IAPR

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

NEWSLETTER

Editor

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Volume 17 Number 4   October 1995
Due to unforseen circumstances during production,
the Editor's material has been completed by
the Secretariat,
who would like to accept responsibility
for any errors that may have occurred.

The Editor is always pleased to receive contributions
from Members. Please send her your letters,
comments and information about your local
organisation for publication.

FROM THE EDITOR'S DESK

Dear Everyone

I sometimes receive letters of complaint about the late delivery of the newsletter. I would like to point out that with a few exceptions, the responsibility of the delivery of the newsletter lies mainly with the national Societies of which individuals are members.   We make sure that each issue is prepared and delivered to the National member Societies in time to reach the recipients by the date on the newsletter. The newsletters are sent by airmail through the Royal Mail in the UK in all except one instance, the USA (sent by international carrier due to quantity);   no consignments are sent surface mail. Guaranteed delivery times to different countries vary but are typically 6 days at the longest. It is then the responsibility of the local person or agency that receives these packages to forward the newsletters to the individual members.

And that is when the famous story about four men, Somebody, Anybody, Everybody and Nobody takes place: Somebody had to do the job of distributing the newsletters. Somebody had this responsibility because Everybody thought he was Somebody and not just Anybody. Somebody, however, thought that the job was

Anybody's. Everybody on the other hand thought that Somebody would do it. However, Nobody did it. In the meantime the newsletters were maturing on Somebody's desk and Everybody was waiting for them excited about his participation in the new newsletter competition, (don't forget US$ 20.00 for the first correct solution to the crossword published in the July issue, received by Christmas), submissions to forthcoming conferences and all other wonderful contents of the newsletter.

At the end Somebody thought that the newsletters were taking too much space on his desk and besides, they had matured enough so he made sure they were posted. Everybody got his newsletter well done, five months out of date and was not very pleased. So Everybody complained to the Editor. The Editor then told Everybody to complain to Somebody. Everybody complained to Somebody. Somebody was not pleased and started arguing that the newsletter is not an efficient way of distributing information. Everybody agreed and Somebody was pressing to abolish the Newsletter altogether and replace it by electronic mail. This way Nobody would do the job and Anybody could receive it in time. However, Nobody without access to email could receive it and Everybody with acess to email would receive it whether he was a member of IAPR or not. However, Everybody would have to read it sitting in front of his computer and not at any other place... Nobody would bother with membership of IAPR as Anybody would be like a member.

At this point a god from Olympus mountain appeared in front of Somebody and gave him advice (it always happens in Greek tragedies). Somebody realised that he was not just Anybody, but an officer of IAPR which was about to disintegrate and that he had some responsibility to the members of his Society that elected him. Somebody then put his act together and ever since the newsletters have been delivered on time and Everybody lived happily ever after!

The Happy End!
PS All Greek tragedies have a little exaggeration in them.

Maria Petrou

✏ LETTERS TO THE EDITOR ✏

Dear Dr. Petrou

I would like to announce that the Pattern Recognition Society of Finland has in its Annual Meeting elected Professor Jussi Parkkinen as its president and Professor. Erkki Oja and Professor Matti Pietikainen as its representatives in IAPR for the year 1995. The council of the Society has asked Mr Jouni Haanpalo to act as Secretary. The number of the members of our society at the present time is 220.

Please note below the new Officers' addresses.

PATTERN RECOGNITION SOCIETY OF FINLAND

President:
Jussi Parkkinen, Dept. of Information Technology, Lappeenranta University of Technology, P.O. Box 20, FIN-53851 Lappeenranta, Finland.
Email: Jussi.Parkkinen@lut.fi

Secretary:
Jouni Haanpalo, Laboratory of Information Processing, Lappeenranta University of Technology, P.O. Box 20, FIN-53851 Lappeenranta, Finland.
Email: Jouni.Haanpalo@lut.fi

IAPR Representatives:
Erkki Oja, Laboratory of Computer and Information Science, Helsinki University of Technology, Rakentajanaukio 2 C FIN-02150 Espoo, Finland
Email: erkki.oja@hut.fi

Matti Pietikainen, Dept. of Electrical Engineering, University of Oulu, FIN-90570 Oulu, Finland
Email: mkp@ee.oulu.fi

The Society's address is the same as Secretary's.

Sincerely,

Jouni Haanpalo
Lappeenranta University of Technology, Finland

FUZZY PICTURES
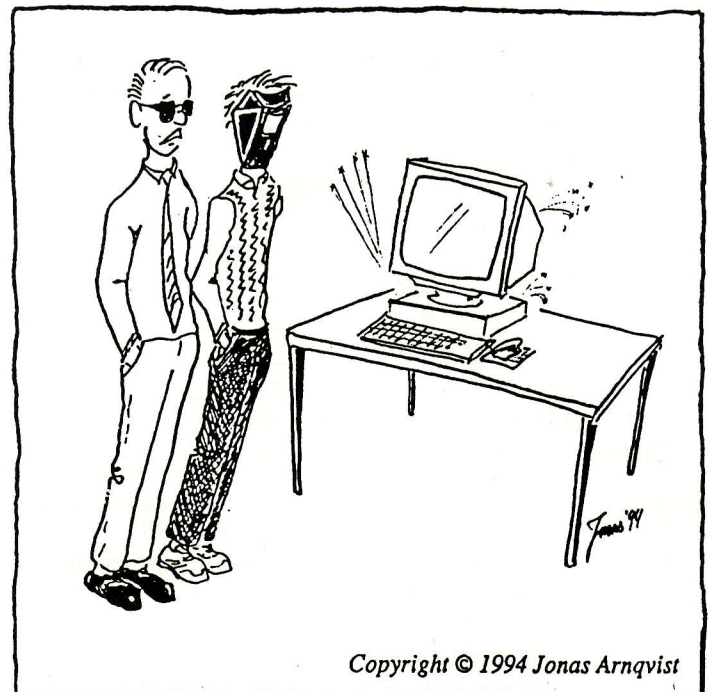
Copyright © 1994 Jonas Arnqvist

They talk about the danger of high emission computers, but what about the risk in these Sparc stations?

