1998 No. 1 Feb.

Newsletter

Contents:

TRANSITION

Iakov Z. Tsypkin
1919 – 1997
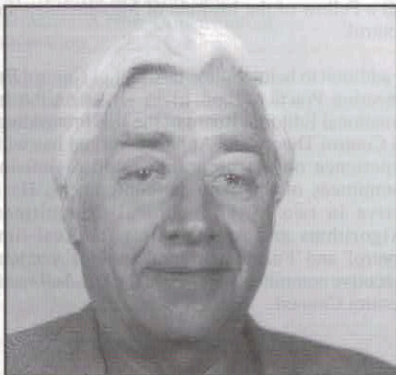
Academician Iakov Z. Tsypkin was part of the IFAC control engineering community for many years. He served IFAC in many different functions. He was Chairman of the IFAC Technical Committee on Theory between 1978 and 1981 and served as Vice-Chairman of the Publications Committee in the current triennium. In 1984 he received the Quazza Medal, thus being the second recipient of this most distinguished IFAC award. In 1994 he became Chairman of the Russian National Committee of Automatic Control, the Russian NMO of IFAC.

Academician Iakov Tsypkin passed away suddenly and unexpectedly at the beginning of December 1997. All his friends and colleagues in IFAC will miss him dearly.

Real Time Programming
22nd IFAC / IFIP Workshop
Lyon, France, 15 – 17 September 1997

In recent years, the interest in all aspects of real time computing has increased significantly. This is not only due to accelerated research efforts undertaken in this area, but also to an expanding worldwide market for various types of real time computing systems.

The Workshop on Real Time Programming provides an opportunity to assess the state of the art, to present new results, and to discuss possible lines of future development. Its primary focus is on software development for real time systems and real time operating systems. The IFAC/IFIP Workshop on Real Time Programming has a tradition of more than 30 years, and is now conducted annually. As a truly international event, it is held in different parts of the world. This year the meeting was held in Lyon (France). It was organised by the Laboratoire d'Ingénierie de l'Informatique Industrielle (L3i) from the Institut National des Sciences Appliquées de Lyon. The workshop was financially supported by the Ville de Lyon, the Conseil Général du Rhône and the Région Rhône-Alpes.

The number of participants was almost in line with the original goal envisaged (42, twice the number of presented papers).

Method and Statistics of Paper Selection

Twenty one contributed papers were selected out of thirty-five submissions to the workshop.

The electronic submission of papers (full versions and not extended abstracts) was encouraged in order to facilitate and to the speed up the work of the International Programme Committee. The reviewing process was in most cases done by e-mail which allowed to reduce the time delay. Finally, most of the accepted papers, in their camera ready version, were also submitted by electronic mail, in PostScript.

The authors of accepted papers received an author kit, directly provided by IFAC, to format their papers. The regular proceedings are going to be published by Elsevier Ltd as usual, including the synthesis of the two forums and the abstracts of the keynote speeches.

The contributions came from Europe, North- and South America.

From the 35 submissions, 31 came from universities and 4 from Research Centres.

Each paper was reviewed by at least four referees (in most cases, there were five reviewers), who gave marks. The highest scoring 21 papers were selected for acceptance and assigned to presentation in seven different sessions. Of these 21 papers accepted for publication, 20 were from universities, and 1 from a research agency. There were 2 no-show papers,

Brief Summary of Programme and Discussion

The event's primary focus was on software development and methodologies appropriate for real time systems. The seven sessions addressed the subject areas:

Architecture and Systems (2 sessions);
Design and Applications;
Object Oriented Approach (2 sessions);
Timing Analysis and Scheduling (2 sessions).

This year, a particular accent was on object-oriented research in the field of real time programming. Thus, the program was shaped in such a way that two sessions on Object-Oriented Approaches were placed the second day. At the closing of this day, a forum, organised as an intentionally challenging/controversial discussion, was devoted to the Object Oriented Real Time Systems. After short statements by the panellists, an outstanding discussion took place among all the participants in the workshop. A second forum devoted to real time education took place the third day and was organised in the same manner and with the same aim: to obtain an outstanding discussion among all the participants in the workshop. This feature of introducing two forums was quite successful.

