IFAC International Federation of Automatic Control

Newsletter

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Contents:

Computer Aided Control Systems Design (CACSD'97)
7th IFAC Symposium
Gent, Belgium 28 – 30 April 1997

The 7th IFAC symposium on Computer Aided Control Systems Design (CACSD'97) was held in Gent, Belgium from 28 till 30 April 1997. This IFAC symposium - sponsored by IFAC's Technical Committee on Computer Aided Control Systems Design - was jointly organised by the University of Gent and the Belgian Institute for Automatic Control (BIRA), the Belgian IFAC NMO. It was also co-sponsored by the IEEE (Institute of Electrical and Electronics Engineers) and UKACC (United Kingdom Automatic Control Council). The National Organising Committee was co-chaired by Luc Boullart and Mia Loccufier (University of Gent, Belgium). The symposium was held at the "Het Pand", an old medieval Dominican friary, founded around 1220, in the heart of the city and magnificently restorated by the University of Gent.

The International Progamme Committee made a rigorous selection from 104 submitted papers resulting in 72 high standing papers from 29 countries. From these 72 papers, 60 papers were presented by their authors at the conference and are included in the proceedings published by Elsevier Science. A special issue with an extract of outstanding papers of CACSD'97 will be published in IFAC's journal Control Engineering Practice (CEP).

The conference was attended by 95 participants during a 2 day event with a continuous stream of 2 parallel sessions on 13 different main topics in the field of CACSD: Control systems design, special architectures for CACSD software for CACSD, hybrid discrete-event and real-time systems, symbolic and numerical computations, algorithms for CACSD, CACSD support environments, planning and manufacturing, system modeling and simulation, optimization, robust control, intelligent controller design, applications. A very interesting and challenging keynote lecture was given by Georg Grübel from the DLR Institute of Robotics and System Dynamics (Germany) on "A CACSD-frame for robust low-complexity control law design".

During the symposium, time was foreseen for the participants to have some cultural activity. On one evening a guided walk led the participants through the heart of the city of Gent towards the world famous painting "the adoration of the divine lamb" by the Van Eyck brothers. Another night a classic choral concert by the famous Gent choir "Dulcisona" was offered to the participants by the Belgian Institute for Automatic Control (BIRA) in the magnificent aula of the University of Gent.

It should be noted that many colleagues from countries from East and South Europe still have considerable financial problems to attend scientific conferences like this, despite a reasonable financial handshake offered by the organisers. Also some participants could not get the suitable visa to come because of unclear bureaucratic obstacles. This is not good for science and research, which should have all borders and gates open at all times. The international scientific community should emphasize to their politicians that exchange procedures for scientists should be made as easy as possible.

L. Boullart, M. Loccufier
NOC co-chairpersons,

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Aspects of Aircraft Engine Control Systems R&D
(H. Yamane, Y. Takahara and T. Oyobe)
New Algorithms for the Dynamic Weighing of Freight Trains
(M. Niedzwiecki and A. Wasilewski)
Sliding Manifold Approach to the Control of Rigid Robots: Experimental Results
(A. Cavallo and L. Villani)
Drag Coefficient Curve Identification of Projectiles from Flight Tests via Optimal Dynamic Fitting
(Yangquan Chen, Changyun Wen, Zhiming Gong and Mingxuan Sun)

Special Section on the Supervision, Fault Detection and Diagnosis of Technical Systems
Preface to the Special Section on the Supervision, Fault Detection and Diagnosis of Technical Systems - An Introduction
(R. Isermann)

Supervision, Fault-Detection and Fault Diagnosis Methods - An Introduction
(R. Isermann)
Fault Detection and Isolation Using Parity Relations
(J. Gertler)
Deterministic Nonlinear Observer-Based Approaches to Fault Diagnosis - A Survey
(E. Alcorta Garcia and P.M. Frank)
Obervers-Based Fault Detection and Isolation: Robustness and Applications
(R.J. Patton and J. Chen)
Methods of Fault Diagnosis
(S. Leonhardt and M. Ayoubi)
Fault Tolerant Control Systems - A Holistic View
(M. Blanke, R. Izadi-Zamanabadi, S.A. Bøgh and C.P. Lunau)
Application of Model-Based Fault Detection and Diagnosis of Technical Processes
(T. Pfeiffer)