CARTOONS
The Editor will be delighted to receive original cartoons for publication

The International Association for
Pattern Recognition
is pleased to announce a
Call for Nominations
for the

1996 KING-SUN FU AWARD

In honor of the memory of Professor King-Sun Fu.

Professor Fu was instrumental in the founding of IAPR, served as its first president, and is widely recognized for his extensive contributions to the field of pattern recognition.

This biennial award is given to a living person in the recognition of an outstanding technical contribution to the field of pattern recognition, and consists of a cash prize and a suitably inscribed certificate. The prize is derived from interest income from a special fund set up for this purpose.

The award recipient will be selected by the Award Committee, subject to approval by the IAPR Governing Board, upon nomination by a member of a national member society of IAPR and by endorsement of at least five members, representing at least two member societies different from that of the nominator's.

Members of the IAPR Executive Committee, as well as members of the Award Committee, shall be ineligible for the award and may not serve as nominators or endorsers.

The 1996 award is intended to be presented at the International Conference on Pattern Recognition, Vienna, Austria 25-30 August, 1996

The nomination must be made on a special nomination form, and must be received by the Award Committee Chairman no later than 15 January 1996. To obtain copies of the nomination form, contact the chairman of the Award Committee:

Professor Herbert Freeman
Chairman, K.S. Fu Award Committee
CAIP Center/Rutgers University
CoRE Building 501
Frelinghuysen Road
P.O. Box 1390
Piscataway
New Jersey 08855-1390
USA

Email: freeman@tesla.rutgers.edu Fax: +1 908 445-0593

PLEASE MAKE THESE AMENDMENTS TO THE IAPR DIRECTORY ISSUED in JANUARY 1995
(amendments in italics)

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Pattern Recognition Society of Finland
Address changes shown on page 2

Please make sure you inform the Secretariat of any alterations or amendments in the IAPR Directory so that we can publish them in this newsletter.

TECHNICAL COMMITTEE 13
The European Astronomy Network Success

THE EUROPEAN SCIENCE FOUNDATION (ESF) scientific network on *Converging Computing Methodologies in Astronomy* has recently made its debut! Following discussions among members of IAPR Technical Committee 13, a proposal was made for ESF support.

Funding, subject to availability, will be used to support: (a) scientific visits of up to a week or two in duration for subsequent workshops and (b) participation at the workshops. Funding requests (in the case of a scientific visit, to include concrete details of the visit, and confirmation by the host partner), should be sent to the network Secretary:Fionn Murtagh, *fmurtagh@eso.org*. A sub-committee of the network's coordinating committee will be deciding upon such requests.

Towards the end of last year, this proposal was accepted. An ESF scientific network provides funding for work visits and workshops over a 3-year period. The scientific network started at the beginning of this year. Among central topics of the scientific network are:

From vision models to image information retrieval: Methods such as wavelets and multiresolution approaches, mathematical morphology and fuzzy methods have proven their worth in the framework of accessing appropriate information from large image databases. Such methods must be moulded together to allow semantically-driven access to data.

The data life-cycle - methodological aspects: The astronomical data life-cycle is highly digital: data capture is increasingly done by CCD electronic detectors, data are subject to image processing and statistical treatment, and the final major stage in this process involves data archiving, and publication. Not surprisingly, the issues of electronic publishing and of digital libraries are increasingly central.

From data integration to information integration: Particular data integration (data fusion) problems, such as integration of data associated with different wavelength ranges, are of great relevance in the context of large space- and ground-based observing projects. E.g. co-addition in image restoration; image restoration and filtering approaches which incorporate semantic information on the cosmic objects of interest; close, complementary use of multi-million object astronomical catalogs; classification of terabyte data collections. Long-term access to stored data - what should be the "future of [society's] memory?". Beyond data, astronomy is all about information. Compression is central - in a broad sense, compression is summarization, and therefore is part of the overall process of scientific analysis.

The first workshop (on the first of the above themes) is currently taking place in Nice, France, organised by Albert Bijaoui; a participation of around 30 is expected.

Further information available on the World-Wide Web:
http://www.hq.eso.org/conv-comp.html

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FOUR JAPANESE IAPR FELLOWS HONOURED
Memorial Invited Talks
Nagoya University
18 May 1995

MEMORIAL INVITED TALKS WERE PRESENTED BY four Japanese Fellows as a joint special session of meetings of the Technical Group on Pattern Recognition and Understanding of IEICEJ and the Special Interst Group on Computer Vision of the Image Processing Society of Japan earlier this year.

Professor Toshiyuki Sakai, Professor Mikio Takagi, Professor Makoto Nagao and Dr Masatsugu Kidode were awarded IAPR Fellowships at 12-ICPR held in Jerusalem in October 1994. In recognition of this achievement the talks were planned for young researchers to have the opportunity of learning the perspectives of great forerunners in the Pattern Recognition and Image Processing field; it was also cosponsored by the Organising Committee of the MVA Workshop.