Numerous discussions took place in each of seven sessions, two forums, and during the breaks (the coffee breaks twice a day, and the 2-hour lunch break). In addition, the Workshop devoted ample time for focused discussions by inviting two Keynote Speakers, from the Industry World, to give talks on interesting topics:

– M. Philippe Hilsenkopf (France), Engineer, Expert of Framatome Group, Instrumentation and Control Department, gave an invited talk on Nuclear Power Plant I&C and Dependability Issue;

– Dr Eric Rutten (from IRISA / INRIA, France) presented a keynote speech on the SACRES ESPRIT approach to embedded systems applied to aircraft engines (project done in collaboration with SNECMA Industry and TNI).

Mathieu Maranzana   Jacques Skubich
WRTP'97 Editor   IPC Chairman

Change of Editor-in-Chief:
CONTROL ENGINEERING PRACTICE

As the first Editor-in-Chief of CEP, in 1992 I faced a huge challenge set by IFAC's Council to take the best of the applications material available to the Federation from its array of international events, and transform this into a viable, professional journal. More than just an archival publication, the journal had also to be attractive and useful to industrialists, academics and other researchers in the application of control engineering. Clearly, an extensive team would be required, and it was gratifying that within weeks we had more than enough offers of help. Contrary to my expectations, many of these came from industry; throughout these formative years almost half the Editors, Associate Editors and Reviewers have been industrially based.

Through the wonderful efforts of these people, in soliciting, generating and reviewing papers, there is no doubt that we have succeeded. This success has been especially notable in a climate in which the publishing industry is facing serious new challenges.

These first six years, however, have just seen the start of CEP, and much still remains to be done. In the light of both past successes and the many and varied future challenges, the Editorial Board of CEP has undertaken an intense review of where we are going, and how we are going to get there. The questions to be answered include:

- With the increase in the number of IFAC Affiliated Journals, and the increasing breadth of CEP, is our scope still valid?

- As the page count is limited by economic realities, much valuable material still has to be omitted. What do we do about this?

- The market is becoming increasingly weary of duplicate publications – is the often-encountered "re-cycling" of conference papers really acceptable?

- We are receiving an increasing number of directly submitted papers. What should the balance be between such papers and those derived directly from IFAC events?

- How do we distribute the editorial and review work – given the world-wide phenomenon that, in all sectors of employment, more is being expected of less?

- Finally, how do we respond to the electronic publishing era – where engineers and scientists increasingly expect material to be delivered directly to their desks?

To respond to these many challenges, and implement the strategy envisioned by our Editorial Board, I have firmly believed for some time that we were reaching the point where fresh leadership of CEP was becoming necessary. In addition to this, we need to find new ways of producing and managing the journal.

The first step in this process has come with the introduction of typeset copy from the first issue of 1998; we believe that CEP's growing status as an archival journal merits the best presentation possible! Working from authors' disks, Elsevier will relieve authors of the burden of final formatting and presentation. Final language editing can now be done after the technical content has been accepted,

speeding up the initial review process even further. Additionally, the journal is now being included in Elsevier's Electronic Warehouse.

Secondly, tight, centralised control has been necessary during the formative years, but the sheer volume of work is increasingly rendering this impossible. We envisage a gradual move to a more distributed structure, making fuller use of the skills and insights of our knowledgeable and experienced panel of editors. As part of this process, I had originally intended to stand aside as Editor-in-Chief at the Beijing Congress in 1999. However, this step has been accelerated by changes in my own career, which preclude me from involvement in outside publishing activities.

Naturally, I leave CEP with very mixed feelings. I was very honoured at being asked to undertake this pioneering task, and am delighted with what we have accomplished. I am extremely appreciative of the efforts of all our Editors, Associate Editors, and Reviewers. The help and guidance given by our publishers, especially through Michael Dawes, has been a constant source of support, and the amazing feats achieved by Maureen Morris and her helpers at IFAC Publications have been more than we could ever have expected. The team in Swansea has been superb, and the wonderful editorial and organisational work of my wife Sue, assisted by Joy Knight, has set a standard that will be difficult to follow.

