control of manipulators and control of electrical systems.

Closing Comments

- I took advantage of my role as chairman of the last session to make the following comment which reflected the opinion of many of the participants: 'This is the last plenary session that is not chaired by one of the organizers. Therefore, it is appropriate for me to make a comment. This conference is one of exceptional quality. The talks were very interesting, the organization perfect, and the banquet speeches were mercilessly short. During these speeches Art Krener gave David Mayne all the credit and David gave Art the credit. I think it is better that we as participants do not enter in this discussion and simply thank them both.'

Jan Willems, IPC Chairman
News from NMOs

Instrumentation and Control Society of Malaysia

The Instrumentation and Control Society of Malaysia, or ICSM in short, is the umbrella society in Malaysia that groups engineers, researchers, academicians and those who work or have interest in the field of instrumentation, industrial electronics, and control. The Society was set up in late 1993 and officially registered with the Malaysian Registrar of Societies on the 8th of September 1994. On the 13th of November, 1994, the inaugural Annual General Meeting of the Society was held and a total of twelve office bearers were elected. The officers of the Society are a President, a Vice President, a Secretary, an Assistant Secretary, a Treasurer and seven Committee Members.

The main aims of the Society are as follows: (1) To advance and reinforce the arts and sciences related to the theory, design, manufacture, and use of instrumentation, computers, and systems for measurement and control in the various sciences and technologies for the benefit of mankind; (2) to hold meetings, seminars, training, exhibitions, visits and other activities as deemed necessary by the Society; and (3) to communicate to members information on all matters affecting the profession of instrumentation and control and to print, issue and circulate related publications, subject to prior approval of the competent authority.

The Society hopes to gather as many members as possible. The members of the Society can benefit from the following activities that the Society plans and hopes to organise regularly and occasionally:

- international conferences and workshops
- national seminars and exhibitions
- industrial training and short courses
- tea talks
- public lectures by leaders in the field
- annual dinner and cultural excursions
- industrial and technical visits
- newsletters and journals

ICSM also hopes to offer assistance and expertise in the development of this field in Malaysia. Among others, ICSM hopes to collaborate with the Malaysian Ministry of International Trade and Industry (MITI) and also the Ministry of Science, Technology and Environment (MOSTE) for Malaysian industries to be more competitive.

ICSM is in the midst of organizing an international conference and exhibition jointly with SIRIM (Standards and Industrial Research Institute of Malaysia) in 1997 as one of its major activities. This year we have already organized tea talks and public lectures by leaders in the field of control and instrumentation for the benefit of its members. ICSM also regularly organizes short courses and publishes newsletters for its members.

With ICSM becoming a National Member Organization of IFAC in July 1995, we hope to bring one of the IFAC Symposia or Workshops to Malaysia for the benefit of its members and for the progress of instrumentation and control in this industry and also throughout the world.