The titles of the talks were:

Professor Sakai:
Next Stage of Pattern Recognition and New Wave

Professor Takagi:
Earth Environmemntal Remote Sensing and Image Processing.

Professor Nagao:
Image Processing and Multimedia Digital Library.

Dr Kidode:
*Practical Applications of Image Processing and Pattern Recognition.*

Around 150 people gathered to listen to the invited talks and many of them enjoyed a party held after the session, circling around the speakers and discussing the views presented in the talks.

Keiichi Abe
Shizuoka University, Japan

If any other IAPR Fellows have held similar lectures or events please send details to the Editor.
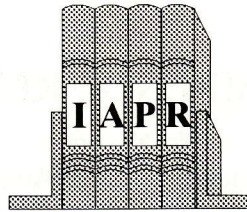
BOOK REVIEWS

Digital Images and Human Vision   Edited by A.W. Watson

MIT Press (ISBN 0-262-23171-9)

ALTHOUGH THE TITLE OF THIS BOOK may initially suggest that a vast breadth of the field is covered, this publication has mainly one dominant theme throughout - image compression. The book is a study of how we can employ what we know about human vision in designing compression algorithms for the purpose of efficient image communication. Application areas that can benefit from such findings are HDTV, multimedia, digital movies, video-conferencing, and many more. The book consists of a collection of fifteen papers grouped under three distinct categories. Associated with each category is a useful, summarising forward. It must be noted that the papers were first presented at a workshop organised by the Committee on Vision of the American National Research Council.

In the first category, entitled "Image Coding and Compression", a variety of approaches to image coding and compression are presented. These consist of local frequency representations, such as Gabor and Wigner, Wavelet-based image coding, vector quantizers, and practical fractal-based compression. The important factor in selecting a representational scheme for image coding and compression is efficiency. The less the number of bits required, the more the image is compressed and thus the more efficient is the representation.

Compression techniques are generally designed to be either lossless or only lossy in a non-destructive, context-preserving manner. Lossless compression in some applications is essential. However, in others, such as video-conferencing, non-destructive lossy compression can be employed since the human visual system can be insensitive to certain image components. Therefore, significant compression ratios can be attained by discarding information that the visual system can not interpret. Such lossy compression techniques are said to be "perceptually lossless" and they are discussed in the second part of the book, "Perceptual Aspects of Image Coding". They range from a number of spatial and temporal aspects of visual sensitivity to investigating the number of bits required for perceptually lossless pixel code. Further work presented includes the compression of motion video (again using the fact that human spatial acuity is reduced for images in motion) and the reasons why remarkably few bits are required to encode colour information.

The third and final part of the book is called "Measurement and Prediction of Visual Quality". We find in this section the incorporation of models of human vision in devising techniques to predict the visual quality of an imaging system before a physical prototype is built. Some of these techniques consist of finding and measuring multiple dimensions of image quality, examination and psychophysical research of viewer's gaze patterns during television viewing, and prediction of visible differences between (digital images of) imaging systems, i.e. physical differences such as incorrect luminances and chrominances.

Digital image communication is one of the most prominent of the new technologies presently involved in the current revolution in the spheres of multimedia and telecommunications. For those working in the area of image coding, compression and quality measurement for image communication systems, this collection of contributions to the field is a must and a convenient reference.

Majid Mirmehdi, University of Surrey, UK

CALL FOR PAPERS
JOURNAL OF REAL-TIME IMAGING
Academic Press
Special-Purpose Architectures for Real-Time Imaging

The TOPICS of this Special Issue include, but are not limited to: Design of application-specific VLSI architectures, Performance analysis and comparison among different architectural solutions, Hardware mapping of parallel algorithms, VLSI architectures for HDTV and image compression, Hardware support for multimedia systems, Vision-based real-time robot and vehicle navigation, Massively parallel architectures for low-level vision, Hardware neural solutions, Experience on highly demanding vision applications.

Prospective authors are encouraged to submit papers with a strong emphasis on the match between the application requirements and the chosen architectural solutions, detailing the ad-hoc hardware enhancements. Papers should describe systems which have been designed for a specific target application or which have proved to be particularly suited for a given task.

Manuscript submission:
*5 copies, full paper (about 15 double-spaced pages) by December 10 to: Alberto Broggi, Dip.di Ingegneria dell'Informazione, University of Parma, I-43100 Parma, Italy. *broggi@CE.UniPR.it*
Information: via anonymous FTP from the host
CE.UniPR.IT in the directory /rti
World Wide Web: **http://WWW.CE.UniPR.IT/rti**

CONFERENCE REPORT
9-SCIA
9th Scandinavian Conference on Image Analysis Sponsored by IAPR
6 - 9 June 1995, Uppsala, Sweden

THE SCANDINAVIAN CONFERENCE ON IMAGE ANALYSIS has successfully reached the 9th edition! I had the chance to attend it and, since I was not presenting any contribution, I could follow it in a more relaxed and continuous way. SCIA is a biennial conference sponsored by the International Association for Pattern Recognition and has gained a well deserved reputation.

The 9th SCIA, was organised by the Swedish Society for Automated Image Analysis. Prof. Per-Erik Danielsson (Linköping University) was the General chair, Prof. Gunilla Borgefors (Swedish University of Agricultural Sciences, Uppsala) was the Program chair and Prof. Ewert Bengtsson (Uppsala University) was the Local chair. The Program Committee included members of the four Scandinavian countries that alternately host the SCIA conference. The conference was attended by about 220 participants, coming from many countries: Australia, Austria, Belarus, Brazil, Bulgaria, Canada, Czech Republic, Denmark, Finland, France, Germany, Hong Kong, Hungary, Israel, Italy, Japan, Macau, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Taiwan, The Netherlands, Tunisia, UK, USA.