But it is time for me to move on. I know that we have in place a superb and experienced team of Editors, Associate Editors and Reviewers, who will take the journal from strength to strength. Most of all, though, I am delighted that my friend and professional colleague, George Irwin, has agreed to take over as Editor-in-Chief. George and I have worked closely over the past years for CEP, as exemplified by his appointment last year in the role of Deputy Editor-in-Chief. We have also been involved together in other IFAC groups, as well as in local UK-based learned society activities. George enjoys an enviable international reputation for his practical, industrially relevant leading-edge research in control engineering, and I can think of few persons to whom I would be more happy to hand over the reins. As from 1st January 1998, therefore, all correspondence related to CEP should be addressed to:
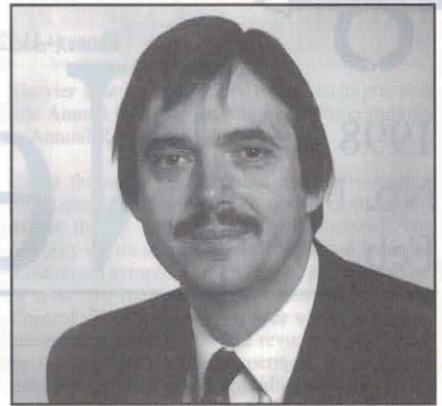
Prof G W Irwin,

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email: cep@ee.qub.ac.uk

Knowing the exceptional quality of all those involved, I have no doubt that CEP will continue its amazing growth, and will soon establish itself as the leading applied control engineering journal. I have been very privileged to be a part of this enterprise, and I wish George and his team the very greatest success in the future.

Mike Rodd
Founding Editor-in-Chief, CEP

* Newsletter Editor's Note: Due to the changes in the publications process for Control Engineering Practice, the previews for issues 1&2 cannot be published in this issue of the IFAC Newsletter

WHO IS WHO IN IFAC

Professor George Irwin
Editor-in-Chief
Control Engineering Practice

George Irwin has a 1st class honours degree in Electrical & Electronic Engineering (1972) and a PhD in Control Theory (1976) from The Queen's University of Belfast, Northern Ireland. Returning to Queen's in 1980, he was awarded a personal chair in Control Engineering in 1989.

Current research interests, much of which is in collaboration with industry, include identification and control using neural networks, fuzzy neural systems and local model networks, with applications in the aerospace, chemical and electric power fields. He has over 200 publications, including 6 edited research books. Prizes awarded for journal papers include four IEE Premiums (1985, 1987, 1991, 1996) and the 1995 Honeywell Prize from the UK Institute of Measurement and Control (1995). He is a member of the Control & Instrumentation College of the UK Engineering & Physical Sciences Research Council.

Prof. Irwin is the current chair of the new IEE Control division and chairs the Northern Ireland Centre of the IEE. He is a Chartered Engineer, a Fellow of the IEE, a Senior Member of the IEEE and a Fellow of the Institute of Measurement and Control.

In addition to being Editor-in-Chief of Control Engineering Practice, Prof. Irwin serves on the International Editorial Board of the IEE Proceedings on Control Theory and Applications and has wide experience on the programme and organising committees of international conferences. He is active in two IFAC Technical Committees, 'Algorithms and Architectures for Real-time Control' and 'Fuzzy and Neural Systems' and is an executive committee member of the UK Automatic Control Council.

