

International Association for Pattern Recognition Inc An affiliate member of the International Federation for Information Processing

NEWSLETTER

Editor

Dr. Maria Petrou School of Electronic Engineering, Information Technology and Mathematics University of Surrey Guildford GU2 5XH, United Kingdom Telephone: +44 1483 259801 Facsimile: +44 1483 534139 Email: m.petrou@ee.surrey.ac.uk IAPR www: http://peipa.essex.ac.uk/iapr/

Contents

News for Members	2
TC15 launches its activities	2
What is IFIP?	3
Computer Vision from Heaven	3
Spinning the WEB from past to Future	4
Book Reviews	4
Conference announcement	5
Conference, Workhops & events calendar	6
Year at a glance	8

From the Editor's Desk

Dear Everybody,

There is a saying that goes like this: A fool man can ask more questions than a wise man can answer! On p 4 of this issue you will find a list of questions many "fool" women ask on information technology. Perhaps some readers think that such questions should not be asked and certainly should not be allowed to occupy the pages of their favourite(!) Pattern Recognition newsletter. However, it becomes increasingly clear that the development of information technology can not ignore its social impact. The questions asked by women are only a subset of the questions asked by the general public and they cannot be dismissed simply as "feministic rubbish".

One of the issues we often have to expand upon when writing a proposal concerns the "social and economic benefits" that will result from the proposed research. Depending on the funding programme, one may get away with a "they will be great" or one may have to produce a fully worked out Volume 19

Number 2

April 1997

business plan that will be crucial to the funding of the proposal. It was at a social occasion a few years back, when, responding to somebody's question, I said that I was working on automatic vehicle navigation for underwater inspection. My reply prompted an instant response from another guest: "Oh, so you are one of those who try to put me out of work!" He turned out to be a deep sea diver. I tried to sell to him all that stuff about "dangerous environments for the humans", "increased reliability", "improved quality of life" and all that bull _____ we write in the proposals. He looked at me sternly and said: "No thank you, I am very happy as I am. I do not find diving dangerous. I like my job and I want to keep it! Please find something else to work on!" So I did. A few months later I started working on satellite remote sensing, and I had the pleasure of meeting George, our "expert on the ground". Perhaps it would be a typical English under-statement to say that George did his best to ground our project! So, good old George would have felt secure in his job as the "expert on the ground" if he had the chance to read the article on p 2 that "Spy in sky costs more than a man on ground". But George will not read it because George is not a Pattern Recognition man as he never thought that we could do much good "with our machines"! After that, I would say that it is not surprising that nowadays it is not politically correct to even hint in our proposals that we may put people out of work. Aspects like increased safety, improved environment etc have to be stressed instead. Damn! We have to invent new bull____ for our proposals now!

Maria Petrou

PS Please excuse my cynicism; it is the result of a deprived childhood...

News for Members

DIY IAPR membership!

From April 1st 1997 you will be able to sign yourself in the list of IAPR members, at the site:

http://george.ee.washington.edu/IAPR/index.html

However, please note that adding your name on the list will not entitle you to receiving the IAPR newsletter, or having any other benefits stemming from IAPR membership, unless you are a *subscribing* member of one of the national societies affiliated to IAPR.

The impact of ICPR to Industry

The industrial participation in the last ICPR in Vienna was 9.6%. This is a significant increase over the 5% industrial participation in Jerusalem in 1994. The major contributors were USA and Japan with 19% of their papers coming from industry, followed by Belgium (15%), Germany (12%), Korea (10%), Israel and Austria (8%), the Netherlands (7%) and France (6%). This is counting only the countries with more than 10 papers each. Well done IAPR! The industrial giants started noticing you!

Gerd Maderlechner, Industrial Liaison Committee

The NATO Advanced Study Institute (ASI)

The Advanced Study Institutes are primarily high level teaching activities in which carefully defined subjects are presented in systematically and coherently structured programs for professionals in the field, at graduate and post-doctoral level. Considerable benefit is derived from the fact that the ASI is a small meeting with lectures given by a selected team of international experts. One such meeting is shortly to be held in Stirling, UK with the title "Face Recognition: From Theory to Applications" (see table for more details).

"Spy in sky costs more than man on ground"

"Spy-in-the-sky satellites used to unmask farmers who cheat to claim higher European Union livestock and crop subsidies are proving less accurate and six times more expensive than sending inspectors to check farmers in person" reports David Brown in the British newspaper Daily Telegraph, on February 21, 1997. Apparently, the 4% error committed by such systems does not allow the UK government to use the satellite data alone as admissible evidence in court. However, the good news is that the British Controller and Auditor General has not lost faith yet in automation and he recommends that the government should persevere with the remote sensing approach which gradually becomes cheaper and more efficient.

TC15 launches its activities

As a new technical committee of IAPR, TC-15 intends to federate and encourage research work in Pattern Recognition and Image Analysis within the graph theory framework.

On April, 17-18, 1997 it is planning to hold its 1st International Workshop on Graph-based Representations in Pattern Recognition (GbR'97), in Lyon, France.

The workshop will provide a forum for presenting and discussing research results in this area as well as their applications. The workshop is scheduled around two invited talks and two sessions (all participants will receive the opportunity to present their work either orally or by a poster). A lot of time will be devoted to discussions and informal debates about theoretical and practical graph issues. In order to have active discussions, the number of participants will be limited to 30.

Topics for oral presentations include, but are not limited to: graph based methodology, graph representation, graph transformations for pattern recognition, image structure from graph, graph based clustering, graph matching, image segmentation with graphs, graphs versus Voronoi diagrams, graphs versus rigid structures (quad-trees, pyramids), aspect graphs.

If you intend to participate or would like further information on TC15, please send an email to the address on p10.

THE IAPR INDUSTRIAL LIAISON COMMITTEE

The purpose of the committee is to enhance involvement by industrial researchers and practitioners in affairs of the IAPR. The goal of this is twofold: to improve the academic researchers' awareness of problems and solutions of industry, and to encourage the transfer of practical solutions from academia to industry. One of its main activities in the past has been the choice of the "Best Industry-Related Paper Award", presented at each ICPR.

The members of Industrial Liaison Committee are:

Lawrence O'Gorman, chairman, (Bell Laboratories, log@research.bell-labs.com), John Bernsen (Philips Center for Manufacturing Technology, john@isp.cft.philips.nl), Ruud Bolle (Thomas J Watson Research Center IBM, bolle@watson.ibm.com), Mazakazu Ejiri (Central Research Laboratory Hitachi, ejiri@crl.hitachi.co.jp), Bruce E Flinchbaugh (Computer Science Center Texas Instruments, bef@osage.csc.ti.com), Robert Forchheimer (Department of Electrical Engineering, robert@isy.liu.se), Martin Kraaijveld (Shell Research m.a.kraaijveld@siep.shell.com), Gerd Maderlechner (Corporate Research and Development Siemens AG, gm@zfe.siemens.de), Masatsugu Kidode (Kansai Laboratory Toshiba Corporation, kdd@krl.toshiba.co.jp), Dragutin Petkovic (IBM Almaden Research Center, petkovic@almaden.ibm.com), Jorge L. C. Sanz (IBM Almaden Research Center, sanz@buevm1.vnet.ibm.com).

What is IFIP?

The International Federation for Information Processing (IFIP) is a non-governmental, non-profit umbrella organization for national societies working in the field of information processing. It was established in 1960 under the auspices of UNESCO as an aftermath of the first World Computer Congress held in Paris in 1959. Today, IFIP has several types of members (IAPR being one of them) and maintains friendly connections to specialized agencies of the UN system and non-governmental organizations. Technical work, which is the heart of IFIP's activity, is managed by a series of Technical Committees. Each of these committees has two major types of activities: Events and Publications. On-line information on IFIP Publications can be found in the following addresses:

• For Chapman & Hall publications:

http://www.it-ch.com and

http://www.thomson.com/itch/catalogue/catalog.html

• For the Elsevier/North Holland publications:

http://www.elsevier.nl

The latter includes the books published by IFIP in the series:

- IFIP Transactions A: Computer Science and Technology
- IFIP Transactions B: Comp. Applications in Technology
- IFIP Transactions C: Communication Systems

The detailed information on individual IFIP publications includes the Title, Editors, Contents, Description, Related Publications and Bibliographic and Ordering information. The IFIP newsletter is available on line at: http://www.ifip.or.at/newsl.htm

Further information on IFIP can be obtained from: IFIP Secretariat, Hofstrasse 3. A-2361 Laxenburg, Austria Tel: +43 2236 73616, Fax: +43 2236 736169, http://www.ifip.or.at/, ftp.ifip.or.at



- YOU are affiliated to IFIP!!!

"Market forces alone will create the Information Super Footpath - a Highway needs planning." Professor Peter Cochrane, British Telecom

COMPUTER VISION FROM HEAVEN

On Friday January 24, Computer Vision made history: The first lecture of a Computer Vision Course was broadcast by satellite throughout Europe. It was organised by EuroPACE 2000, ECVNet and the Catholic University of Leuven. Although initially it was going to be a fee paying course, due to the very generous support from the ECVNet it ended up being absolutely free. The course was broadcast over six successive Fridays until February 28. It consisted of 6 thematic sessions of 2 hours each. Each session started with a lecture that lasted for an hour and it was followed by a live panel discussion among leading experts. Your favourite newsletter did not report on it in advance because your favourite newsletter did not know about it until it was too late. However, unlike newsletters, which move like ducks, slowly and with dignity, some people can act with the speed of light, and the report that follows is from such a person!