Notwithstanding the sunny and warm weather that the organisers were able to order, and the various natural and cultural attractions offered by Uppsala, the participants diligently attended the conference, due to the good balance among interesting scientific presentations and discussions, exhibitions, pleasant coffee or fruit breaks (this was a nice innovation!) and social events.

The program was organised by Prof. Borgefors in such a way that the first presentation of the day was a plenary session devoted to contributions presented by eminent invited speakers, while the remaining time was generally divided into two parallel sessions. Two plenary poster sessions were also organised, each of which having plenty of time for discussions and contacts. The four invited speakers, introduced by Prof. Danielsson, spoke about the fields in which they have made coherent and substantial contributions.

Dr M. Ejiri (Hitachi Ltd., Japan) reported on the work done at Hitachi in the last 20 years and focused on the current state and trends of analytic image processing applications in industry. He pointed out that besides factory automation and office automation, also enhancing the social infrastructures is becoming an important field of application.

Dr H. Maitre (ENST, Paris, France) showed various tools that can be used to model information coming from different sensors in the framework of data fusion, how to combine these pieces of information and, finally, how to take a decision. The two concepts of imprecision and uncertainty were considered as the major attributes of information in the context of image processing.

Prof. A.F.H. Goetz (University of Colorado, Boulder, USA) gave a talk on image spectrometry and reported on the image processing methods that have been used in the last 15 years to effectively extract information from this type of data. Imaging spectrometry in fact provides information that can be more than one order of magnitude larger than the information available in standard multispectral imagery.

Prof. N. Åslund (Royal Institute of Technology, Stockholm, Sweden) spoke about imaging on the cellular level, i.e., on an intermediate level in the biological world. He mainly focused on the techniques based on Confocal microscopy, which he played an important part in developing, and discussed two important objectives: research in cell biology and clinical screening.

THE ORAL CONTRIBUTIONS WERE HOMOGENEOUSLY divided into twenty sessions that covered both theoretical and applicative aspects of Pattern Recognition. The session chairmen were very active in stimulating the discussion and very good in keeping the schedule, thus allowing the audience to switch from one session to the other. The poster sessions were also accurately organised. Posters covering related topics were located in the same area and plenty of space was available for every poster. The program reserved about two hours for each poster session, but longer time was indeed available, since the poster rooms could be visited during one day and a half for each session. A poster presentation competition was also organised to encourage nicely prepared posters. Most authors reacted positively to this competition and so contributed to make the poster sessions more appealing. The winning poster (Automatic Fruit Blemish Detection, by Q Yang, UK) received a nice book of Swedish paintings during the Farewell Lunch.

The conference venue was the Swedish University of Agricultural Sciences. All the rooms were comfortable and well equipped, (I particularly liked the main room), and everything worked smoothly, under the supervision of the Local Chair, Prof. Bengtsson, and with the help of the local crew, (mostly, PhD students of the Centre for Image Analysis, Uppsala). A rich social program was also organised. The Welcome Reception was a picnic at the Botanical Gardens. The sun was shining and the picnic was very pleasant. The conference Banquet was held in a

rather suggestive place: the historic Royal Castle of Uppsala. In particular, the dining room was the one were Queen Kristina abdicated from the throne in 1654. During the banquet, a vocal group gave a performance and Carolus Linnaeus in person entertained the audience. During the banquet, the prize for the best PhD thesis presented in Scandinavia 1993-1994 was given to Haibo Li, Linköping University, for his thesis "Low Bit-Rate Image Sequence Coding". Moreover, the location for the next SCIA was announced: The 10th SCIA will be held in Lappeenranta (Finland) in 1997. (I hope to attend the 10th SCIA as well, to maintain a tradition going on since the 3rd SCIA!).

Finally, the Farewell Lunch was a "smorgasbord". For the non Scandinavians this means a rich table offering in abundance various specialities (salmon, herring, shrimps, different kinds of meat, vegetables and desserts, just to quote the items I personally enjoyed). It was really a tasty way to end a perfectly organised, successful conference!

Gabriella Sanniti di Baja
Istituto di Cibernetica, Napoli

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION CODING OF MOVING PICTURES AND ASSOCIATED AUDIO INFORMATION
Progress on MPEG-4

MPEG (originally, Moving Pictures Experts Group) is a working group operating within ISO (International Standardisation Organisation) and IEC (International Electrotechnical Commission). Since starting its activity in 1988, MPEG has produced ISO/IEC 11172 (so-called MPEG-1) and ISO/IEC 13818 (so called MPEG-2) and among others, plans to finalise the so-called DSM-CC standard protocol for set-top to server and set-top to network dialogue in July 1996.

While its standards are obtaining wide support from both the manufacturing industry and service providers and have actually been instrumental in triggering the digital revolution that is making possible the coming of interactive multimedia for widespread consumer applications, MPEG is turning its attention to more advanced forms of interactivity that technology will make possible in the next few years. This is the objective of the MPEG-4 project whose completion, planned to take place in November 1998, will give users the possibility to achieve various forms of interactivity with the audio-visual content of a scene and to mix synthetic and natural audio and video information in a seamless way.

MPEG-4 technology will comprise two major parts: a set of coding tools for audiovisual objects, and a syntactic language to describe both the coding tools and the coded objects. From a technical viewpoint, the most notable departure from traditional coding standards will be the possibility for a receiver to download the description of the syntax used to represent the audio-visual information, a feature that VLSI technology will soon be able to support. It should be noted also that the audiovisual information will not be restricted to have the format of conventional video, i.e., it will not necessarily be frame-based. The additional degrees of freeeedom that will result from not forcing the data structure of the coded representation of the data to be the same as the data structure of the presentation of the data are expected to produce significant improvements in both efficiency and functionality.