Title	1998	Place	Deadline	Further Information
IFAC Workshop Advances in Automotive Control	Feb. 27 - March 2	Mohican State Park, USA	-	Prof. Giorgio Rizzoni The Ohio State University, Dept. of Mech. Engg. 206 West 18th Avenue Columbus, OH 4310 1107, USA FAX: +1/614/292 3163 e-mail: rizzoni.1@osu.edu
IFAC Workshop Intelligent Components for Vehicles - ICV '98	March 23 - 24	Sevilla Spain	-	ICV'98 Secretariat, Dpto Ingeniera de Sistemas Escuela Superior de Ingenieros Avda. Reina Mercedes E-41012 Sevilla, Spain FAX: +34/5/455 6849 e-mail: icv98@cartuja.us.es http://www.esi.us.es/ISA/icv98
IFAC Symposium Intelligent Autonomous Vehicles I A V 98	March 25 - 27	Madrid Spain	-	IAV'98 Secretariat Universidad Carlos III de Madrid Depto de Ingenieria, C/Butarque 15 E-28911 Leganes, Madrid, Spain FAX: +34/1/624 9430 e-mail: iav98@ing.uc3m.es http://www.uc3m/iav98
IFAC Workshop 5th Algorithms and Architectures for Real-Time Control - AARTC'98	April 15 - 17	Cancun Mexico	-	AARTC Workshop Secretariat Attt. Dr. Pedro Acevedo Contla IIMAS-UNAM, Apdo Postal 20 726 Del. Alvaro Obregon 01000 Mexico, D.F., Mexico FAX: +52/5/616 0176 e-mail: workshop@aartc98.org.mx http://www.aartc98.org.mx
IFAC/CIGR Workshop Artificial Intelligence in Agriculture	April 24-26	Makuhari Japan	-	Prof. Y. Hashimoto Dept. of Biomechanical Systems, Ehime Univ. Tarumi, Matsuyama 790, Japan FAX: +81/89/947 8748 e-mail: hasimoto@agr.chime-u.ac.jp
IFAC Conference Supplemental Ways for Improving International Stability SWIIS	May 14 - 16	Bucharest Romania	-	Control and Computer Faculty - SWIIS 98 Politechnical University of Bucharest Splaiul Independentei Nr. 313 R-77206 Bucharest, Romania FAX: +40/1/311 3242 e-mail: swiis@lnx.cib.pub.ro http://info.tuwien.ac.at/IHRT/swiis_tc/
IFAC Workshop Intelligent Assembly and Disassembly	May 21 - 23	Bled Slovenia	-	LASIM, Fac. of Mechanical Engg., Askerceva 6 SLO-1000 Ljubljana, Slovenia FAX: +386/61/218567 e-mail: dragica.noe@fs.uni-lj.si
IFAC/(EFB/SFBJ) Conference Computer Applications in Bio- technology - CAB 7	May 31 - June 4	Osaka Japan		Prof. Suteaki Shioya Dept. of Biotechnology Graduate School of Engineering Osaka University. 2-1 Yamada-oka Suita, Osaka 565, Japan FAX: +81/6/879 7444 e-mail: shioya@process.bio.eng.osaka-u.ac.jp
IFAC Workshop Control Applications in Post-Harvest and Processing Technology CAPPT'98	June 3 - 5	Budapest Hungary	-	Prof. I. Farkas Dept. of Physics and Process Control University of Agriculture Pater K.u. 1, H-2103 Gödöllö, Hungary FAX: +36/28/310804 e-mail: ifarkas@eng.gau.hu
IFAC Workshop On-Line Fault Detection and Super- vision in the Chemcial Process Industries	June 4 - 5	Solaize France	-	Dr. Silvie Cauvin, Institut Francais du Pétrole 1-4 avenue de Bois Préau F-92852 Rueile Malmaison Cedex, France FAX: +33/1/47527022 e-mail: Sylvie.Cauvin@ifp.fr
IFAC Symposium Dynamics and Control of Process Systems - 5th DYCOPS	June 8 - 10	Corfu Greece	-	Prof. Costas Kiparissides Dept. of Chemical Engineering Aristotle University of Thessaloniki, POB 472 GR-54006 Thessaloniki, Greece FAX: +30/31/996198 e-mail: dycops98@alexandros.cperi.forth.gr http://lpre1.cperi.forth.gr/~dycops5/>
IFAC/(CIGR) Workshop Control Applications and Ergonomics in Agriculture - CAIA 98	June 14 - 17	Athens Greece	-	Prof. Nick Sigrimis Lab. of Automation in Agriculture Iera odos 75, GR-11855 Athens, Greece FAX: +30/1/529 4039 e-mail: sigrimis@computer.org

FORTHCOMING EVENTS (ctd.)