For the love of CV: Man versus time

It was just two days before the first session that a colleague of mine informed me of the tele-course on Computer Vision. He thought that it would be a good idea for the new members of our group to attend this series of programmes so that they have a good overview of various aspects of the theory and application of Computer Vision.

A closer look at the homepage of the course convinced me (http://www.europace.be/course/cv97/). Unfortunately, everything had to be arranged in less than two days so that our students did not miss the first and the most general introductory session. A first attempt to book a room in our University with all the facilities needed, failed. The only possible solution was to purchase our own satellite equipment and set it up to track the correct satellite, at the right frequency and polarisation according to the admittedly very good specifications given by the organisers. A dish of 1.2m in diameter and the necessary hardware were ordered and purchased the following day! This gave a knock to my preconceived idea of bureaucratic University procedures with time-delayed responses! They certainly knew how to raise to the circumstance. One day before the broadcast we found ourselves with just a 2 hour temporal permit to setup the equipment on a roof adjacent to our seminar room. Two hours was good enough as this was the duration of the course including the live discussion after the one-hour lecture. Setting up the antenna and aligning it correctly in a matter of minutes without proper installation equipment and with just ten minutes of pre-broadcast signal from the satellite tansponder was yet another story! But Heavens was on our side: there was no wind so the sticky tape, that "secured" the dish on a pole, held! With no minutes to spare, we were ready on time!

The students enjoyed very much the course and the participation increased monotonically in the subsequent sessions for which the proper installation of our system had been completed. By the time the course finished, we all felt wiser, not only on Computer Vision but on all sorts of other things too!

> Nikos Georgis University of Surrey

Spinning a Web from Past to Future

M any areas of society are being transformed by computer technology. Such transformations include transition from women's traditional work to work based on modern technology; from communicating within personal communities to communicating within virtual communities; from traditional job gendering to new perspectives on 'who does what'. In this context, the word 'computerisation' is interpreted not just in the narrow sense of computing systems, but also in a broader sense which includes the organisational and social context in which computer systems are designed and used.

The relevant issues are many, but perhaps they can be grouped under a few categories:

- Information Society, Multimedia and Networking: Can women's request for interpersonal networking be realised by new IT? How can multimedia and telecooperation be used successfully in order to improve women's living and working conditions? What is the impact of the transiency and changeability of electronic artifacts?
- Creating Models and Tools: Which aspects of feminist perspectives, such as epistemological criticism, can be integrated into informatics? Which paradigms and metaphors have contributed to the construction of computer (software) and the theory of computer science? Do they exclude women? How should computer systems (eg user interfaces) be designed so they consider the requirements of women?

- **Bodily Functions in Cyberspace:** How is the body represented in cyberspace/virtual reality and to what end?
- Labour and Living: Do public and private spaces merge? What are the restrictions for technical and social/political chances for flexible time-management? Will there be any jobs without IT-knowledge? Will the global division of labour contribute to equality?
- Education: What should be the elements of an informatics curriculum which represents informatics as a node in the web of other disciplines? How can the subjectivity of modelling and designing be taught in informatics? Will IT remove the distinction between public and private education?
- **History Herstory:** Herstory of feminist criticism of IT. Has feminist criticism changed women's strategies for gaining access to and influencing new technologies? Can women's influence be recognised in formative processes of informatics?

One may ask many questions on these topics and the answers are not easy. These issues will be discussed in the forthcoming interdisciplinary conference on Women, Work and Computerisation, organised by IFIP (IFIP-WWC 97, c/o Doris Koehler, Hamburg University Computer Centre, Schlueterstr. 70, D-20146 Hamburg, Germany. Fax: +49 40 4123 6270, IFIP-WWC97@rrz.uni-hamburg.de, http://www.uni-hamburg.de/~frauen/first.htm).

BOOK REVIEW

Theory and Applications of Image Analysis II edited by *G Borgefors*, World Scientific, ISBN 981-02-2448-6

T his is a collection of 31 selected papers form the 9th Scandinavian Conference on Image Analysis. The papers are divided into seven sections: Edges and Curves, Texture, Depth and Stereo, Scene Analysis, 3D Motion, Biomedical Applications and Industrial Applications. The list reflects the procedure used in the selection process - best results in the reviewing process. Unfortunately, the selection strategy leaves the collection without a focus. It is nothing more and nothing less than a set of (good) papers. This impression is reenforced by the absence of an index and a list of authors. Consequently, the only answer to review reader's standard questions: 'Should I have a look at the book?', 'Should our group library have a copy?' can be given in terms of the components, not the whole: yes, if there are enough papers of interest to you; no otherwise.

OK then, where can I find the list of papers this book is comprised of? After trying the editor's and the publisher's home pages, I conclude that you probably cannot find it, unless you have the book, which brings us back to square one... US The book costs 48 UK pounds in Europe, 72 dollars elsewhere. This is comparable with the price of the original SCIA proceedings. This raises another question: "If I had 45 spare pounds, would they be better spent on the SCIA proceedings or on this book?"

Having made several remarks that are not exactly encouraging people to buy the reviewed book, I must add that I have read with interest a number papers and that the quality is, in my opinion, very good on average. What else can I do to redeem myself from the wrath of the editor and World Scientific (only joking) ? What about copying the contents, ie. the list of the selected papers, and placing it on our WWW server? It would not take more than an hour and the result may be more informative than this whole review. Well, it is against the copyright printed right next to the table of contents! Let's hope someone will do it and thus send my main criticism to the dustbin of history!

> George Matas University of Surrey

IAPR DIRECTORY 1997

MEMBERS OF THE GOVERNING BOARD

Australia Austria Belarus Belgium Bulgaria Canada

China Czech Republic Denmark Finland

France

Germany

Hong Kong Hungary India Israel Italy Japan

Korea (South)

Professor A J Maeder Professor W G Kropatsch Professor S Ablameyko Dr Ir C Perneel Dr V Valev Professor R Plamondon Professor C Y Suen Professor Qingyun Shi Dr M Haindl Professor K Conradsen Professor E Oja Professor M Pietikainen Professor G Stamon Professor G Lorette Professor Dr-Ing H Burkhardt Professor Dr G Hartmann Professor H H S In Dr D Chetverikov Professor D Dutta Majumder Dr N Kiryati Professor A Del Bimbo Dr M Ejiri Professor M Takagi Professor Seong-Whan Lee Professor Young Bin Kwon

Netherlands

Norway Poland Portugal Russia

Slovenia South Africa Spain Sweden

Switzerland Taiwan

Ukraine United Kingdom

USA

Professor Dr ir A W M Smeulders Professor dr ir M A Viergever Dr H C Palm Dr L. Chmielewski Dr A J Padilha Dr-Eng I Gourevitch Professor Y Zhuravlev Professor A Nemirko Professor V Soifer Dr A Leonardis Professor G de Jager Professor A Sanfeliu Professor B Kruse Dr T Gustavsson Professor M Kunt Professor Zen Chen Dr I-Chang Jou Professor T K Vintsiuk Professor J Kittler Professor C J Taylor Professor J K Aggarwal Professor R M Haralick Professor T Huang Professor K Bowyer

STANDING COMMITTEES

Executive Committee

Professor R M Haralick Professor E S Gelsema Dr M Kidode Professor J Kittler Dr G Sanniti di Baja Dr J Bigun

K S Fu Prize Committee

Professor H Freeman Professor P-E Danielsson Professor L Kanal Professor R L Kashyap Professor T Kohonen Professor Y Shirai

Conferences & Meetings Committee Professor R Plamondon Chairman Dr T Caelli

Professor W G Kropatsch Dr H Yeshurun Professor I T Young

Constitution & Bylaws Committee Professor M J B Duff Chairman Professor J K Aggarwal Professor S Castan

Education Committee

Professor M Pietikainen Dr C Arcelli Professor K Bowyer Dr J J Gerbrands Professor V Krasnoproshin Professor Y Ohta Professor L Shapiro Dr P Zamperoni

Fellow Committee Dr M Ejiri Professor J K Aggarwal Professor Dr-Ing H Burkhardt Professor D Dutta Majumder Professor C Y Suen

President First Vice President Second Vice President Past President Secretary Treasurer

Chairman

IFIP Representative Professor H Freeman

Industrial Liaison Committee

Dr L O'Gorman Mr J Bernsen Dr R M Bolle Dr M Ejiri Dr B E Flinchbaugh Professor R Forchheimer Dr M Kidode Mr M Kraaiiveld Dr G Maderlechner Dr D Petkovic Dr J L C Sanz

Membership Committee

Professor G Borgefors Dr D Chetverikov Dr P C K Kwok Professor Young Bin Kwon

Nominating Committee

Professor J Kittler Professor Zen Chen Professor T Huang Professor E Oja Professor M Takagi

Publications & Publicity Committee

Dr M Haindl Professor S Ablameyko Professor E S Gelsema

Dr T Gustavsson Professor E Oja Dr M Petrou Professor MM Trivedi Chairman

Chairman

Chairman

Chairman

First VP Joint PRL Editor

Newsletter Editor MV & A Editor

Chairman

Chairman

TECHNICAL COMMITTEES

TC1	Statistical Pattern Recognition Techniques
	Dr P Pudil
TC2	Structural & Syntactical Pattern Recognition
	Dr D Dori
TC3	Neural Networks & Machine Learning
	Dr A Visa
TC4	Computer Vision & Image Understanding
	Dr J Aloimonos
TC5	Benchmarking & Software
	Professor X Zhuang
TC6	Special-Purpose Architectures
	Professor M Ferretti
TC7	Remote Sensing and Mapping
	Professor H Maitre
TC8	Applications in Industry
	Dr H Nishida
TC9	Biomedical Applications
	Professor C J Taylor