Dr. Marzuki Bin Khalid
President of ICSM

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.
<table>
<thead>
<tr>
<th>Title</th>
<th>1995</th>
<th>Place</th>
<th>Deadlines</th>
<th>Further Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFAC Workshop</td>
<td>Oct. 9 - 11</td>
<td>Munich, Germany</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
| Motion Control | | | | Prof. Dr. Ing. F. Pfeiffer  
| | | | Lehrstuhl B f. Mechanik, TU Munich  
| | | | D-80290 Munich, Germany  
| | | | FAX +49/89/2105 3290  
| | | | e-mail: ifacmoco@bmw.mw.tu-muenchen.de |
| IFAC/IFORS/IMACS/ISPE Symp. | Oct. 11-13 | Beijing, China, P.R. | - | INCOM '95 Secretariat  
| Information Control Problems in Manufacturing - INCOM '95 | | | | Institute of Manufacturing Systems (720)  
| | | | Beijing University of Aero-Astro, POB 85  
| | | | Beijing 100083, China, P.R.  
| | | | FAX 86/1/201 5347 |
| IFAC Workshop | Oct. 24 - 26 | Bucharest, Romania | - | University Politehnica Bucharest  
| Intelligent Manufacturing Systems - IMS '95 | | | | Faculty of Control & Computers  
| | | | IMS'95, corp. ED Automatica  
| | | | Spl. Independientei 313, sector 6  
| | | | RO-77206 Bucharest, Romania  
| | | | FAX +40/1/313242  
| | | | e-mail: imsi95@ulise.cs.pub.ro |
| IFAC Workshop | Oct. 25-26 | Toulouse, France | - | SITEF-CCIT  
| Intelligent Components for Autonomous and Semi-Autonomous Vehicles | | | Secretariat Colloques  
| | | | 2 rue Alsace Lorraine - BP 606  
| | | | F-31002 Toulouse Cedex, France  
| | | | FAX +33/61254260  
| | | | e-mail: icaserv@ias.ssact.fr |
| IFAC Workshop | Nov. 1-3 | Daytona Beach, FL, USA | - | Dr. Andrew Kornecki  
| Safety and Reliability in Emerging Control Technologies | | | Dept. of Computer Science  
| | | | Embry-Riddle Aeronautical Univ.  
| | | | 600 S. Clyde Morris Blvd.  
| | | | Daytona Beach, FL 32114-3900, USA  
| | | | FAX +1/904/226 6678 |
| IFAC Workshop | Nov. 6-10 | Ft. Lauderdale, FL, USA | - | Dr. Phil Laplante  
| Real Time Programming | | | Dept. of Math and Computer Science  
| | | | Fairleigh Dickinson University  
| | | | 285 Madison Avenue, Madison, NJ 07940, USA  
| | | | FAX+1/201 593 8886  
| | | | e-mail: laplante@fdu.edu |
| IFIP(IFAC) Working Conference | Nov. 8-11 | Heron Islands, QLD, Australia | - | Angela Laffey, Conference Secretary  
| Models and Methodologies for Enterprise Integration | | | Australian Computer Society  
| | | | POB 135 Aspley (Brisbane)  
| | | | Queensland 4034, Australia  
| | | | FAX +61/7/263 7020  
| | | | e-mail: e95@cit.gu.edu.au |
| IFAC Workshop | Nov. 29-30 | Bled, Slovenia | - | Dr. Jus Kocijan  
| Artificial Intelligence in Real-Time Control | | | Faculty of El. & Computer Engg.  
| | | | Univ. of Ljubljana, Trzaska 23  
| | | | SI-61000 Ljubljana, Slovenia  
| | | | FAX +386/1/264 991  
| | | | e-mail: jus.kocijan@fer.uni-lj.si |
| IFAC Symposium | Dec. 6-8 | Cancun, Mexico | - | SIPOWER'95  
| Control of Power Plants and Power Systems | | | Instituto de Investigaciones Electricas  
| | | | Apdo. 475, Cuernavaca, More. 62000, Mexico  
| | | | FAX +52/73/189 535  
| | | | e-mail: sifac@ipie.org.mx |
| IFAC Workshop | Dec. 19 - 21 | Haifa, Israel | - | Prof. Yosef Shinar  
| Control Applications of Optimization | | | Faculty of Aerospace Engineering  
| | | | Technion, Technion City  
| | | | Haifa 32000, Israel, FAX +972/4 231845  
<p>| | | | e-mail: <a href="mailto:aer4301@technion.technion.ac.il">aer4301@technion.technion.ac.il</a> |</p>
<table>
<thead>
<tr>
<th>Title</th>
<th>1996</th>
<th>Place</th>
<th>Deadline</th>
<th>Further Information</th>
</tr>
</thead>
</table>
| IFAC Workshop (4th) | Jan. 8 - 10 | Tel-Aviv, Israel | - | Prof. Phillip Ein-Dor, Faculty of Management  
| Artificial Intelligence in Economics and Management | | | Tel-Aviv University  