Title	1998	Place	Deadline	Further Information
IFAC Workshop Nonsmooth and Discontinuous Problems of Control Optimization and Applications	June 17 - 20	Chelyabinsk Russia	15 Jan. 1998	Prof. V. Batukhtin, Chelyabinsk State University Kashirinykh 129 4564136 Bratiev, Chelyabinsk, Russia FAX: +3512/420859 e-mail: batu@cgu.chel.su
IMACS/IFAC/IFIP Symposium Soft Computing in Engineering Applications	June 22 - 25	Athens Greece	1 March 1998	Prof. S. G. Tzafestas, SOFTCOM 98 IRAL, Inst. of Communication & Comp.Sc. Nat. Technical Univ. of Athens GR-15773 Zographou, Athens, Greece FAX: +30/1/7722 490 e-mail: dkostis@robotics.ece.ntua.gr
IFAC Workshop (23rd) Real Time Programming	June 23 - 25	Shantou China	15 Jan. 1998	Gong Shishan, Computer Science Dept. Shantou University, 315063 Shantou, Quangdong China, P.R. FAX: +86/754/2510654 e-mail: lczhang@mailserv.stu.edu.cn
IFAC Symposium Information Control Problems in Manufacturing - INCOM '98	June 24 - 26	Nancy France	-	INCOM '98/CRAN-GSIP, Faculté des Sciences Université Henri Paincaré Nancy I, BP 239 F-54506 Vandoeuvre les Nancy, France FAX: +33/83/91 21 26 e-mail: incom98@cran.u-nancy.fr http://www.gsip.cran.u-nancy.fr/incom98.html
1998 American Control Conference (in cooperation with IFAC)	June 24-26	Philadelphia PA, USA	-	Prof. A. Haddad, AACC Secretariat, Dept. ECE Northwestern Univ, 2145 Sheridan Rd. Evanston, IL 60208-3118, USA FAX: +1/708/491-4455 e-mail: ahaddad@ece.nwu.edu http://www.ece.nwu.edu/~ahaddad/aacc
IFAC Symposium Computation in Economics, Finance and Engineering: Economic Systems	June 29 - July 1	Cambridge UK	15 Jan. 1998	Dr. Sean Holly, Dept. of Applied Economics University of Cambridge, Sedgwick Avenue Cambridge CB3 9DE, UK FAX: +44/1223/335475 e-mail: sean.holly@econ.cam.ac.uk
IFAC Symposium Nonlinear Control Systems Design NOLCOS '98	July 1 - 3	Enschede NL	-	NOLCOS 98 Secr. c/o C.H.G. Hassing-Assink University of Twente, Dept. of Appl. Mathem. POB 217, NL-7500 AE Enschede, Netherlands FAX: +31/53/489 3114 e-mail: nolcos@math.utwente.nl http://lcewww.et.tudelft.nl/~scherpen/nolcos.html
Intl. IEEE/INRIA/IFAC Conference Advances in Vehicle Control&Safety AVCS	July 1 - 3	Amiens France	2 March 1998	Prof. A. Rachid, Univ.de Picardie Jules Verne Lab. des Syst Autom., 7 rue du Moulin Neuf F-80 000 Amiens, France FAX: +33/3/22 82 76 82
FAC Workshop Linear Time Delay Systems	July 6 - 7	Grenoble France	-	Prof. Luc Dugard Lab. d'Autom de Grenoble, ENSIEG, BP 46 F-38402 St. Martin d'Heres-Cedex, France FAX: +33/4/76 82 63889 e-mail: dugard@lag.ensieg.fr
ISDG/IFAC 8th Intl. Symposium Dynamic Games and Applications	July 5 - 8	Maastricht Netherlands	2 January 1998	Prof. O.J. Vrieze, University of Limburg Dept. of Mathematics, POB 615 NL-6200 Maastricht, Netherlands FAX: +31/43/32 11889 e-mail: dynamic@math.unimaas.nl http://137.120.176.157/math/events/isdg/
IFAC Conference System Structure and Control	July 8 - 10	Nantes France	-	Prof. J.J. Loiseau, Lab. d'Automatique Nantes 1, rue de la Noe F-44072 Nantes Cedex 03, France FAX: +33/2/40372522 e-mail: loiseau@lan.ec-nantes.fr
IFAC/(IMACS/IFIP) Symposium Large Scale Systems: Theory and Applications	July 15 - 17	Patras Greece	-	IFAC-LSS'98 El. & Computer Engg. Dept. Lab. for Automation & Robotics University of Patras GR-26500 Rion Patras, Greece FAX: +30/61/997 309 e-mail: groumpos@ee.upatras.gr http://www.lar.ee.upatras.gr/lss98.html
IFAC Symposium (14th) Automatic Control in Aerospace	Aug. 24 - 28	Seoul Korea	-	The Secretariat 14th IFAC/Aero Automatic Control Res. Centre Seoul National University San 56-1, Shinrim-Dong, Kwanak-Ku Seoul 151-742 Korea FAX: +82/2/875 1585 e-mail: ifac98aero@asri.snu.ac.kr http://asri.snu.ac.kr/~ifac98aero
IFAC Workshop Adaptive Control and Signal Processing	August 26 - 28	Glasgow UK	20 January 1998	Prof. M.J. Grimble, Industrial Control Centre Dept. of E&E Engg., Univ. of Strathclyde 50 George Street, Glasgow G1 1QE, UK FAX: +44/141/548 4203 e-mail: acsp98@ee.strath.ac.uk http://www.icc.strath.ac.uk/events/adaptive.htm