Trends in the Application of Model-Based Fault Detection and Diagnosis of Technical Processes
(R. Isermann and P. Ballé)

IFAC Meeting Papers - Keyword Listing

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Preview

IFAC Meeting Papers - Keyword Listing

automatica

A Journal of **IFAC** the International Federation of Automatic Control

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Software Review

Papers from the June 1997 Issue

Papers

Brief Papers

Technical Communiques

Title	1997	Place	Deadline	Further Information
IFAC Symposium Robust Control Design	June 25-27	Budapest Hungary	-	Ms. Csilla Banyasz Computer and Automation Res. Inst. POB 63, H-1518 Budapest, Hungary FAX +361/1667 503 e-mail: banyasz@sztaki.hu
1997 European Control Conference (in cooperation with IFAC)	July 1 - 4	Brussels Belgium	-	ECC 97 Secretariat c/o Timshel Conference Consultancy and Management, JB Van Moonstraat 8 B-3000 Leuven FAX +32 16 290510 http://www.auto.ucl.ac.be/ECC97.html
IFAC Workshop Singular Solutions and Perturbations in Control Systems	July 7 - 11	Pereslavl-Zalessky Russia	-	Prof. Michael G. Dmitriev Program Systems Inst. of R A S, Botik 152140 Pereslavl-Zalessky, Russia FAX 08535/20593 e-mail: dmitriev@spoc.botik.yaroslavl.su
IFAC/(IFORS) Symposium (11th) System Identification - SYSID'97	July 8 - 11	Fukuoka Japan	-	SYSID'97 Secretriat: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 http://dnksun5.dw.ee.fit.ac.jp:80/IFAC/
IFAC Symposium (4th) Advances in Control Education ACE 97	July 14-16	Istanbul Turkey	-	Prof. A. Talha Dinibütün Istanbul Technical University Mech. Engg. Faculty Gümüssuyu 80191, Istanbul, Turkey FAX +90/212-245 0795 e-mail: mkdinib@tritu.bitnet
IFAC Workshop Automation in the Steel Industry: Current Practice and Future Developments	July 16-18	Seoul Korea	-	ASI 97, c/o SPARC Pohang Uni. of Science and Technology San 31 Hyoja Dong, Pohang Kyungbuk 79, Korea FAX +82/562 279 8119 e-mail: asi97@vision.postech.ac.kr http://jane.postech.ac.kr/~asi97/
IFAC Workshop Intelligent Manufacturing Systems IMS-97	July 21 - 23	Seoul Korea	-	IMS 97 Secretariat c/o ERC-ACI, Seoul National University San 56-1 Shinlim-dong Kwanak-ku, Seoul 151-742, Korea FAX +82/2 888 4182 e-mail: ims@asri.snu.ac.kr
1997 Asian Control Conference (in cooperation with IFAC)	July 22-25	Seoul Korea	-	Prof. Dong-il Cho, 1997 ASCC Secretariat Automation and Systems Res. Institute Seoul National University, Bldg. 133 Kwanak-ku, Shinrim-dong, San 56- Seoul 151-742, Korea, Rep. FAX +82/2/889-4239 e-mail: ascc@asri.snu.ac.kr
IFAC Workshop Distributed Computer Control Systems	July 28 - 30	Seoul Korea	-	Prof. Wook Hyun Kwon Dept. of Control & Instrumentation Engg. Seoul National University San 56-1, Shillim-dong, Kwanak-gu Seoul 151-742, Korea FAX +82/2/ 888 4182 e-mail: whkwon@cisl.snu.ac.kr
IFAC/CIGRE Symposium Control of Power Systems and Power Plants	August 18 - 21	Beijing China, P.R.	-	Prof. Zeng Qingyu Chinese Soc. for Electrical Engg. No 1, Lane, Baiguang Rd. Beijing, 100761, China, P.R. FAX +86 10 6341 4319 e-mail: qyzeng@public3.bta.net.cn
IFAC Symposium Fault Detection, Supervision and Safety for Technical Processes - SAFEPROCESS '97	August 26 - 28	Hull UK	-	Prof. Ron Patton, Dept. of El. Engg. The University of Hull Cottingham Rd., Hull HU6 7RX, UK FAX +44/1482/466006 e-mail: r.j.patton@e-eng.hull.ac.uk http://www.enc.hull.ac.uk/EE/CONTROL/safe97.htm
IFAC/IFIP Conference Management and Control of Production and Logistics	Aug. 31 - Sept. 3	Campinas Brazil	-	Mr. Roberto de Oliveira, MCPL 97 CTI , Rodovia D. Pedro I (SP-65) km 143,6, Caixa Postal 6162 13081-970 Campinas, SP, Brazil FAX +55 19 240 20 29 e-mail: MCPL97@ia.cti.br http://mcpl97.ia.cti.br