Dr A K Chhabra TC11 Applications in Text Processing	
Professor G Lorette	
TC12 Multimedia Systems	
Professor H H S Ip	
Professor Dr ir A W M Smeulders	
TC13 Pattern Recognition in Astronomy & Astrophysics	
Dr M C Maccarone	
TC14 Image Processing	
Dr H Knutsson	
TC15 Graph Based Representations	
Professor W G Kropatsch	
TC16 Algebraic & Discrete Mathematical	
Techniques in PR & IA	
Professor Y Zhuravlev	

CONTACT ADDRESSES FOR IAPR ASSOCIATIONS

Australia

Australian Association for Pattern Recognition (150 Members) Professor A J Maeder Head, School of Engineering University of Ballarat PO Box 663, Ballarat Victoria 3353 Australia Fax: +61 053 279137 Email: a.maeder@ballarat.edu.au

Austria

Austrian Association for Pattern Recognition (75 Members) Dr W Poelzleitner JOANNEUM RESEARCH Wastiangasse 6 A-8010 Graz, Austria Fax: +43 316 802120 Email: poelzleitner@pbox.joanneum.ac.at

Belarus

Belarusian Association for Image Analysis & Recognition (75 Members) Professor S Ablameyko Institute of Engineering Cybernetics Belarusian Academy of Sciences 6 Surganov str., 220012 Minsk Republic of Belarus Fax: +375 172 31 84 03 Email: abl@newman.basnet.minsk.by

Belgium

Pattern Recognition Contact Group of the SOGESCI (45 Members) Professor J Leysen c/o SOGESCI-BVWB Renaissancelaan 30 B-1040 Bruxelles Belgium Fax: +32 021 733 6116 Email: leysen@RMA-Brussels.rtt.be

Bulgaria

Bulgarian Association for Pattern Recognition (67 Members) Dr V Valev Institute of Mathematics Bulgarian Academy of Sciences PO Box 373, 1090 Sofia Bulgaria Fax: +359 2 971 3649 Email: vvalev@bgearn.acad.bg Canada Canadian Image Processing and Pattern Recognition Society (220 Members) Professor R Plamondon, FIAPR Departement de Genie Electrique et Genie Informatique Ecole Polytechnique PO Box 6079 SUCC.Centre-Ville Montreal, Quebec H3C 3A7 Canada Fax: +1 514 340 4147 Email: rejean@scribens.polymtl.ca

China Pattern Recognition and Machine Intelligence Committee of the Chinese Association of Automation (100 Members) Professor Qingyun Shi National Lab for Machine Perception Center for Information Science Peking University Beijing 100871 People's Republic of China Fax: +86 1 2564095

Czech Republic Czechoslovak Pattern Recognition Society (50 Members) Dr M Haindl Institute of Information Theory and Automation Czech Academy of Sciences Pod vodarenskou vegi 4 182 08 Praha 8 Czech Republic Fax: +42 2 6641 3031 Email: haindl@utia.cas.cz

Email: qys@.cis.pku.edu.cn

Denmark

Danish Pattern Recognition Society (60 Members) Dr O V Larsen Laboratory of Image Analysis Aalborg University Fr Bajers Vej 7-D DK-9220 Aalborg Denmark Fax: +45 98 154008 Email: ovl@vision.auc.dk

Finland

Pattern Recognition Society of Finland (264 Members) Mr M Hauta-Kasari Laboratory of Information Processing Lappeenranta University of Technology PO Box 20, FIN-53851 Lappeenranta Finland Fax: +358 5 621 3456 Email: hatutus@ht fi

France

Pattern Recognition and Artificial Intelligence Group of AFCET (210 Members) Ms M Le Pengalou PRAI Group of AFCET 49 Rue le Pengalou 75008 Paris France Fax: +33 1 53 89 18 88

Germany

Deutsche Arbeitsgemeinschaft fur Mustererkennung (DAGM) (300 Members) Professor Dr G Hartmann Heinz Nixdorf Institut Universitat-GH-Paderborn FB 14 Grundlagen der Electrotechnik Pohlweg 47-49 33098 Paderborn Raum P131.12 Germany Fax: +49 5251 603238 Email: hartmann@get.uni-paderborn.de

Hong Kong

Hong Kong Society for Multimedia and Image Computing (100 Members) Professor H H S Ip Image Computing Group Department of Computer Science City University of Hong Kong Tat Chee Avenue, Kowloon, Hong Kong Fax: +852 2788 8614 Email: cship@cityu.edu.hk

Hungary

Artificial Intelligence & Pattern Recognition Section of the John Von Neumann Society for Computer Science (30 Members) Ms M Toth NJSZT PO Box 451, H-1372 Budapest 5 Hungary Fax: +36 11 318 140 Email: h10339T1T@ella.hu

India

Indian Unit for Pattern Recognition and Artificial Intelligence (IUPRAI) (55 Members) Professor D Dutta Majumder, FIAPR Electronics & Communication Sciences Unit Indian Statistical Institute

203 Barrackpore Trunk Road Calcutta 700 035 India Tel: +91 33 52 6694 Email: ddm@isical.ernet.in

Israel

Israel Association for Computer Vision and Pattern Recognition (25 Members) Dr N Kiryati Department of Electrical Engineering

Technion Haifa 32000 Israel Fax: +972 4 832 3041 Email: nk@ee.technion.ac.il

Italy

Working Group for Pattern Recognition of the Italian Association for Automatic Computation (120 Members) Professor A Del Bimbo Dip Sistemi e Informatica Univ di Firenze Via S Marta 3 50139 Firenze, Italy Fax: +39 55 4796 363 Email: delbimbo@aguirre.ing.unifi.it

Japan

Information Processing Society of Japan (320 Members) Mr M Sugano Information Processing Society of Japan Shibaura-Maekawa Bldg 7F 3-16-20 Shibaura Minato-ku Tokyo 108 Japan Fax: +81 3 5484 3534 Email: sugano@ipsj.or.jp

Korea (South)

Korean Artificial Intelligence Group (500 Members)

Professor Seong-Whan Lee Department of Computer Science & Eng Korea University Anam-dong, Seongbuk-ku Seoul 136-701 Korea Fax: +82 2 926 2168 Email: swlee@human.korea.ac.kr

Netherlands

Nederlandse Vereniging voor Patroonherkennung en Beeldverwerking (320 Members) Professor Dr ir A W M Smeulders Vakgroep Informatics Universiteit van Amsterdam Kruislaan 403 1098 SJ Amsterdam Netherlands Fax: +31 20 525 7490 Email: smeulder@fwi.uva.nl Norway Norwegian Society for Image Processing and Pattern Recognition (196 Members) Dr K A Hogda FORUT Informasjonsteknologi AS NORUT-IT N-9005 Tromso, Norway Fax: +47 776 11850 Email: kjell-arild.hogda@itek.norut.no

Poland

Polish Association for Image Processing (56 Members) Dr L Chmielewski Association for Image Processing Swietokrzyska 21 (c.o. IFTR PAS) PL 00-049 Warszawa, Poland Fax: +48 22 263802 Email: lchmiel@.ippt.gov.pl

Portugal

Associacao Portuguesa de Reconhecimento de Padroes (APRP) (50 Members) Dr A J Padilha INEB Praca Coronel Pacheco 1 PT-4050 Porto, Portugal Fax: +351 2 204 18 39 Email: padilha@garfield.fe.up.pt

Russia

Russian Federation Association for Pattern Recognition and Image Analysis (RAPRIA) (877 Members) Dr-Eng I Gourevitch Russian Academy of Sciences Scientific Council "CYBERNETICS" 40 Vavilov Street, 117967 Moscow Russian Federation Fax: +7 095 129 0797 Email: igourevi@ext1.ccas.ru

Slovenia

Slovenian Society for Pattern Recognition (63 Members) Dr B Likar

Faculty of Electrical Engineering University of Ljubljana Trzaska cesta 25 1000 Ljubljana, Slovenia Fax: +386 61 1264 631 Email: bostjan.likar@fe.uni-lj.si

South Africa

Pattern Recognition Association of South Africa (42 Members) Professor G de Jager University of Cape Town, Dept of Electrical and Electronic Engineering, Private Bag, Rondebosch 7700, Republic of South Africa, Fax: +27 21 650 3465 E-mail: gdj@dip.ee.uct.ac.za

Spanish Association of Pattern Recognition and Image Analysis (148 Members) Professor A Sanfeliu, FIAPR Instituto de Cibernetica Universidad Politecnica de Cataluna Diagonal 647 08028 Barcelona Spain Fax: +34 3 401 6605 Email: sanfeliu@ic.upc.es Sweden Swedish Society for Automated Image Analysis (320 Members) Dr T Jansson Department of Applied Electronics Chalmers University of Technology 412 96 Gothenburgh Sweden Fax: +46 31 773 3758 Email: jansson@ae.chalmers.se

Switzerland

The Swiss Association for Pattern Recognition (35 Members) Professor M Kunt Laboratoire de Traitement des Signaux Department d'Electricite Ecole Polytechnique Federale de Lausanne Ecublens, CH-1015 Lausanne Switzerland Fax: +41 21 693 26 03 Email: kunt@ltssun2.epfl.ch