FORTHCOMING EVENTS (ctd.)

Title	1998	Place	Deadline	Further Information
IFAC Symposium Automation in Mining, Mineral and Metal Processing - MMM 98	Sept. 1 - 3	Düsseldorf Germany	-	VDI-VDE GMA, POB 10 11 30 D-40002 Düsseldorf, Germany FAX: +49/211/6214-161 e-mail: vdi@gma.de
7th IEEE/IFAC Conference Control Applications	Sept. 1 - 4	Triest Italy	-	Prof. Frank L. Lewis Automation and Robotics Res. Inst. The University of Texas at Arlington 7300 Jack Newel Blvd. S Fort Worth, TX 76118, USA FAX: +1/817/272 5989 e-mail: flewis@controls.uta.edu
IFAC Symposium Low Cost Automation LCA 98	Sept. 8 - 10	Shenyang China, P.R.	-	Prof. Chen Zhen-Yu, LCA 98 Secr., POB 919 Beijing 100071, China, P.R. FAX: +86/10/63816990
IFAC Workshop Distributed Computer Control Systems - DCCS '98	Sept. 9 - 11	Como Italy	10 March 1998	Prof. Flavio DePaoli Dip. di Scienze Informazione, Via Cornelico 39 I-20153 Milano, Italy FAX +39/2/55006-373 e-mail: DCCS98@dsi.unimi.it http://www.dsi.unimi.it/dccs98
IFAC/IEA/IFIP/IFORS Symposum Analysis, Design and Evaluation of Man-Machine Systems MMS '98	Sept. 16 - 18	Kyoto Japan	-	Prof. Hiroshi Tamura Kyoto Institute of Technology Matsugasaki, Sakyoku, Kyoto 606, Japan FAX: +81/75/701 7211 e-mail: tamura@hisol.dj.kit.ac.jp
IFAC Workshop Control in Natural Disasters	Sept. 21 - 22	Tokyo Japan	30 April 1998	Prof. R. Ishii, Div. Elec. Comp. Engg. Yokohama National University Yokohama 240, Japan FAX: +81/45/338 1157 e-mail: ishii@ishiilab.dnj.ynu.ac.jp http: www.ishiilab.dnj.ynu.ac.jp//CND97
IFAC Workshop Motion Control	Sept. 21-23	Grenoble France	-	Prof. Luc Dugard, Lab. d'Autom. de Grenoble ENSIEG, BP 46 F-38402 St. Martin d'Heres-Cedex, France FAX: +33/4/76 82 63889 e-mail: dugard@lag.ensieg.fr
ICSC/IFAC Intl. Symposium Neural Computation - NC 98	Sept. 23-25	Vienna Austria	31 January 1998	ICSC Canada, POB 279, Millet Alberta T0C 1Z0, Canada FAX: +1/403/387 4329 e-mail: icsc@compusmart.ab.ca or: Michael.Heiss@Siemens.at http://www.compusmart.ab.ca/icsc
IFAC/IFIP/IFORS Workshop Telematics: A New Dimenstion of Automation	Sept. 28-30	Vienna Austria	31 March 1998	Dr. R. Genser, Technical University Vienna/E318 Floragasse 7a, A-1040 Vienna, Austria FAX: +43/1/504 18 359
IFAC Symposium Artificial Intelligence in Real Time Control	October 5 - 8	Grand Canyon AZ, USA	-	Dr. Steven R. LeClair Materials Process Design Branch US Air Force Materials Directorate Wright Laboratory, Wright Patterson AFB Ohio 45433, USA FAX: +1/937/656 7995 e-mail: leclaisr@ml.wpafb.af.mil http://sys36174.ml.wpafb.af.mil/airtc98/airtc98.html