FORTHCOMING EVENTS (ctd.)

Title	1997	Place	Deadline	Further Information
2nd IEE/IEEE/IFAC Conference Genetic Algorithms in Engineering Systems: Innovations and Applications - GALESIA 97	Sept. 2 - 4	Glasgow UK	-	GALESIA Secretariat The Inst. of Electrical Engineers Savoy Place, London WC2R OBL, UK FAX +44/171 240 8830 e-mail: conference@iee.org.uk http://www.iee.org.uk/LSboard/Conf/Galesia/
IFAC Symposium Robot Control	Sept. 3 - 5	Nantes France	-	Prof. W. Khalil LAN - Ecole Centrale de Nantes F-44072 Nantes Cedex 03, France FAX +33 40 74 74 06 e-mail: Khalil@lan.ec-nantes.fr http://www.ec-nantes.fr
FAC Workshop New Trends in Design of Control Systems	Sept. 7 - 10	Smolenice Slovakia	-	IFAC Workshop'97 Ms. Alena Kozakova, Fac. of El.Engg. Ilkovicova 3, SK-81219 Bratislava, Slovakia FAX +42/7/ 72 97 34 e-mail: ntdcs@kasr.elf.stuba.sk
IFAC Conference Manoeuvring and Control of Marine Craft - MCMC'97	Sept. 10 - 12	Brijuni Croatia	-	Prof. Z. Vukic University of Zagreb Fac. of El. Engg. and Computing, Unska 3 HR-1000 Zagreb, Croatia FAX +385/1/6129809 e-mail: zoran.vukic@fer.hr
IFAC Workshop (22nd) Real Time Programming - WRTP 97	Sept. 15 - 17	Lyon France	-	Hichem Malek, L3i-Dep. d'Informatique INSA de Lyon - Bat 502 F-69621 Villeurbanne Cedex, France FAX +33 4 72 43 85 18 e-mail: wrtp97@if.insa-lyon.fr http://www.insa-lyon.fr/Insa/Laboratoires/L3i/wrtp97.html
IFAC Symposium (6th) Automated Systems Based on Human Skill - Joint Design of Technology and Organization	Sept. 17 - 19	Kranjska Gora Slovenia	-	Prof. Janko Cernetic J. Stefan Institute, POB 3000, Jamova 39 SLO-1001 Ljubljana, Slovenia FAX +386/61/219 385 e-mail: janko.cernetic@ijs.si http://www-e2.ijs.si/people/janko.cernetic.html
EURAGENG/IFAC Workshop Robotics and Automated Machinery for Bio-Productions - BIO-ROBOTICS	Sept. 21 - 23	Valencia Spain	-	Prof. J. Benlloch, DISCA-UPV, POB 22012 E-46071 Valencia, Spain FAX +34 6 387 75 75 e-mail: jbenlloc@disca.upv.es
IFAC Symposium AI in Real-Time Control - AIRTC 97	Sept. 23 - 25	Kuala Lumpur Malaysia	-	Dr. Marzuki Bin Khalid B.A.T.C., Universiti Teknologi Jalan Semarak 54100 Kuala Lumpur, Malaysia FAX +603/2911294 e-mail: marzuki@batcserv.batc.utm.my
IFAC/(ISHS) Workshop (3rd) Mathematical and Control Applications in Agriculture and Horticulture	Sept. 28 - Oct. 2	Hannover Germany	-	VDI-VDE GMA, POB 10 11 39 D-40002 Düsseldorf, Germany FAX+ 49/211/6214-161
IFAC Conference System Structure and Control	Oct. 23 - 25	Bucharest Romania	-	IFAC SSC97 Secretariat Polytehnica Univ. of Bucharest Fac. of Control & Comp. Splaiul Independentei 313 RO-77206 Bucharest 6, Romania e-mail: ssc97@indinf.pub.ro
IFAC/(IFIP/IEEE) Workshop Safety and Reliabiltiy in Emerging Control Technologies	Oct. 29-31	Tallinn Estonia	15 June 1997	Prof. Leo Motus Estonian Association of Engineers Ehitajate tee 5, Tallinn EE 0026, Estonia e-mail: leo@cc.ttu.ee
EPS/IFAC Intl. Conference Accelerator and Large Experimental Physics Control Systems ICALEPCS 97	Nov. 3 - 7	Beijing China, P.R.	1 June 1997	Prof. Jijjiu Zhao Institute of High Energy Physics POB 918 (10) Beijing, 100039, China, P.R. FAX +86/10/ 821 3374 e-mail: icalepcsj@bepc2.ihep.ac.cn http://ecpcowww.cern.ch/ICALEPCS/h97.html