Taiwan

The Chinese Image Processing & Pattern Recognition Society (445 Members) Dr I-Chang Jou CIPPR Society 12 Lane 551 Mintsu Road, Sec.3 Yang-Mei Tao-Yuan Hsien Taiwan Republic of China Fax: +886 3 4244167 Email: icjou%tttl9000@tlrouter.motctl.gov.tw

Ukraine

Ukrainian Association on Information Processing and Pattern Recognition (75 Members) Professor T K Vintsiuk National Academy of Sciences Institute of Cybernetics 40 Academician Hlushkov Avenue Kyjiv 252022 Ukraina Fax: +7 044 266 1570 Email: vintsiuk%golos.kiev.ua@relay.ussr.eu.net

United Kingdom

British Machine Vision Association and Society for Pattern Recognition (BMVA) (485 Members) Dr T J Ellis Information Engineering Centre City University Northampton Square London ECIV 0HB UK Fax: +44 171 477 8568 Email: t.j.ellis@city.ac.uk

USA

IEEE Computer Society (880 Members) Professor L Shapiro Department of Computer Science and Engineering Box 352350 University of Washington Seattle Washington 98195-2350 USA Fax: +1 206 543 2969 Email: shapiro@cs.washington.edu

ADDRESSES OF IAPR OFFICERS AND MEMBERS

Ablameyko Professor S

Institute of Engineering Cybernetics Belarusian Academy of Sciences 6 Surganov str. 220012 Minsk Republic of Belarus Tel: +375 172 68 51 71 Fax: +375 172 31 84 03 Email: abl@newman.basnet.minsk.by

Aggarwal Professor J K, FIAPR

Computer & Vision Research Center The University of Texas at Austin Austin Texas 78712-1084 USA Tel: +1 512 471 1369 Fax: +1 512 471 5532 Email: jka@uts.cc.utexas.edu

Aloimonos Dr J

Computer Vision Laboratory Center for Automation Research Computer Science Department University of Maryland College Park, MD 20742 USA Tel: +1 301 405 1743 Fax: +1 301 314 9115 Email: yiannis@cfar.umd.edu

Arcelli Dr C

Istituto di Cibernetica CNR Via Toiano 6 80072 Arco Felice Naples Italy Tel: +39 81 8534206 Fax: +39 81 5267654 Email: car@imagm.na.cnr.it

Barham Mrs D

Canadian Image Processing Society 430 King Street West Unit 106, Toronto Ontario M5V 1L5 Canada Tel: +1 416 593 4040 Fax: +1 416 593 5184 Email: dawn.barham@mtsg.ubc.ca

Bernsen Mr J

Philips Centre for Manufacturing Technology Building SAQ-p PO Box 218 5600 MD Eindhoven The Netherlands Tel: +31 40 27 35971 Fax: +31 40 27 36024 Email: john@isp.cft.philips.nl

Bigun Dr J

EPFL, DI-LAMI CH-1015 Lausanne Switzerland Tel: +41 21 693 2796 Fax: +41 21 693 5263 Email: Josef.Bigun@di.epfl.ch

Bolle Dr R M

Thomas J Watson Research Center IBM Corporation PO Box 704 MS H1 D58 Yorktown Heights New York 10598 USA Tel: +1 914 784 7838 Fax: +1 914 784 7455 Email: bolle@watson.ibm.com

Borgefors Professor G

Centre for Image Analysis Swedish University of Agricultural Sciences Lagerhyddvagen 17 S-752 37 Uppsala Sweden Tel: +46 18 18 34 66 Fax: +46 18 55 34 47 Email: gunilla@cb.uu.se

Bowyer Professor K

Computer Science and Engineering University of South Florida Tampa, Florida 33620-5399 USA Tel: +1 813 974 3032 Fax: +1 813 974 5456 Email: kwb@csee.usf.edu

Burkhardt Professor Dr-Ing H

Technische Informatik 1 Technische Universitat Hamburg-Harburg Harburger Schloss-Strasse 20 D 21079 Hamburg Germany Tel: +49 40 7718 3025 Fax: +49 40 7718 2911 Email: burkhardt@tu-harburg.d400.de

Caelli Dr T

Department of Computer Science Curtin University of Technology GPO Box U 1987 Perth, W A Australia Tel: +61 9 351 7647 Fax: +61 9 351 2819 Email: tmc@cs.curtin.edu.au

Castan Professor S, FIAPR IRIT

Universite Paul Sabatier 118 Route de Narbonne F-31062 Toulouse Cedex France Tel: +33 6155 6310 Fax: +33 6155 6258 Email: castan@irit.fr

Chen Professor Zen

Department of Computer Science & Information Engineering National Chiao Tung University Hsinchu Taiwan Republic of China Tel: +886 35 731875 Fax: +886 35 723148 Email: zchen@csie.nctu.edu.tw

Chetverikov Dr D

Computer and Automation Institute Hungarian Academy of Sciences PO Box 63 H-1518 Budapest Kende u. 13-17 Hungary Tel: +36 1 1811 760 Fax: +36 1 1667 503 Email: h1180cse@huella.bitnet

Chhabra Dr A K

NYNEX Science & Technology 500 Westchester Avenue White Plains NY 10604 USA Email: atul@nynexst.com

Chinese Assoc. of Automation

c/o Dr Wang Hong Post Office Box 2728 Beijing 100080 People's Republic of China

Chmielewski Dr L Association for Image Processing Swietokrzyska 21 (c.o. IFTR PAS) PL 00-049 Warszawa Poland Tel: +48 22 269802 Fax: +48 22 263802 Email: lchmiel@.ippt.gov.pl

Colombo Professor C

DEA Universita' degli Studi di Brescia Via Branze 38 I-25123 Italy Tel: +39 30 3715 450 Fax: +39 30 380014 Email: columbus@bsing.ing.unibs.it

Conradsen Professor K

IMM, Institute of Mathematical Modelling Building 321 Technical University of Denmark DK-2800 LYNGBY Denmark Tel: +45 45 22 34 10 Fax: +45 45 88 13 97 Email: kc@imsor.dth.dk

Danielsson Professor P-E, FIAPR

Image Processing Laboratory Dept of Electrical Engineering Linkoping University S-581 83 Linkoping Sweden Tel: +46 13 281 306 Fax: +46 13 282 599 Email: ped@isy.liu.se

de Jager Professor G

University of Cape Town, Dept of Electrical and Electronic Engineering, Private Bag, Rondebosch 7700, Republic of South Africa, Tel: +27 21 650 2791 Fax: +27 21 650 3465 Email: gdj@dip.ee.uct.ac.za

Del Bimbo Professor A Dip Sistemi e Informatica Univ di Firenze Via S Marta 3 50139 Firenze Italy Tel: +39 55 4796 262

Fax: +39 55 4796 363 Email: delbimbo@aguirre.ing.unifi.it

Di Gesu Professor V

Dipartimento di Mate matica ed Applicazioni Universita di Palermo Via Archirafi 34 I-90123 Palermo Italy Tel: +39 91 604 0419 Fax: +39 91 616 5425 Email: digesu@ipamat.math.unipa.it

Dori Dr D Technion

Department of Systems Engineering Haifa 32000 Israel Tel: +972 4 829 4409 Fax: +972 4 823 5149 Email: dori@ie.technion.ac.il

Duff Professor M J B, FIAPR

Department of Physics and Astronomy University College London Gower Street London WC1E 6BT UK Tel: +44 171 209 6590 Fax: +44 171 209 6580 Email: m.duff@ucl.ac.uk

Dutta Majumder Professor D, FIAPR

Electronics & Communication Sciences Unit Indian Statistical Institute 203 Barrackpore Trunk Road Calcutta 700 035 India Tel: +91 33 52 6694 Email: ddm@isical.ernet.in

Eikvil Dr L

NR v/Line Eikvil Postboks 114 Blindern N-0314 Oslo Norway Email: line.eikvil@nr.no

Ejiri Dr M, FIAPR

Central Research Laboratory Hitachi Ltd 1-280 Higashi-koigakubo Kokubunji Tokyo 185 Japan Tel: +81 423 23 1111 Fax: +81 423 27 7700 Email: ejiri@crl.hitachi.co.jp

Ellis Dr T J

Information Engineering Centre City University Northampton Square London ECIV 0HB, UK Tel: +44 171 477 8126 Fax: +44 171 477 8568 Email: t.j.ellis@city.ac.uk

Ferretti Professor M

Dipartimento di Informatica e Sistemistica Universita degli Studi di Pavia Via Abbiategrasso 209 I-27100 Pavia Italy Tel: +39 382 505365 Fax: +39 382 505373 Email: ferretti@ipvmv1.unipv.it

Flinchbaugh Dr B E

Central Research Laboratories Texas Instruments PO Box 655303 M/S 8374 Dallas Texas 75265 USA Tel: +1 214 995 0349 Fax: +1 214 995 8600 Email: bef@ti.com

Forchheimer Professor R

Department of Electrical Engineering University of Linkoping S-581 83 Linkoping Sweden Tel: +46 13 281342 Fax: +46 13 139282 Email: robert@isy.liu.se

Freeman Professor H, FIAPR

Electrical & Comp Engineering Dept Rutgers University PO Box 909 CoRE Building 501 Frelinghuysen Road, Piscataway New Jersey 08855-0909 USA Tel: +1 908 445 4880 Fax: +1 908 445 0593 Email: freeman@ece.rutgers.edu

Gelsema Professor E S, FIAPR Department of Medical Informatics Erasmus University PO Box 1738 NL-3000 DR ROTTERDAM Netherlands Tel: +31 10 408 7050 Fax: +31 10 436 2882 Email: gelsema@mi.fgg.eur.nl