IFAC Workshop Space Robotics - SPRO'98	October 19 - 22	Montreal Canada	15 January 1998	Prof. J. O'Shea, SPRO'98, Ecole Polytechnique C.P. 6079, SUCC. Centre-ville Montreal, Que., H3C 3A7, Canada FAX: +1/514/340 4174 e-mail: o'shea@auto.polymtl.ca
IFAC Workshop Control Applications in Marine Systems - CAMS '98	October 27 - 30	Fukuoka Japan	11 February 1998	Prof. K. Kijima Kyushu University, Dept. of Naval Architecture Higashi-ku, Fukuoka 812, Japan FAX: +81/92/632 1560
IFAC Workshop 5th Intelligent Manufacturing Systems	November 9 - 11	Gramado Brazil	1 March 1998	Prof. Carlos E. Pereira Rua Siqueira Campos 341/304, CEP 92010 - 230 Canoas RS, Brazil FAX: +55/51/316 3129 e-mail: cpereira@iee.ufrgs.br http:www.iee.ufrgs.br/iee.cepport.htm
VIII Latin American Congress on Automatic Control	November 9 - 13	Viña del Mar Chile	20 January 1998	Prof. Gastón Lefranc H., Escuela de Ing. Electrica U. Catolica de Valpareiso Casilla 4059, Valpareiso, Chile FAX: +56/32/273804 e-mail: glefranc@aix1.ucv.cl http://gavilan.die.uchile.cl/~mduartem/ACCA

The list of events for 1999 and 2000 will be published in the next issue of the Newsletter

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Papers from the January 1998 Issue

Editorial

Call for Papers - Special Issue on Control Methods
for Communication Networks
(V. Anantharam, J. Walrand)

Papers

Life-Extending Control of Mechanical Structures:
Experimental Verification of the Concept
(S. Tangirala, M. Holmes, A. Ray, M. Carpino)
Block Recursive Parallelotopic Bounding in Set
Membership Identification
(L. Chisci, A. Garulli, A. Vicino, G. Zappa)
Improved Software Quality through Improved
Development Process Descriptions
(C. Bunse, M. Verlage, P. Giese)
Adaptive Control of Continuous Time Systems with
Convex/Concave Parametrization
(A.M. Annaswamy, F.P. Skantze, A.-P. Loh)

Brief Papers

Terminal Sliding Mode Control for Rigid Robots
(Y. Tang)
Stochastic Analysis and Control of Real-time
Systems with Random Time Delays
(J. Nilsson, B. Bernhardsson, B. Wittenmark)
A Numerically Robust State-space Approach to
Stable Predictive Control Strategies
(J.A. Rossiter, B. Kouvaritakis, M.J. Rice)
Adaptive Internal Model Control: H2 Optimization
for Stable Plants
(A. Datta, J. Ochoa)
Optimal Controller Properties from Closed-loop
Experiments
(L.C. Kammer, R.R. Bitmead, P.L. Bartlett)
Identification and Model Reduction of 2-D Systems
via the Extended Impulse Response Gramians
(C. Xiao, V. Sreeran, W.Q. Liu, A.M.
Venetsanopolous)
Alternatives to Monte Carlo Simulation Evaluations
of two Multisensor Fusion Algorithms
(C.W. Frei, L.Y. Pao)
Mappings of the Finite and Infinite Zero
Structures and Invertibility Structures of Gene-
ral Linear Multivariable Systems under the
Bilinear Transformation
(B.M. Chen, S.R. Weller)