Using the same approach as for the case of the MPEG-1 and MPEG-2 standards, MPEG has recently requested technical proposals in line with the general philosophy described in document WG11 N0998 "Proposal Package Description". A Call for Pre-registration has already produced more than 70 statements of intention to submit a proposal on Synthetic/Natural Audio/Speech or Video Coding. The companion document WG11 N0999 "MPEG-4 Test/Evaluation Procedures", finalized at the 31st MPEG meeting, describes the details of the expected content of submissions and the methodology to be used in assessing their suitability for the intended scope of the MPEG-4 standard. Two kinds of submission are accepted for coding techniques: algorithms for certain functionalities will be subjected to formal testing, while algorithms for other functionalities, and coding tools that may constitute only part of a complete algorithm will be subjected to evaluation by a panel of experts. Also, submission of proposals for syntactic language will be evaluated by experts. This document (w0997.doc) and the two documents referred to above (w0998.doc and w0999.doc) can be obtained in electronic form (Word 6.0 for Windows) from:

name:	wuarchive.wustl.edu
login:	iso
password:	!more!less
directory:	uploads/

Video and audio tapes submitted for subjective testing will be assessed in the two weeks preceding the 32nd MPEG meeting. This meeting will be held in Dallas, TX, USA, on 6 to 10 November 1995. At this meeting both the results of subjective tests and the technical proposals with supporting information will be assessed by MPEG.

The major steps in the MPEG-4 standard development following the Dallas meeting will be the attainment of "Working Draft" level in November 1996 and of "Committee Draft" level in November 1997. International Standard level will be reached in November 1998.

More information can be obtained from
Dr. Leonardo Chiariglione CSELT Via G. Reiss Romoli, 274 10148 Torino ITALY Tel.: +39 11 228 6120 Fax: +39 11 228 6299 Email: leonardo.chiariglione@cselt.stet.it

CONFERENCE ANNOUNCEMENTS

13th INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION - 13-ICPR
25 - 30 August 1996
Vienna Austria [IAPR]

Contributions are sought on new research in all aspects of the broad field of Pattern Recognition. The meeting will consist of four parallel conferences and topics will include:

COMPUTER VISION:
Action Recognition, Active Vision, Analysis of Visual Motion, Biological Models for Machine Vision, Control of Perception, Invariants and Geometry, Learning in Computer Vision, Object Recognition, Real Time Vision, Shape Representation and Computation, Vision Systems that Learn, Visual Computation of Range and Geometry

PR AND SIGNAL ANALYSIS:
Feature Detection, Filtering, Mathematical Morphology, Multiresolution Methods, Signal Coding, Compression, Enhancement and Restoration, Speech Analysis, Statistical and Syntactical PR, Texture Analysis

APPLICATIONS AND ROBOTIC SYSTEMS:
Automation, Image Database Systems, Medical Applications, Mobile Robots, Multimedia Systems, OCR and Document Processing, Quality Control, Range Imaging, Rear-Time Systems, Remote Sensing Applications, Smart Sensors.

PARALLEL AND CONNECTIONIST SYSTEMS:
Associative Memories, Biological Models, Cellular Structures, Highly Parallel Architectures, Learning Systems, Multiprocessor Systems, Multisensor Architectures, Neural Networks, Parallel Algorithms and Languages, Perceptual Models, VLSI Architectures.

Paper submission:
6 copies of paper, not exceeding 15 pages (12pt, 1 1/2 line spacing) to include: name of authro(s), affiliation and email address. The submission should include a summary page answering the following questions:
a. **What is the original contribution of this work?**
b. **What is the most closely related work by others and how does this differ?**
c. **Which track/tracks and topics are most appropriate to this submission?**
Test data available on:
http:/www.prip.tuwien.ac.at/icpr/icpr.html
Send papers to:
13th ICPR'96, c/o AUSTROPA Interconvention, A-1043 Vienna, Friedrichstrasse 7, PoB 30, Austria.
For further information contact the Secretariat:
email: icpr@prip.tuwien.ac.at

Paper submission deadline:	**15 Jan 1996**
Acceptance Notification:	**April 1996**
Final camera ready paper:	**May 1996**

> *The IAPR Governing Board Meeting and Election of Officers will take place during 13-ICPR in Vienna*

SATELLITE WORKSHOPS TO ICPR
Organised by IAPR Technical Committees 7 & 8
2 - 4 September 1996 Graz Austria [IAPR]

IAPR TC-7 - Applications in Remote Sensing

Topics: Methods for Extracting and Mapping Buildings and Roads and other Man-Made Structures from Images.

Submissions: 3 copies 1-3 page abstract to Franz Leberl, Technical University Graz, Institute for Computer Graphics, Muenzgrabenstrasse 11, A-8010 Graz, Austria. email: leberl@icg.tu-graz.ac.at

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IAPR TC-8 - Applications in Industry

Areas of interest include: Integration of sensors and methods, active inspection systems, learning and adaptation of polymorphic modesl, autonomous interaction with a possibly unknown and changing environment. Application-driven contributions dealing with mid- and high-level computer vision are actively ought.