Gerbrands Dr J J

Delft University of Technology Electrical Engineering Director of Education BSOO PO Box 5031 NL-2600 GA Delft The Netherlands Tel: +31 15 278 4647 Fax: +31 15 278 6284 Email: j.j.gerbrands@et.tudelft.nl

Gourevitch Dr-Eng I

Russian Academy of Sciences Scientific Council "CYBERNETICS" 40 Vavilov Street 117967 Moscow Russian Federation Tel: +7 095 129 0797 Fax: +7 095 129 0797 Email: igourevi@ext1.ccas.ru

Gustavsson Dr T

Department of Applied Electronics Chalmers University of Technology 412 96 Gothenburgh Sweden Tel: +46 31 773 3754 Fax: +46 31 773 3758 Email: gustavsson@ae.chalmers.se

Haindl Dr M

Institute of Information Theory and Automation Czech Academy of Sciences Pod vodarenskou vegi 4 182 08 Praha 8 Czech Republic Fax: +42 2 6641 3031 Email: haindl@utia.cas.cz

Haralick Professor R M, FIAPR

Department of Electrical Engineering Mail Stop 352500 University of Washington Seattle Washington 98195 USA Tel: +1 206 685 4974 Fax: +1 206 543 3842 Email: haralick@ee.washington.edu

Hartmann Professor Dr G

Heinz Nixdorf Institut Universitat-GH-Paderborn FB 14 Grundlagen der Electrotechnik Pohlweg 47-49 33098 Paderborn Raum P131.12 Germany Tel: +49 5251 602206 Fax: +49 5251 603238 Email: hartmann@get.uni-paderborn.de

Haton Professor J-P, FIAPR

CRIN, INRIA, BP 239 F-54506 Vandoeuvre-Les-Nancy Cedex France Tel: +33 8 328 1566 Fax: +33 8 341 3079 Email: jph@crin.crin.fr

Hauta-Kasari Mr M

Laboratory of Information Processing Lappeenranta University of Technology PO Box 20 FIN-53851 Lappeenranta Finland Fax: +358 5 621 3456 Email: hatutus@lut.fi

Hitachi Central Research Laboratory

Dr Kanji Tsujii I-280 Higashi-koigakukbo Kokubunji Tokyo 185 Japan Tel: +81 423 231111 Fax: +81 423 277695

Hitachi Ltd

c/o Minori Noguchi Production Engineering Research Lab 292 Yoshida-cho, Totsuka-ku Yokohama 244 Japan Tel: +81 45 881 1241 Fax: +81 45 860 1623 Email: noguchi@perl.hitachi.co.jp

Hogda Dr K A

FORUT Informasjonsteknologi AS NORUT-IT N-9005 Tromso Norway Tel: +47 776 58622 Fax: +47 776 11850 Email: kjell-arild.hogda@itek.norut.no

Huang Professor T, FIAPR

Beckman Institute 405 N Mathews Avenue Urbana Illinois 61801, USA Tel: +1 217 244 1638 Fax: +1 217 244 8371 Email: huang@ifp.uiuc.edu

Ip Professor H H S

Image Computing Group Department of Computer Science City University of Hong Kong Tat Chee Avenue, Kowloon Hong Kong Tel: +852 2788 8641 Fax: +852 2788 8614 Email: cship@cityu.edu.hk

Jansson Dr T

Department of Applied Electronics Chalmers University of Technology 412 96 Gothenburgh Sweden Tel: +46 31 773 3757 Fax: +46 31 773 3758 Email: jansson@ae.chalmers.se

Jonker Dr ir P P, FIAPR

Pattern Recognition Section Faculty of Applied Physics Delft University of Technology Postbus 5046 2600 GA Delft Netherlands Tel: +31 15 278 3763 Fax: +31 15 278 6740 Email: pieter@ph.tn.tudelft.nl

Jou Dr I-Chang

CIPPR Society 12 Lane 551 Mintsu Road, Sec.3 Yang-Mei Tao-Yuan Hsien Taiwan Republic of China Tel: +886 3 4244202 Fax: +886 3 4244167 Email: icjou%ttt19000@tlrouter.motctl.gov.tw

Kak Professor A

School of Electrical Engineering Electrical Engineering Building Room 69 Purdue University West Lafayette Indiana 47907-0501 USA

Kanal Professor L, FIAPR

Department of Computer Science University of Maryland College Park Maryland 20742 USA Tel: +1 301 405 2674/927 3223 Fax: +1 301 405 6707/927 7193 Email: kanal@cs.umd.edu

Kashyap Professor R L, FIAPR

School of Electrical Engineering Purdue University West Lafayette Indiana 47907-1205 USA Tel: +1 317 494 3437 Fax: +1 317 494 6440 Email: kashyap@ecn.purdue.edu

Kidode Dr M, FIAPR

Toshiba Corporation Multimedia Devision 1-1 Shibaura 1-chome Minato-ku Tokyo 105-01 Japan Tel: +81 3 3457 8595 Fax: +81 3 5444 9288 Email: kdd@mmd.toshiba.co.jp

Kiryati Dr N

Department of Electrical Engineering Technion Haifa 32000 Israel Tel: +972 4 829 4702 Fax: +972 4 832 3041 Email: nk@ee.technion.ac.il

Kittler Professor J

School of Electronic Engineering, Information Technology and Mathematics University of Surrey Guildford Surrey GU2 5XH UK Tel: +44 1483 259294 Fax: +44 1483 534139 Email: j.kittler@ee.surrey.ac.uk

Knutsson Dr H

Department of Electrical Engineering University of Linkoping S-58 183 Linkoping Sweden Tel: +46 13 28 13 03 Fax: +46 13 13 85 26 Email: knutte@isy.liu.se

Kohonen Professor T

Helsinki University of Technology Rakentejanaukio 2C 02150 Espoo Finland Fax: +358 0 451 3277 Email: teuvo@chiasma.hut.fi

Kraaijveld Mr M

Shell International Exploration and Production Research and Technical Services PO Box 60 2280 AB Rijswijk The Netherlands Email: m.a.kraaijveld@siep.shell.com

Krasnoproshin Professor V

Faculty of Applied Mathematics Belarusian State University Scoryna Av 4 220050 Minsk Republic of Belarus Tel: +375 17 226 55 40 Fax: +375 17 226 54 48 Email: kras@fpm.bsu.minsk.by

Kropatsch Professor W G, FIAPR

Institut fur Automation TreitIstrasse 3/1832 A-1040 Wien Austria Tel: +43 1 58801 8160 Fax: +43 1 586 3260 Email: krw@prip.tuwien.ac.at

Kruse Professor B

Department of Electrical Engineering Linkoping University S-581 83 Linkoping Sweden Tel: +46 13 282228 Fax: +46 13 282599 Email: bk@isy.liu.se

Kulias Professor A I

National Academy of Sciences Institute of Cybernetics 40 Academician Hlushkov Avenue Kyjiv 252022 Ukraina

Kunt Professor M

Laboratoire de Traitement des Signaux Department d'Electricite Ecole Polytechnique Federale de Lausanne Ecublens, CH-1015 Lausanne Switzerland Tel: +41 21 693 26 26 Fax: +41 21 693 26 03 Email: kunt@ltssun2.epfl.ch

Kwok Dr P C K

Department of Electrical & Electronic Engineering University of Hong Kong Pokfulam Road Hong Kong Tel: +852 2859 7094 Fax: +852 2559 8738 Email: kwok@hkueee.hku.hk

Kwon Professor Young Bin

Department of Computer Engineering Chungang University Heukseok-dong Dongjak-ku Seoul 156-756 Korea Tel: +82 2 820 5305 Fax: +82 2 824 2522 Email: ybkwon@ripe.chungang.ac.kr

Laface Professor P

Dipartimento di Automatica e Informatica Politecnico di Torino Corso Duca degli Abruzzi 24 I-10129 Torino Italy Tel: +39 11 556 7004 Fax: +39 11 556 7099 Email: laface@itopoli.bitnet

Larsen Dr O V Laboratory of Image Analysis Aalborg University Fr Bajers Vej 7-D DK-9220 Aalborg Denmark Fax: +45 98 154008 Email: ovl@vision.auc.dk

Le Pengalou Ms M PRAI Group of AFCET 49 Rue le Pengalou 75008 Paris France Tel: +33 1 53 89 18 89 Fax: +33 1 53 89 18 88

Lee Professor Seong-Whan

Department of Computer Science & Eng Korea University Anam-dong, Seongbuk-ku Seoul 136-701 Korea Tel: +82 2 920 2168 Fax: +82 2 926 2168 Email: swlee@human.korea.ac.kr

Leonardis Dr A

Faculty of Computer & Information Science University of Ljubljana Trzaska 25 1001 Ljubljana, Slovenia Tel: +386 61 1768 381 Fax: +386 61 1264 630 Email: ales.leonardis@fri.uni-lj.si

Levialdi Professor S, FIAPR

Scienze dell'Informazione Universita di Roma La Sapienza Via Saleria 113 I-00198 Roma, Italy Tel: +39 6 884 1962 Fax: +39 6 841 9188 Email: levialdi@dsi.uniroma1.it

Leysen Professor J c/o SOGESCI-BVWB Renaissancelaan 30 B-1040 Bruxelles Belgium Tel: +32 021 737 6157 Fax: +32 021 733 6116 Email: leysen@RMA-Brussels.rtt.be