| | | | Tel-Aviv 69978, Israel  
| | | | FAX +972/3649560  
| | | | e-mail: einidor@tau.inn.bnetle |
| IFAC WORLD CONGRESS | JULY 1-5 | SAN FRANCISCO, USA | - | IFAC '96  
| | | | POB 111, Mabelton GA 30059, USA  
| | | | Phone +1/708/491-3641  
| | | | FAX +1/708/491-4455  
<p>| | | | e-mail: <a href="mailto:ifac96@nwu.edu">ifac96@nwu.edu</a> |</p>
<table>
<thead>
<tr>
<th>Title</th>
<th>1997</th>
<th>Place</th>
<th>Deadline</th>
<th>Further Information</th>
</tr>
</thead>
</table>
| IMACS/IFAC Symposium (2nd)                                          | Feb.     | Vienna, Austria | 1 May 1996 | Prof. I. Troch  
Technical University of Vienna (E114/5)  
Wiedner Hauptstrasse 8 - 10  
A-1040 Vienna, Austria  
FAX +43/1/880 8093  
e-mail: itroch@email.tuwien.ac.at |
| Mathematic Modelling  
MATHMID '2                                                          |          |              |           | Prof. K. Godfrey, Dept. of Engineering  
University of Warwick  
Coventry CV4 7AL, UK  
FAX +44/12034/18922 |
| IFAC Symposium (3rd) Modelling and Control of Biomedical Systems    | March    | Warwick, UK  | Sept. 1996| Prof. Luc Boullart  
University of Ghent, Campus Ardoyen  
Technologiepark - Zwijnaarde, 9  
B-9002 ZWijnaarde, Belgium  
FAX +32/9/264 5839  
e-mail: boullart@autoclrl.rug.ac.be |
POB 692, SF-33101 Tampere, Finland  
FAX +358/31 316 2171 |
| IMEKO/IFAC Congress New Measurements Challenges and Visions         | June     | Tampere, Finland | 2 - 6 | Prof. A. Haddad  
AAACC Secretariat, Dept. of EECS  
Northwestern University  
2145 Sheridan Road  
Evanston, IL 60208-3118, USA  
FAX +1/708/491-4455  
e-mail: ahaddad@eeecs.nw.edu |
| 1997 American Control Conference (in cooperation with IFAC)         | June     | Albuquerque, NM, USA | 15 Sept. 1996 | Ms. Csilla Banyasz  
Computer and Automation Research Inst.  
POB 63, H-1518 Budapest, Hungary  
FAX +36/1/1667 503  
e-mail: h10klov@huella.bitnet |
| IFAC Symposium (3rd) Intelligent Components and Instruments for Control Applications - SICE’97 | June     | Annecy, France | 1 Sept. 1996 | Prof. Laurent Fouloy  
LAMIIC/CEALAP, BP 806  
F-74016 Annecy, France  
FAX +33/5/60 60 63  
e-mail: fouloy@univ-savoie.fr |
| IFAC Symposium Robust Control Design                                 | June     | Budapest, Hungary | 30 Sept. 1996 | 
| IFAC Symposium             |            |              |           | |
| IFAC/IFORS Symposium (11th) System Identification - SYSID ’97       | July     | Fukuoka, Japan | 1 Sept. 1996 | SYSID97 Secretariat - Mrs. Y. Hayashi  
Fukuoka Institute of Technology  
3-30-1 Wajiro-higashi, Higashi-ku  
Fukuoka 811 02, Japan  
FAX +81/92/606 1342  
e-mail: y-hayashi@dw.ee.fit.ac.jp |
| IFAC Symposium (4th) Advances in Control Education ACE ’97          | July     | Istanbul, Turkey | 15 Oct. 1996 | Prof. A. Talha Dinibütün  
Istanbul Technical University  
Mech. Engg. Faculty  
Gümüşsuyu 80191, Istanbul, Turkey  
FAX +90/212-245 0795  
e-mail: mknib@tr.tru.trinet |
Automation and Systems Research Institute  
Seoul National University, Bidg. 133  
Kwanak-ku, Shinnrim-dong, San 56-1  
Seoul 151-742, Korea, Rep.  
FAX +82/2/889-4239  
e-mail: ascc@asri.snu.ac.kr |
| IFAC/CIGRE Symposium Control of Power Plants and Power Systems      | August   | Beijing, China, P.R. | -      | Chinese Association of Automation  
POB 2728, Beijing 100080, China  
FAX +86/10/25 45 229 |
Dept. of Electronic Engg.  
Hull HU6 7RX, UK  
FAX +44/482/466664  
e-mail: r.j.patton@e-eng.hull.ac.uk |
| IFAC Conference Manoeuvring and Control of Marine Craft - MCMC’97   | Sept.    | Brijuni, Croatia | 1 Feb. 1997 | Prof. Z. Vukic  
University of Zagreb  
Fac. of El Engg. and Computing, Unska 3  
HR-10000 Zagreb, Croatia  
FAX +385/1/6129809  
e-mail: zoran.vukic@fer.hr |