Submissions: 3 copies, 500-100 word extended abstract to Wolfgang Poelzleitner, Jonneum Research, Institute for Digital Image Processing, Wastiangasse 6, A-8010 Graz, Austria. Email: poelzleitner@pbox.joanneum.ac.at

For both workshops (which are simultaneous)

Paper submission deadline:	**31 Jan 1996**
Acceptance notification:	**01 May 1996**
Final camera ready paper:	**02 Sept 1996**

International Workshop on Object Representation for Computer Vision
13 - 14 April 1996 Cambridge UK
(prior to ECCV'96)

Topics: Shape Models, Appearance Models, Functional Models, Object-Class Models, Part Decompositions, Quasi Invariants, Automatic Model Acquisition, Indexing & Recognition, Representational Issues in Applications.

Submissions: 4 copies of paper to:

Europe: Andrew Zisserman , Dept Engineering Science, University of Oxford, Parks Road, Oxford, OX1 3PJ, UK.
USA & Others: Martial Herbert, The Robotics Institute, Carnegie-Mellon University, 5000 Forbes Avenue, Pittsburg, PA 15213, USA

Paper submission deadline:	**01 Dec 1995**
Acceptance notification:	**12 Feb 1996**

NEuroFuzzy'96
IEEE Workshop on Computational Intelligence
16 - 18 April 1996   Prague   Czech Republic

Technical Areas will include: Neural Nets, Learning, Fuzzy Logic, Genetic Algorithms, Robotics etc
Submissions: to address on page 10.

Paper submission deadline:	**06 Nov 1995**
Acceptance notification:	**15 Jan 1996**
Final camera ready paper:	**19 Feb 1996**

20th Workshop of the Austrian P R Society
9 - 10 May 1996   Leibnitz   Austria

Topics: Mathematical Methods and Tools for Pattern Recognition, Robust and Adaptive Methods for Image Understanding, Information Fusion, Physical Models, Navigation, and Spatial Object Recognition.

Submissions: 3 copies, 500-1000 word extended abstract to address on page 10

Paper submission deadline:	**15 Feb 1996**
Acceptance notification:	**01 Apr 1996**
Final camera ready paper:	**09 May 1996**

GKPO'96
4th International Conference on
Computer Graphics and Image Processing
20 - 24 May 1996   Machocice   Poland

Submissions: Three copies of manuscript in English (max 8 pages) to address on page 11.

Articles:	**30 Oct 1995**
Acceptance notification:	**30 Jan 1996**

S/CAR'96
Symposium on Computer Assisted Radiology
6 - 9 June 1996   Denver   Colorado   USA

Submissions: 200-300 words, 2 double-spaced typewritten pages maximum, to address on page 11.

postmarked by:	**15 Oct 1995**

CVPR'96
Computer Vision amd Pattern Recognition
16 - 20 June 1996   San Francisco   California   USA

Submissions: 4 copies, 30 pages maximum, to address on page 11.

Paper submission deadline:	**16 Oct 1995**

TIPMOR '96
5th International Workshop on Time-Varying
Image Processing and Moving Object Recognition
5 - 6 September 1996   Florence   Italy

Submissions: 3-page summary (original and 2 copies) typed, double-spaced on A4 paper, plus one or two figures (if required) to the address on page 11.

Paper submission deadline:	**15 Feb 1995**

1996 International Conference on
Image Processing
16 - 19 September 1996   Lausanne   Switzerland

Topics: General Techniques & Algorithms, Computed Imaging, Image Scanning Display & Printing, Video & Multimedia and Applications.

Submissions: 5 copies 2-3 page summary including figures and reference to address on page 11.

Paper sumbission deadline:	**08 Jan 1996**
Acceptance notification:	**09 Apr 1996**
Final camera ready paper:	**31 May 1996**

EUSIPCO-96
VIII European Signal Processing Conference
10 - 13 September 1996   Trieste   Italy

Areas of interest: Theory of Signals and Systems, Image Processing, Speech Processing, Multidimensional Signal Processing, Implementations, Knowledge Engineering and Signal Processing, Applications.

Submissions: Five copies of 2-page summary (diagrams may be included) with cover sheet to address on page 11. (Further information also from this address).

Summary submission:	**31 Oct 1996**
Acceptance notification:	**29 Feb 1996**
Final camera ready paper:	**30 Apr 1996**

VBC'96
Visualization in Biomedical Computing
22 - 25 September 1996   Hamburg   Germany

Topics: Methods of Image Processing, Image Analysis, Computer Graphics, Virtual Reality, Spatial Knowledge Modeling Applications for Visualisation

Submissions to/information from address on page 11.

ICEVS'96
Third International Conference on
Electronics, Circuits and Systems
13 - 16 October 1996   Rodos   Greece

Topics: Adaptive Filtering, Artificial Neural Networks, Biomedical Systems, Filter Theory and Design, Image Processing, Industrial Automation, Multimedia Systems, Pattern Recognition, Signal Processing, Speech Analysis and Synthesis etc.

Submissions to address on page 11.