Likar Dr B Faculty of Electrical Engineering University of Ljubljana Trzaska cesta 25 1000 Ljubljana Slovenia Tel: +386 61 1768 248 Fax: +386 61 1264 631 Email: bostjan.likar@fe.uni-lj.si

Lorette Professor G IRISA University Rennes 1 Campus universitaire de Beaulieu 35042 Rennes Cedex France Tel: +33 99 847358 Fax: +33 99 847171 Email: lorette@irisa.fr

Maccarone Dr M C

IFCAI/CNR Piazza Verdi 6 90139 Palermo Italy Tel: +39 91 605 5360 Fax: +39 91 605 5355 Email: cettina@ifcai.pa.cnr.it

Maderlechner Dr G, FIAPR

Corporate Research and Technology Siemens AG Otto-Hahn-Ring 6 W-8000 Munich 83 Germany Tel: +49 89 636 3389 Fax: +49 89 636 2393 Email: gm@zfe.siemens.de

Maeder Professor A J

Head, School of Engineering University of Ballarat PO Box 663 Ballarat Victoria 3353 Australia Tel: +61 053 279147 Fax: +61 053 279137 Email: a.maeder@ballarat.edu.au

Maitre Professor H

Ecole Nationale Superieure des Telecommunications Department IMA 46 rue Barrault 75 013 Paris France Tel: +33 1 45 81 76 55 Fax: +33 1 45 81 37 94 Email: maitre@ima.enst.fr

Nemirko Professor A

State University of Electrical Engineering 5 prof. Popov str St Petersburg 197376 Russian Federation Tel: +7 812 234 3112 Fax: +7 812 234 2758 Email: apn@bs.etu.spb.ru

Nishida Dr H

Ricoh Information & Communications R&D Centre 3-2-3 Shin-Yokohama Kohoku-ku Yokohama 222 Japan Tel: +81 45 477 1572 Fax: +81 45 477 1562 Email: nishida@ic.rdc.ricoh.co.jp

O'Gorman Dr L, FIAPR

Bell Laboratories 600 Mountain Avenue Room 2B-221 Murray Hill New Jersey 07974-0636 USA Tel: +1 908 582 7262 Fax: +1 908 582 5809 Email: log@research.bell-labs.com

Ohta Professor Y

Institute of Information Sciences & Electronics University of Tsukuba Tsukuba Ibaraki 305 Japan Tel: +81 298 53 5515 Fax: +81 298 53 6471 Email: ohta@is.tsukuba.ac.jp

Oja Professor E, FIAPR

Laboratory of Computer & Information Science Helsinki University of Technology 02150 Espoo Finland Tel: +358 0 451 3265 Fax: +358 0 451 3277 Email: erkki.oja@hut.fi

Padilha Dr A J

INEB Praca Coronel Pacheco 1 PT-4050 Porto Portugal Tel: +351 2 208 71,31 Fax: +351 2 204 18 39 Email: padilha@garfield.fe.up.pt

Palm Dr H C

FFI/VM, PO Box 25 N-2007 Kjeller, Norway Tel: +47 63 80 76 54 Fax: +47 63 80 75 09 Email: hans-chr.palm@ffi.no

Perneel Dr Ir C

Royal Military Academy Signal & Image Centre Av de la Renaissance 30 B-1000 Brussels Belgium Tel: +32 2 737 6190 Fax: +32 2 737 6163 Email: perneel@elec.rma.ac.be

Petkovic Dr D

K54/802 IBM Almaden Research Center 650 Harry Road San Jose California 95120-6099, USA Tel: +1 408 927 1778 Email: petkovic@almaden.ibm.com

Petrou Dr M

School of Electronic Engineering, Information Technology and Mathematics University of Surrey Guildford Surrey GU2 5XH, UK Tel: +44 1483 259801 Fax: +44 1483 534139 Email: m.petrou@ee.surrey.ac.uk

Pietikainen Professor M, FIAPR

Department of Electrical Engineering University of Oulu FIN-90570 Oulu Finland Tel: +358 8 553 2782 Fax: +358 8 553 2612 Email: mkp@ee.oulu.fi

Plamondon Professor R, FIAPR

Departement de Genie Electrique et Genie Informatique Ecole Polytechnique PO Box 6079 SUCC.Centre-Ville Montreal, Quebec H3C 3A7 Canada Tel: +1 514 340 4539 Fax: +1 514 340 4147 Email: rejean@scribens.polymtl.ca

Poelzleitner Dr W

JOANNEUM RESEARCH Wastiangasse 6 A-8010 Graz Austria Tel: +43 316 8020 745 Fax: +43 316 802120 Email: poelzleitner@pbox.joanneum.ac.at

Pudil Dr P

Institute of Information Theory and Automation Czech Academy of Sciences Pod vodarenskou vegi 4 18208 Praha 8 Czech Republic Tel: +42 2 660 52353 Fax: +42 2 688 3031 Email: pudil@utia.cas.cz

Sanfeliu Professor A, FIAPR Instituto de Cibernetica Universidad Politecnica de Cataluna Diagonal 647 08028 Barcelona Spain Tel: +34 3 401 6624 Fax: +34 3 401 6605 Email: sanfeliu@ic.upc.es

Sanniti di Baja Dr G

Istituto di Cibernetica CNR Via Toiano 6 80072 Arco Felice Naples Italy Tel: +39 81 8534237 Fax: +39 81 5267654 Email: gsdb@imagm.na.cnr.it

Sanz Dr J L C IBM Almaden Research Center K54-802 650 Harry Road San Jose California 95120-6099 USA Tel: +1 408 927 1712 Fax: +1 408 927 2100 Email: sanz@buevm1.vnet.ibm.com

Shapiro Professor L

Department of Computer Science and Engineering Box 352350 University of Washington Seattle Washington 98195-2350 USA Tel: +1 206 543 2196 Fax: +1 206 543 2969 Email: shapiro@cs.washington.edu

Shi Professor Qingyun

National Lab for Machine Perception Center for Information Science Peking University Beijing 100871 People's Republic of China Tel: +86 1 2501935 Fax: +86 1 2564095 Email: qys@.cis.pku.edu.cn

Shirai Professor Y, FIAPR

Dept Mechanical Engineering Faculty of Engineering Osaka University 2-1 Yamadaoka, Suita, Osaka Japan 565 Tel: +81 6 879 7331 Fax: +81 6 876 4975 Email: shirai@cv.ccm.eng.osaka-u.ac.jp

Smeulders Professor Dr ir A W M

Vakgroep Informatics Universiteit van Amsterdam Kruislaan 403 1098 SJ Amsterdam Netherlands Tel: +31 20 525 7463 Fax: +31 20 525 7490 Email: smeulder@fwi.uva.nl

Soifer Professor V

The Samara State Aerospace University 151 Molodogvardejskaja Samara 443001 Russian Federation Tel: +7 8462 35 1826 Fax: +7 8462 35 1836 Email: soifer@space.samara.su

Stamon Professor G

Director Research Laboratory Computer Vision UFR Mathematiques-Informatique Universite de Paris-5 45 Rue des Saints-Peres 75006-Paris France Tel: +33 1 44 55 35 22 Fax: +33 1 44 55 35 35 Email: stamon@math-info.univ-paris5.fr

Suen Professor C Y, FIAPR

Centre for Pattern Recognition and Machine Intelligence Concordia University, Suite GM-606 1455 de Maisonneuve Boulevard West Montreal, Quebec H3G 1M8 Canada Tel: +1 514 848 3006/7950 Fax: +1 514 848 4522 Email: suen@cenparmi.concordia.ca

Sugano Mr M

Information Processing Society of Japan Shibaura-Maekawa Bldg 7F 3-16-20 Shibaura Minato-ku Tokyo 108 Japan Tel: +81 3 5484 3535 Fax: +81 3 5484 3534 – Email: sugano@ipsj.or.jp

Takagi Professor M, FIAPR

Institute of Industrial Science University of Tokyo 22-1 Roppongi 7 Chome Minato-ku Tokyo 106 Japan Tel: +81 3 3479 0289 Fax: +81 3 3402 6226 Email: takagi@tkl.iis.u-tokyo.ac.jp

Tanimoto Professor S L

Department of Computer Science and Engineering FR-35 University of Washington Seattle Washington 98195 USA Tel: +1 206 543 4848 Fax: +1 206 543 2969 Email: tanimoto@cs.washington.edu

Taylor Professor C J

Department of Medical Biophysics University of Manchester Stopford Building Oxford Road Manchester, M13 9PT UK Tel: +44 161 275 5130 Fax: +44 161 275 5145 Email: ctaylor@man.ac.uk

Toivanen Dr P

Labratory of Information Processing Lappeenranta University of Technology PO Box 20 FIN-53851 Lappeenranta Finland Tel: +358 53 621 3448 Fax: +358 53 621 3456 Email: pekka.toivanen@lut.fi

Toriwaki Professor J

Department of Information Engineering Nagoya University Furo-cho Chikusa-ku Nagoya 464 Japan Tel: +81 52 781 5111 x 3308 Fax: +81 52 782 2566 Email: toriwaki@toriwaki.nuie.nagoya-u.ac.jp

Toshiba Ltd

Dr Haruo Asada Toshiba Kansai Research Laboratory 8-6-26 Motoyama minami-machi Higashinada Kobe 058 Japan Tel: +81 78 435 3101 Fax: +81 78 435 3161 Email: asd@krl.toshiba.co.jp

Toth Ms M

NJSZT PO Box 451 H-1372 Budapest 5 Hungary Tel: +36 11 329 349 Fax: +36 11 318 140 Email: h10339T1T@ella.hu