Technical Communiques

Regulation and Tracking of the Nonholonomic
Double Integrator; a Field Oriented Control
Approach
(G. Escobar, R. Ortega, M. Reyhanoglu)
Global Asymptotic Stability of Indirect Field-
oriented Speed Control of Current-fed Induction
Motors
(L.U. Gokdere, M.A. Simaan, C.W. Brice)
H8 Control of Discrete-time Linear Systems with
Norm-bounded Uncertainties and Time Delay in
State
(S.-H. Song, J.-K. Kim)

Call for Papers
Special Issue on
Control Methods for
Communication Networks

One of the most dramatic technological
developments of our times is the deployment of
communication networks such as the Internet and
local area networks. This networking revolution is
ongoing, and continues to raise fundamental
challenges for control and communication
engineers.

The control problems raised require new techniques
and formulations, in addition to the traditional ones
familiar to control theorists. Communication
networks are large complex entities which support
many agents and have to handle demands with a wide
range of quality of service (QoS) requirements.
Together with the commercial nature of the offered
services, this complexity brings to the fore problems
of a game theoretic nature among the interacting
agents, problems of how to price the services, of how
to decide when to admit connections, and more
generally how to provide and meet QoS guarantees
through routing, congestion control, and flow control.
The infrastructure of the network needs to be properly
designed, and requires the investigation of the
tradeoff between hardware cost and performance in
switches and routers, the development of efficient
scheduling algorithms, and the design of adaptive
control methods that use appropriate distributed
measurements of the current state of the network.
Multiple access problems need to be solved for both
wired and wireless systems.

The purpose of this special issue of Automatica is
to bring together research and/or tutorial papers
addressing the general theme of 'Control Methods
for Communication Networks'. Subject areas of
interest include:

- Applications of game theory and Markov
  decision theory to communication network
  problems
- Admission control, flow control, and congestion
  control
- Power control and mobility management of
  wireless networks
- Control for data compression
- Scheduling of switches
- Measurement-based control
- Control problems for satellite communications
- Pricing of network services.

Papers on other control problems in communication
networks not covered by the preceding list are also
welcome.

All submitted papers will be subject to peer review
as any other Automatica paper.

The timetable for the special issue is as follows:

Submission deadline: June 30, 1998
Expected publication date: December 1999

The special issue will be prepared by a team
consisting of two guest editors, Venkat Anantharam
and Jean Walrand (University of California,
Berkeley) and Automatica Deputy Editor-in-Chief
Tamar Basar (University of Illinois).

Prospective authors are invited to submit seven (7)
copies of their paper, prepared as per regular
Automatica guidelines to

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New IFAC Journal
Annual Reviews in Control

Dear Reader:

Elsevier Science has decided to convert its previous
title Annual Reviews in Automatic Programming
to Annual Reviews in Control.

Under the new title, this publication will contain a
broad range of review articles, covering all aspects
of the theory and application of control. The
majority of these articles will be drawn from the
most recent symposia, conferences and workshops
of IFAC, the International Federation of Automatic
Control. Those meetings cover every aspect of
automatic control and feature review papers written
by the most outstanding experts of the particular
field. We feel that we are providing a useful service
to the scientific community, and produce a valuable
publication, by printing a selection of those review
papers. In addition, we plan to invite experts to
write review papers, directly for the journal, on
subjects not sufficiently represented in the
conference materials.

Converting to the new arrangements has caused
some delay in the publication of the 1996 and
1997 volumes. From 1998 on, there will be one
issue each year, appearing in May.

Janos Gertler, Editor
Fairfax, VA USA