Tutorial deadline:	**01 Feb 1996**
Paper submission deadline:	**01 Apr 1996**
Acceptance notification:	**15 Jun 1996**
Final camera ready paper:	**01 Aug 1996**

FORTHCOMING CONFERENCES, WORKSHOPS AND EVENTS

1995	Event	Location	Contact [Sponsor]
9-13 Oct ESSRS II	European Symposium on Satellite Remote Sensing II	Florence, Italy	The Europto Series, Direct Communications GmbH, Att. Ms Susan Jones, Xantener Str 22, 10707 Berlin, FR Germany. (Jones)100140,3214@compuserve.com
22-25 Oct ICIP'95	1995 International Conference on Image Processing	Washington DC, USA	ICIP'95, Conference Management Services, 3024 Thousand Oaks Drive, Austin, Texas 78746, USA. icip95@ieee.org
20-23 Nov SIP-95	Signal and Image Processing	Las Vegas, USA	IASTED Secretariat SIP-95, 1811 W Katella Avenue, Suite 101, Anaheim, California 92804, USA. iasted@orion.oac.uci.edu
5-8 Dec ACCV'95	Second Asian Conference on Computer Vision	Singapore,	Mr Eric Sung, Research Lab IV, School of Elect & Electronic Eng, Nanyang Technological University, Nanyang Ave, Singapore 2263. accv95@ntu.ac.sg [IAPR]
6-8 Dec DICTA'95	Digital Imaging Computing Techniques and Applications	Brisbane, Australia	Ross Walker, DICTA95, C/-Dept Elect and Comp Engineering, University of Queensland 4072, Australia. dicta95@cssip.elec.uq.oz.au
11-13 Dec ICSC'95	Third International Computer Science Conference - Image Analysis Applications and Computer Graphics	Hong Kong	Professor R T Chin, Department of Computer Science, Hong Kong University of Science and Technology, Clear Water Bay, Hong Kong. roland@cs.ust.hk [IAPR]
13-15 Dec ICPIC	Indian Conference on Pattern Recognition, Image Processing and Computer Vision	Kharagpur, India	Dr B N Chatterji, Dean Academic Affairs, IIT, Kharagpur 721 302, India. bnc@iitkgp.ernet.in
1996	Event	Location	Contact [Sponsor}
8-19 Jan ARC'96	Applications of Control and Robotics	Orlando, Fl, USA	IASTED Secretariat ARC'96, 1811 W Katella Avenue, Suite 101, Anaheim, California 92804, USA. iasted@orion.oac.uci.edu
16-19 Jan 4th ICAIA	4th International Conference on Artificial Intelligence Applications	Cairo, Egypt	Prof A Goneid, Department of Computer Science, The American University in Cairo, 113 Kasr Al Aini Street, PO Box 2511, Cairo, Egypt. Goneid@auc-acs.eun.eg
28 Jan-2 Feb MVA-II	Machine Vision Applications in Industrial Inspection 1996	San Jose, CA, USA	IS&T/SPIE E1'96, SPIE, PO Box 10, Bellingham, Washington 98225, USA. abstracts@mom.spie.org
18-21 March ITC	The Impact of Information Technology from Practice to Curriculum	Jerusalem, Israel	Dr D Millin, ITC c/o International Travel & Conferences Ltd, PO Box 29313, Tel Aviv 65121, Israel. millin@netvision.net.il
21-22 March RECPAD'96	8th Portuguese Conference on Pattern Recognition	Guimaraes, Portugal	RecPad'96, University of Minho, Azurem, 4800 Guimaraes, Portugal. recpad96@eng.uminho.pt
9-12 April EMCSR 1996	13th European Meeting on Cybernetics and Systems Research	Vienna, Austria	Robert Trappl, Dept Med Cybernetics & Artificial Int, University of Vienna, Freyung 6/2, A-1010 Vienna, Austria. sec@ai.univie.ac.at
13-14 April Workshop	Object Representation for Computer Vision	Cambridge, UK	Addresses on page 8 for contacts for Europe or USA and Others for this workshop preceeding ECCV'96 below
14-18 April ECCV'96	Fourth European Conference on Computer Vision	Cambridge, UK	ECCV'96 Conference Secretariat, 42 Devonshire Road, Cambridge, CB1 2BL, UK. cc@confcon.demon.co.uk
16-18 April NeuroFuzzy	Workshop on Computational Intelligence	Prague, Czech Republic	Prof Novak, Inst. Computer Science, Academy of Sciences, Pod vodarenskou vezi 2, 18207 Prague 8, Czech Republic. http://crg.eee.kcl.ac.uk/rig/neurofuzzy.html
9-10 May OEAGM	20th Workshop of the Austrian Pattern Recognition Society	Leibnitz, Austria	Axel Pinz, Technical University Graz, Institute for Computer Graphics, Meunzgrabenstrasse 11, A-8010 Graz, Austria. pinz@icg.tu-graz.ac.at

PLEASE INFORM THE SECRETARIAT OF ANY REVISIONS OR ADDITIONS TO THIS INFORMATION
66 WESTON PARK, THAMES DITTON, SURREY KT7 0HL, UK. Email: 100042.511@compuserve.com