Trew Mr T I P

Philips Research Laboratories Cross Oak Lane Redhill Surrey, RH1 5HA UK Tel: +44 1293 816954 Fax: +44 1293 815500 Email: trew@prl.philips.co.uk

Trivedi Professor MM

Electrical & Computer Engineering Dep Comouter Vision & Robotics Research 9500 Gilman Drive EBU 1 University of California at San Diego La Jolla California 92093-0407 USA Tel: +1 619 822 0075 Email: trivedi@ece.ucsd.edu

Valev Dr V

Institute of Mathematics Bulgarian Academy of Sciences PO Box 373 1090 Sofia Bulgaria Tel: +359 2 713 2830 Fax: +359 2 971 3649 Email: vvalev@bgearn.acad.bg

Viergever Professor dr ir M A

Utrecht University Dept Medical Image Sciences University Hospital Utrecht E01.334 PO Box 85500 3508 GA Utrecht The Netherlands Tel: +31 30 250 7771 Fax: +31 30 251 3399 Email: max@cv.ruu.nl Vintsiuk Professor T K National Academy of Sciences Institute of Cybernetics 40 Academician Hlushkov Avenue Kyjiv 252022 Ukraina Tel: +7 044 266 4356 Fax: +7 044 266 1570 Email: vintsiuk%golos.kiev.ua@relay.ussr.eu.net

Visa Dr A Helsinki University of Technology Rakentajanaukio 2 C SF-02150 Espoo Finland Email: ari.visa@hut.fi

Vossepoel Dr A M Delft University of Technology Applied Physics PO Box 5046 2600 GA Delft The Netherlands Tel: +31 15 278 2033 Fax: +31 15 278 6740 Email: albert@ph.tn.tudelft.nl

Yeshurun Dr H

Department of Computer Science School of Mathematical Sciences Tel Aviv University 69978 Tel Aviv Israel Tel: +972 3 541 4571 Fax: +972 3 416 138 Email: hezy@math.tau.ac.il

Young Professor I T

Pattern Recognition Group Faculty of Applied Science Delft University of Technology Lorentzweg 1 N-2628 CJ Delft The Netherlands Tel: +31 15 278 5390 Fax: +31 15 278 6740 Email: young@ph.tn.tudelft.nl

Zamperoni Dr P

Institut fur Nachrichtentechnik Technische Universitat Schleinitzstrasse 22 D-38092 Braunschweig Germany Tel: +49 531 3912486 Fax: +49 531 3918218 Email: zam@ifn.ing.tu-bs.de

Zhuang Professor X

Department of Computer Engineering and Computer Science University of Missouri Columbia Missouri 65211 USA Tel: +1 573 882 2382 Fax: +1 573 882 8318 Email: zhuang@ece,missouri.edu

Zhuravlev Professor Y

The Computing Centre of the Russian Academy of Sciences 40 Vavilov Str Moscow 117967 Russian Federation Tel: +7 095 129 0797 Fax: +7 095 129 0797 Email: zhuravlev@nsk.rc.ac.ru

BOOK REVIEW

Neural Networks for Pattern Recognition by *Christopher M Bishop*, Clarendon Press, Oxford, 1995, ISBN 0-19-853849-9, 482pp, and **Pattern Recognition and Neural Networks** by *B D Ripley*, Cambridge University Press, Cambridge, 1996, ISBN 0-521-46086-7, 403pp.

fter the death of the perceptron around 1970 and its revival as neural network after 1985, it took many years before this concept was accepted again by the pattern recognition community. A single glance made clear that neural network based classifiers contradicted the classic design principles for trainable pattern recognisers. Moreover, many of the papers reporting enthusiastically on the neural net successes appeared to neglect much more traditional methods that could do the job equally well or better. This regrettable state of affairs has now come to an end. It has become clear to most researchers in the pattern recognition field that artificial neural networks have interesting properties. The neural network community seems to have realized that there was a world before the back-propagation rule. After the earlier works by Pao and Schalkoff, more books are now being published bridging the gap. Two recent ones are "Neural networks for pattern recognition" by C M Bishop and "Pattern recognition and neural network s" by B D Ripley.

From a pattern recognition point of view the books are similar with respect to the topics that are treated. On the basis of a list of 27 possible subjects constructed by this reviewer, Ripley scored 13 and Bishop 12 with just a few differences. For missing some of the recent ones they cannot be blamed: bagging and the support vector classifier are very new developments, of interest to the researcher, but too recent for crystallisation in a book. For other issues both authors seem to have no interest because these issues are too fundamental: the no-free-lunch theorems and the compactness hypothesis. This is really a pity as a discussion on these topics might reveal the essential assumptions underlying the applicability of pattern recognisers and neural networks. On the other side of the spectrum, both authors disregard the opportunity to write a truly practical book, directly of use to the engineer and applied physicist that have to solve the real world pattern recognition problems: there is no interface with applications in speech recognition, image analysis or computer vision. As a result, classifiers based on the Hausdorff distance or on the edit distance are not discussed. To be fair, the books by Bishop and Ripley share this lack with almost all other pattern recognition books of the past. One may hope, however, that this gap will be bridged someday.

If we consider the differences in the list of topics treated in the two books, then we see for example, that Ripley treats some non-neural techniques such as belief networks and decision trees while Bishop more extensively discusses neural networks, their optimisation and related generalisation issues. For instance, he uses much more space for the over-training phenomenon. It is to be regretted, however, that both books fail to remove clearly the common but wrong belief that it is worthwhile to find the global minimum in the classical neural network training procedure. This is good only for very large training set sizes compared to the number of weights. On the whole it can be stated that Ripley has written a more general book on pattern recognition, treating neural networks as one of the topics. Bishop's book can be better characterised as a neural network introduction placed in a pattern recognition context.

Considering the qualities of the books, it is immediately apparent that the one by Ripley looks better and it is more accurately printed. It is a pleasure to browse through it, get caught by a sideline comment or attracted by a discussion. A special feature is the large number of original proofs. This will be mainly of interest to the scientist searching for the fundamentals. An extensive reference list and an author index serve the same purpose. A glossary and examples may make it accessible to students in engineering. However, Bishop serves this purpose better. He has written a text book, introducing techniques, relating them to the theory and explaining their pitfalls. Moreover, a large set of exercises makes it attractive for the teacher to use the book.

In conclusion, the two books should be warmly welcomed by the neural network and pattern recognition communities. Treating almost the same field they have their own style, goal and emphasis. They may also have a somewhat different readership. For instance, Bishop can be recommended to students and engineers in computer science, Ripley to researchers with an interest in statistical pattern recognition. If possible, however, take both!

> Robert P W Duin, Delft University of Technology, Holland

(This review appears by permission of the British Computer Society. It first appeared in a more extended form in the Computer Journal.)

CONFERENCE ANNOUNCEMENT

BMVC97: The Eighth British Machine Vision Conference 8–11 September 1997 Colchester, UK

Topics: Image processing and feature extraction, Practical applications, Object recognition and scene analysis, Model-based coding, Reconstruction of 3D shape, Architectures, Computational issues in perception, Active vision, Robotic vision and sensory fusion, Motion analysis, Advanced pattern analysis, Neural networks.

Four anonymous copies of full papers not exceeding 10 pages (approx. 5000 words if there are no figures) should be submitted to:

BMVC97 Secretariat,

Department of Electronic Systems Engineering, University of Essex, Wivenhoe Park, Colchester, CO4 3SQ, United Kingdom.

For more information see http://peipa.essex.ac.uk/BMVC97/

Deadline for paper submission	30 April 1997
Deadline for camera ready copy	July 1997