Title	1998	Place	Deadline	Further Information
IFAC Workshop Advances in Automotive Control	Feb. 27 - March 2	Mohican State Park, USA	1 June 1997	Prof. Giorgio Rizzoni Dept. of Mech. Engg., 206 West 18th Avenue Columbus, OH 4310 1189, USA FAX +1/614/292 3167 e-mail: rizzoni@osu.edu
IFAC Workshop Intelligent Components for Vehicles - ICV '98	March 23 - 24	Sevilla Spain	July 1997	Prof. Anibal Ollero Dpto Ingeniera de Sistemas Escuela Superior de Ingenieros Avda. Reina Mercedes, E-41012 Sevilla, Spain FAX +34 5 455 6849 e-mail: aollero@cartuja.us.es

Title	1998	Place	Deadline	Further Information
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/competition.html
IFAC/CIGR Workshop Artificial Intelligence in Agriculture	April 24-26	Makuhari Japan	1 Sept. 1997	Prof. Y. Hashimoto Dept. of Biomechanical Systems, Ehime Univ. Tarumi, Matsuyama 790, Japan FAX+81 89 947 8748 e-mail: hasimoto@agr.ehime-u.ac.jp
IFAC Conference Supplemental Ways for Improving International Stability - SWIIS	May 14 - 16	Bucharest area Romania	30 Nov. 1997	Prof. Ion Dumitrache Politechnical University of Bucharest Splaiul Independentei Nr. 313 R-77206 Bucharest, Romania FAX +40/1/311 3242 e-mail: dumi@lnx.cib.pub.ro
IFAC Workshop Intelligent Assembly and Disassembly	May 21 - 23	Bled Slovenia	31 Oct. 1997	iasm, 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	31 Aug. 1997	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	15 Nov. 1997	Prof. I. Farkas Dept. of Physics and Process Control Univ. of Agriculture, 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	1 Sept. 1997	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	8 Aug. 1997	Prof. Costas Kiparissides Dept. of Chemical Engineering Aristotle University of Thessaloniki, POB 472 GR-54006 Thessaloniki, Greece FAX +30 31 996198 e-mail: cypress@alexandros.cperi.forth.gr
IFAC/(CIGR) Workshop Control Applications and Ergonomics	June 14 - 17	Athens Greece	15 Sept. 1997	Prof. Nick Sigrimis Lab. of Automation in Agriculture Iera odos 75, GR-11855 Athens, Greece FAX +30 1 529 4039 e-mail: ns@auadec.aua.ariadne-t.gr
IFAC Symposium Information Control Problems in Manufacturing - INCOM '98	June 24 - 26	Nancy France	6 Sept. 1997	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	14 Sept. 1997	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	15 Dec. 1997	Dr. Arjan van der Schaft University of Twente Dept. of Applied Mathematics POB 217, NL-7500 AE Enschede, Netherlands FAX +31/53/434 07333 e-mail: twarjan@math.utwente.nl
FAC Workshop Linear Time Delay Systems	July 6 - 7	Grenoble France	1 October 1997	Prof. Luc Dugard Lab. d'Automatique 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