1996	Event	Location	Contact [Sponsor]
19-24 May IS&T	IS&T's 49th Annual Conference	Minneapolis, USA	David W Tweeton, 3M Center, 210-3E-04 St Paul, Minneapolis 55144, USA. dwtweeton@mmm.com
20-24 May GKPO'96	4th International Conference on Computer Graphics & Image Processing	Machocice, Poland	GKPO'96, ICS PAS, Ordona 21, 01-237 Warsaw, Poland. wklon@ibib.waw.pl http://www.ipipan.waw.pl/MGV/GKPO96.html
21-24 May VI'96	Vision Interface'96	Toronto, Canada	Professor Wayne Davis, Department of Computer Science, University of Alberta, Edmonton, Canada T6G 2H1. davis@cs.ualberta.ca [IAPR]
6-9 June S/CAR'96	Symposium for Computer Assisted Radiology	Denver, USA	S/CAR'96, Suite 317, 700 N Colorado Blvd, Denver, Colorado, USA. Fax: +1 303 270 6299
16-20 June CVPR'96	Computer Vision & Pattern Recognition	San Francisco, USA	Katsushi Ikeuchi, Wean Hall 4212, Computer Science Department, Carnegie Mellon University, Pittsburg, PA 15213-3891 USA, . ki@cs.cmu.edu
9-19 July ISPRS'96	XVIII International Society for Photogrammetry & Remote Sensing Congress	Vienna, Austria	Peter Waldhausl, Vienna University of Technology, Gusshausstrasse 27-29/122, A-1040 Vienna, Austria. isprs96@email.tuwien.ac.at
20-23 Aug SSPR'96	International Workshop on Structural & Syntactic Pattern Recognition	Leipzig, Germany	Mrs R Vetter, HTWK Leipzig FB Informatik, PSF 66, 04251 Leipzig, Germany. sspr96@informatik.th-leipzig.de
25-30 Aug 13-ICPR	**13th International Conference on Pattern Recognition**	**Vienna, Austria**	**c/o Austropa Interconvention, A-1043 Vienna, POB 30, Austria. icpr@prip.tuwien.ac.at http://www.prip.tuwien.ac.at/icpr/icpr.html [IAPR]**
2-4 Sept	**Satellite Workshops to ICPR**	**Graz, Austria**	**Addresses on page 8 for these two workshops following 13-ICPR in Vienna [IAPR]**
2-5 Sept 5 IWFHR	Fifth International Workshop on Frontiers in Handwriting Recognition	Colchester, UK	Prof S Impedovo, Dipartimento di Informatica, Università di Bari, Via Amendola 173, 70126 Bari, Italy. Fax: +80 544 3142 [IAPR]
5-6 Sept TIPMOR	5th Int Workshop Time-Varying Image Processing & Moving Object Recognition	Florence, Italy	Prof V Cappellini, Dipartimento di Ingefneria Electt., Via di S Marta 3, 50139 Firenze, Italy. cappellini@ingfi1.ing.unifi.it
10-13 Sept EUSIPCO	VIII European Signal Processing Conference	Trieste, Italy	The Office, v.S Nicolo 14, 34121 Trieste, Italy. Fax: +39 40 368808
16-19 Sept ICIP-96	1996 International Conference on Image Processing	Lausanne, Switzerland	Pr. Henri Maitre, ICIP-96/Dept IMA, Ecole Nationale Superieure des Telecommunications, 46 Rue Barrault, 75 634 Paris Cedex 13, France. auric@ltssg4.epfl.ch http://ltswww.epfl.ch
22-25 Sept VBC'96	Visualization in Biomedical Computing	Hamburg, Germany	IMDM, University of Hamburg, Martinstrasse 52, 20246 Hamburg, Germany. vbc96@uke.uni-hamburg.de http://www.uni-hamburg.del-medizin/vbc96
13-16 Oct ICEVS'96	3rd International Conference on Electronics, Circuits & Systems	Rodos, Greece	ICECS Secretariat, EE Department, University of Patras, 26500 Greece. Fax: +30 61 994 798
14-17 Oct SMC	1996 IEEE International Conference on Systems, Man and Cybernetics	Beijing, China	1996 IEEE/SMC Conference Secretariat, Professor Jian Chen, School of Economics & Management, Tsinghua University, Beijing 100084, China. Fax: +86 10 259 5876

13TH INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION SPONSORED BY IAPR
TECHNICAL UNIVERSITY OF VIENNA, AUSTRIA 25 - 30 AUGUST 1996

YEAR AT A GLANCE CONFERENCE PLANNER

Contact Addresses Pages 10, 11   Previous Reports are shown in Brackets (volume, number)

● = submission date   ■ = final camera ready copy   numbers = actual meeting dates

1995: Oct–Dec   1996: Jan–Sept

Conference	Location	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept
ESSRS II	Florence	9-13											
ICIP95	Washington DC	22-25											
SIP-95	Las Vegas		20-23										
ACCV'95(v17 n2)	Singapore	■15		5-8									
DICTA'95(v17 n1)	Brisbane			6-8									
ICSC'95(v17 n1)	Hong Kong			11-13									
ICPIC	Kharagpur			13-15									
ARC'96(v17 n3)	Orlando, Fl	●1	■1		8-19								
4th ICAIA	Cairo	●1	■13	■15	16-19								
MVA-II(v17 n3)	San Jose, CA	●20			28-	2							
ITC	Jerusalem		■15		■15	18-21							
RECPAD'96(v17 n3)	Guimaraes		●3			■2	21-22						
EMCSR 1996(v17 n3)	Vienna							9-12					
ECCV'96 Workshop	Cambridge			●01		■19		13-14					
ECCV'96(v17 n2)	Cambridge	●1			■20	19		14-18					
NeuroFuzzy	Prague			●6		●15		16-18					
OEAGM	Leibnitz					■19			9-10				
IS&T	Minneapolis		●17			■19			19-24				
GKPO'96	Machocice								20-24				
VT'96(v17 n3)	Toronto			●31			■15		21-24				
S/CAR96	Denver			●15						6-9			
CVPR'96	San Francisco									16-20			
ISPRS'96	Vienna										9-19		
SSPR'96(v17 n3)	Leipzig			●1					■20			20-23	
13-ICPR	Vienna				●15				■15			25-30	
ICPR Workshops	Graz				●31			■20				2-4	
5 IWFHR(v17 n3)	Colchester			●11									2-5
TIPMOR	Florence												5-6
ESPC	Trieste	●31						■30					10-13
ICIP-96	Lausanne				●8				■31				16-19
VBC'96	Hamburg												22-25
ICEVS'96	Rodos							●1				■1	
SMC(v17 n3)	Beijing												