1997	Event	Location	Contact
17–18 April	Graph-based	Lyon,	J M Jolion, Lab Recon de Formes et Vision, INSA Lyon, Bat
GbR [IAPR]	Representations	France	403, 69621 Villeurbanne, France. jolion@rfv.insa-lyon.fr
12–15 May	International Conference	Ottawa,	G Roth, National Research Council Canada,
RADIM	on Recent Advances	Ontario	Institute for Information Technology, Building M-50,
[IAPR]	in 3-D Digital	Canada 🦯	Montreal Road, Ottawa, Ontario Canada K1A 0R6.
	Imaging and Modeling		Tel: +1 613 993 1219, Fax: +1 613 952 0215, roth@iit.nrc.ca,
			http://www.nrc.ca/confserv/digital97/welcome.html
19-23 May	Vision Interface '97	Kelowna,	G Roth (address as above)
VI97 [IAPR]		BC, Canada	http://www.csd.uwo.ca/conf/VI97
20-22 May	Pattern Recognition and	Minsk,	V. Krasnoproshin, Faculty of Applied Mathematics,
PRIP'97	Information Processing	Belarus	Belarussian State University, Fr. Scorina Av. 4,
[IAPR]			220050 Minsk, Belarus, Fax: +375-172-31 84 03,
			abl@newman.basnet.minsk.by, dep04@fpm.bsu.minsk.by
28-30 May	International Workshop	Capri, Italy	IWVF3 Istituto di Cibernetica, CNR, Via Toiano 6,
IWVF3	on Visual Form		80072 Arco Felice, Napoli, Italy. iwvf3@imagm.na.cnr.it
[IAPR]			http://amalfi.dis.unina.it/IWVF3/iwvf3cfp.html
4–6 June	Pattern Recognition	Vlieland,	Dept. of Medical Informatics, Erasmus University,
PRP-V	in Practice V	The	P.O. Box 1738, 3000 DR Rotterdam, The Netherlands
[IAPR]	property and an application of the second seco	Netherlands.	Tel: +31 104087050 Fax: +31 104362882, prp5@mi.fgg.eur.nl
9–11 June	10th Scandinavian	Lappeenranta,	SCIA'97, Department of Information Technology, Lappeen-
SCIA'97	Conference on Image	Finland	ranta University of Technology, P.O.Box 20, FIN-53851.
[IAPR]	Analysis		Lappeenranta, Finland. Fax: +358 53 621 3456,
	1 4144 9 545		SCIA97@lut.fi, http://www.lut.fi/scia97
9–11 June	Workshop on	Prague,	Pavel Pudil, Inst of Information Theory and Automation,
STIPR'97	Statistical Techniques	Czech	Academy of Sciences, Pod vodarenskou vezi 4, P.O. Box
[IAPR]	in Pattern Recognition	Republic	18, 18208 Prague 8, Czech Republic. Fax: +42 2 6883031
	In Tattern Recognition	Republic	stipr97@utia.cas.cz, http://www.utia.cas.cz/TC1/stipr97.html
11–13 June	Compression of Sequences	Positano,	B Carpentieri, Dipt di Infor ed Appl R M Capocelli,
SEQUENCES	Compression of Sequences	Italy	Universita di Salerno, 84081 Baronissi, Italy.
SEQUENCES		Italy	sequences97@dia.unisa.it, http://www.unisa.it/bc.dir/CCS97
15–16 June	Nonrigid and Articulated	Puerto Rico	D Metaxas, Dept of Comp and Inf Science, University of
NAM	Motion	I dello Rico	Pennsylvania, 200 South 33rd St, Philadelphia, PA 19104-6389,
INAIVI	Motion		USA. dnm@central.cis.upenn.edu,
			http://www.cc.gatech.edu/conferences/nramw97/
20 1	Content-based access of	Puerto Rico	
20 June		Puerto Rico	F Liu, E15-390, MIT Media Lab, 20 Ames St, Cambridge, MA
CBA	image and video libraries	Decenter Direc	02139 USA. http://www.cs.uchicago.edu/~swain/cfp-ivl.html
20 June	Undergraduate Education	Puerto Rico	Kevin Bowyer, Dept of Comp Sci & Eng Univ of South Florida,
UEIC	& Image Computation	D (D	Tampa, Florida 33620, USA. kwb@csee.usf.edu
20 June	Document Image Analysis	Puerto Rico	Luc Vincent, Xerox, DDS, 3400 Hillview Avenue, Bldg 3,
DIA			Palo Alto, CA 94304, USA. Tel: +1 415 813 7863,
			Fax: +1 415 813 6792, lucv@adoc.xerox.com,
			http://marathon.csee.usf.edu/documents.html
23–25 June	Multimedia Signal	New Jersey,	kjrliu@eng.umd.edu,
MMSP	Processing	USA	http://neuro.ece.wisc.edu/~tsuhan/mmtc.html.
23 Jun - 4 Jul ASI	Face Recognition	Stirling, UK	http://chagall.gmu.edu/faces97/natoasi/
28 Jun - 2 Jul	Bayesian Image Analysis	Leeds, UK	C Gill, Dept of Statistics, University of Leeds, Leeds, LS2 9JT
LASR			UK. Tel: +44 113 2335157, Fax: +44 113 2335102,
			workshop@amsta.leeds.ac.uk,
			http://www.amsta.leeds.ac.uk/statistics/leeds97/leeds97.html
7–11 July	Industrial Electronics	Guimaraes,	C A Couto, Dept of Ind Elec, University of Minho, Azurem, 4800
		Portugal	Guimaraes, Portugal. Tel: +351 53510190, Fax: +351 53510189
ISIE'97			

FORTHCOMING CONFERENCES, WORKSHOPS AND EVENTS

FORTHCOMING CONFERENCES, WORKSHOPS AND EVENTS

1997	Event	Location	Contact
7–11 July SCI'97	Image Processing and related fields	Caracas, Venezuela	M Bennamoun, Signal Processing Research Centre, School of Elec Syst Eng, Queensland University of Technology, GPO Box 2434, Brisbane, QLD 4001, Australia. Tel: +61 7 3864 1204, Fax: +61 7 3864 1516, m.bennamoun@qut.edu.au
18–20 Aug ICDAR '97 [IAPR]	4th International Conf on Document Analysis	Ulm, Germany´	Daimler Benz Research Center Ulm Wilhelm Runge Str. 11 89081 Ulm, Germany, Tel: +49-731-505-2151, Fax: +49-731- 505-4105, icdar97@dbag.ulm.daimlerbenz.com, http://www.icdar97.dbag.ulm.daimlerbenz.com/, http://www.rtna.daimlerbenz.com/spitz/icdar97.html
22–23 Aug GREC'97 [IAPR]	2nd IAPR Workshop on Graphics Recognition (TC-10)	Nancy, France	Karl Tombre, INRIA Lorraine & CRIN/CNRS 615 rue du jardin botanique, B. P. 101 54602 Villers–les-Nancy Cedex, France. tombre@loria.fr, Tel: +33 3 8359 2071 Fax: +33 3 8327 8319, atul@nynexst.com
24–28 Aug IGS97[IAPR]	Handwriting and Drawing	Genova, Italy	ART Srl PO Box 7026, I-16148 Genova, Italy. Fax +39 10 3532154, http://www.psych.kun.nl/igs
5–9 Sep IWSNHC3DI	Hybrid Coding and 3D Imaging	Rhodes, Greece	M G Strintzis Dept of Elec & Comp Eng, Aristotle Univer- sity of Thessaloniki, PO Box 460, 54006 Thessaloniki, Greece. Tel: +30 31 996351, Fax: +30 31 996342, strintzi@eng.auth.gr, http://uranus.ee.auth.gr/IWSNHC3DI'97/
7–11 Sep NSIP'97	Nonlinear Signal and Image Processing	Mackinac Island, Michigan	E J Coyle, Elec & Comp Eng, 1285 EE Building, Purdue Univ, West Lafayette, IN 47907 1285, USA. Tel: +1 317 494 3470, Fax: +1 317 494 3358, coyle@purdue.edu, http://www.ecn.purdue.edu/NSIP
10–12 Sep CAIP '97 [IAPR]	Computer Analysis of Images and Patterns	Kiel, Germany	G Sommer, Institut fuer Informatik, Christian-Albrechts- Universitaet Kiel, Preusserstr. 1-9, D-24105 Kiel, Germany, http://www.informatik.uni-kiel.de/~caip97/Fax: +49 431 560481, caip97@informatik.uni-kiel.de Tel +49 431 560473
15–17 Sep DAGM'97	19th DAGM Symposium Mustererkennung (Pattern Recognition)	Braunschweig Germany	F M Wahl, Institute for Robotics, Technical University Braunschweig D-38114 Braunschweig Tel: +49 531 3917451, Fax: +49 531 3915696 dagm97@tu-bs.de, http://www.cs.tu-bs.de/rob/dagm97/
17–19 Sep ICIAP'97 [IAPR]	International Conference on Image Analysis and Processing	Firenze, Italy	A Del Bimbo, Dipartimento di Sistemi e Informatica, Uni- versita di Firenze, Via S. Marta 3, I-50139, Firenze, Italy. iciap97@dsi.ing.unifi.it, http://dsi.ing.unifi.it/iciap97/ http://imago.ing.unibs.it/~iapricgb
22–26 Sep EUROPTO	Image and Signal Process- ing for Remote Sensing	London, UK	EUROPTO Direct Communications GmbH, Xantener Str 22, D - 10707 Berlin, Germany. Tel: +49 30 881 50 47, fax: +49 30 8868 2946, 100140.3216@Compuserve.com, http://www.dc-europto.com
14–17 Oct SPIE	Machine Inspection, Intelligent Robotics	Pittsburgh, USA	http://www.spie.org/info/is97.html
20–22 Oct CAMP'97	Computer Architecture for Machine Perception	Boston, USA	M Ferretti DIS Universita di Pavia, Via Ferrata 1, I-27100 Pavia, Italia. Tel: +39 382 505365, Fax: +39 382 505373 http://www.cs.umass.edu/~camp97
3–5 Nov BSDIA'97	Document Image Analysis	Curitiba, Brazil	N A Murshed, Lab of Document Im Anal & NN, Mestrado em Comput, PUC-PR, R Imaculada Conc, 1155, Curitiba, PR 80215- 901 Brasil. Tel: +55 41 330 1668, Fax: +55 41 330 1620 murshed@rla01.pucpr.br
9–12 Nov CVIV	Intelligent Transportation	Boston, Massachusetts	A Broggi, Dip di Ingegneria dell'Informazione, Universita di Parma, I-43100 Parma, Italy. Fax: +39 521 90 5723, broggi@ce.unipr.it, http://www.ce.unipr.it/itsc97, http://www.ieee.org/itsc/itsc97
6–9 Jan 1998 HICSS	Complex Comp Systems	Hawaii	A Broggi (address as above), http://www.ce.unipr.it/hicss

	UN.
ANNER	Brackets (
F	
YEAR AT A GLANCE CONFERENCE PLANNER	Dravious Danorte are chown in Brackete (vo
B	þ
AT A	10 11
YEAR	ccae Dorace 10 11
	0000

Contact Addresses Pages: 10–11 Previous Reports are shown in Brackets (volume, number) • = submission date □= final camera ready copy numbers = actual meeting dates

The views presented in this newsletter represent the personal views of the authors of the respective articles and not of their host Institutes or IAPR.