FORTHCOMING EVENTS (ctd.)

Title	1998	Place	Deadline	Further Information
IFAC Conference System Structure and Control	July 8 - 10	Nantes France	1 August 1997	Prof. J.J. Loiseau Lab. d'Automatique Nantes 1, rue de la Noe F-44072 Nantes Cedex 03, France FAX +33 40 37 25 22 e-mail: loiseau@lan.ec-nantes.fr
IFAC/(IMACS/IFIP) Symposium Large Scale Systems: Theory and Applications	July 15 - 17	Patras Greece	15 July 1997	IFAC-LSS'98 El. & Computer Engg. Dept. Lab. for Automation & Robotics University of Patras GR-26500 Rion Patras, Greece FAX +30 997 309 e-mail: groumpos@ee.upatras.gr
IFAC Symposium (14th) Automatic Control in Aerospace	Aug. 24 - 28	Seoul Korea	15 Oct. 1997	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 Symposium Mining, Mineral and Metal Processing - MMM 98	Sept. 1 - 3	Düsseldorf Germany	15 Nov. 1997	VDI-VDE GMA POB 10 11 30 D-40002 Düsseldorf, Germany FAX +49/211/6214-161
IFAC Symposium Low Cost Automation LCA 98	Sept. 8 - 10	Shenyang China, P.R.	30 Oct. 1997	Prof. Chen Zhen-Yu LCA 98 Secretariat POB 919 Beijing 100071, China, P.R. FAX +86/10/63816990
IFAC/IEA/IFIP/IFORS Symposium Analysis, Design and Evaluation of Man-Machine Systems MMS '98	Sept. 16 - 18	Kyoto Japan	1 Sept. 1997	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 Motion Control	Sept. 21-23	Grenoble France	15 Dec. 1997	Prof. Luc Dugard Lab. d'Automatique 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 http://www.compusmart.ab.ca/icsc/nc98/htm
IFAC Symposium Artificial Intelligence in Real Time Control	October 6 - 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 +1/513/476 7995 e-mail: leclairsr@ml.wpafb.af.mil
IFAC Workshop Space Robotics - SPRO'98	October 19 - 22	Montreal Canada	15 January 1998	Prof. J. O'Shea, SPRO'98 Ecole Polytechnique, C.P. 6097 SUCC. Centre-ville Montreal, Quebec H3C 3A7, Canada FAX +1/514/340-4887 e-mail: oshea@auto.polymt1.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

Title	1999	Place	Deadline	Further Information
14th IFAC WORLD CONGRESS	July 5 - 9	Beijing PRC	June 1998	IFAC'99 IPC Secretariat Institute of Systems Science Chinese Academy of Sciences Beijing 100080, PR Chine FAX: +86 10 6258 7343 e-mail: ifac9@iss03.iss.ac.cn http://www.ia.ac.cn/ifac99/ifac99.html