36ᵗʰ MEMBER of IAPR - TÖTÝAD
The Turkish Society for Image Analysis and Pattern Recognition

I am sure that all members of IAPR would wish to join me in expressing sympathy to our colleagues in Turkey following the tragedy of the dreadful earthquake which has caused so much suffering. At a time when we should be happy to welcome them as they join IAPR, we can only share in their sadness. *Editor*

Tetrapylon, Aphrodisias, Site of the temple of Aphrodite, Goddess of Love

THE RESEARCH AND DEVELOPMENT POPULATION for image processing and pattern recognition is rapidly increasing in Turkey. Several research labs and centres such as Computer Vision and Image Processing Lab, Multimedia Center, Pattern Recognition and Image Processing Lab, Biomedical Image Processing Lab., were established at various universities and research centres; however, a need for coordinating research activities and disseminating information was existent.

TÖTÝAD, Turkish Pattern Recognition and Image Processing Society was therefore initiated in November 1998 to provide a means for researchers and developers to have cooperation, exchange ideas and share knowledge. The area of interest of TOTÝAD is the disciplines related to the automated analysis and recognition of patterns and images, and their practical application in science, art and industrial technologies.

### The objectives of the Association are:

- Advancement and promotion of research on techniques, methodologies, systems, hardware and software in image processing, computer vision and pattern recognition.
- To bring academic research results to practical applications and developments, promote the use of image processing, pattern recognition techniques in the industrial community
- To provide cooperation channels between researchers and developers of Turkey and other national/international professionals having similar objectives.

Some of the current interests of Turkish Scientists in the areas of pattern recognition and computer vision are: Document image analysis and interpretation, Texture analysis, Aerial image analysis, Medical image processing, Neural networks for image processing and pattern recognition, Industrial application of pattern recognition and image processing, Automated inspection systems, Image compression / video coding, Signal processing.

Members of the Association are in close contact with other laboratories abroad. There exist research links with several universities in Europe and in the U.S. Group members are also engaged in research projects funded by national and international resources such as TUBÝTAK, DPT, NSF (USA) and European Community projects.

Planned activities of the Association include:
1. Organizing scientific meetings such as Int. Symposium on Computer and Information Sciences, Turkish Symposium on Artificial Intelligence and Neural Networks, short courses, tutorials, etc.
2. TÖTÝAD newsletter publication (every six months)
3. Dissemination of information on the activities of related societies, conferences, international research projects, etc.
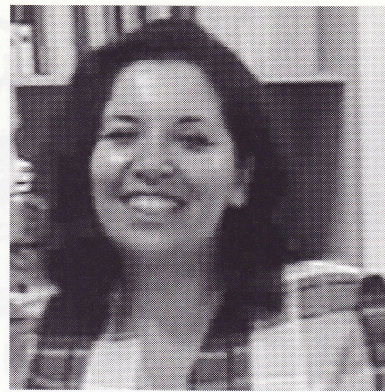
President

TÖTÝAD

Aytül Erçil

We hope that joining IAPR will add new impetus to the research activities in Turkey and the collaboration will be beneficial for both Turkish researchers and all scientific community. Please contact us if you would like further information, or to join, or to plan some joint activity or initiative.

Aytül Erçil ercil@boun.edu.tr
http://iendy.ef.boun.edu.tr/ercil

IAPR FELLOWSHIP SCHEME
Second Call for Nominations - Deadline 15 January 2000

This is a second call for nominations of accomplished members of IAPR for election to the grade of *IAPR Fellow*. The Fellowship Scheme was introduced in 1994 to acknowledge distinguished contributions of IAPR members to IAPR activities and to the running of the Association. Since the inception of the Fellow programme a total of 70 fellows have been elected. The complete list of IAPR fellows is published on the IAPR web site at http://peipa.essex.ac.uk/iapr/fiapr.html. The size of the list which amounts to a small fraction (less than 1%) of the IAPR membership reflects the prestigious nature of the IAPR Fellowship award.

The criteria for election have recently been revised and make it possible for nominees to qualify not only by virtue of their service to IAPR but also by making notable scientific and technological contributions to the field of Pattern Recognition. The nomination procedure has also been simplified and it is no longer required to submit supporting evidence for the contributions made together with the nomination form. However, such evidence must be provided by the nominator if requested by the Fellow Committee.

Although the deadline for submitting nominations (15 January 2000) is still a few months ahead, the completion of the *Fellow Nomination Form* takes a little bit of time and in particular may require some research to be done on behalf of the nominee. It should therefore not be left to the last minute. The form can be retrieved electronically from http://www.ee.surrey.ac.uk/CVSSP/iapr or its hard copy version can be requested from the IAPR Fellow Committee Chairman, (address below). It is hoped that the Executive Committees of IAPR member societies in particular will play a positive role in helping to identify deserving members of IAPR who should be considered for election to IAPR Fellowship.

The nominations received will be processed by the IAPR Fellow Committee whose members are: J Kittler, UK (Chairman), L O'Gorman (USA), V Cantoni (Italy), B B Chaudhuri (India), K Abe (Japan). The candidates qualifying for election will be ranked according to their merit and the top tranche corresponding to a pre-specified maximum number of new awards will be submitted for endorsement to the IAPR Executive Committee. The Fellow awards will be presented at the ICPR in Barcelona at the beginning of September 2000.

Professor Josef Kittler, Chairman, IAPR Fellow Committee
Centre for Vision, Speech and Signal Processing
University of Surrey
Guildford GU2 5XH

FROM THE ExCo

NEW MEMBERS

As a follow up to the news anticipated in the Summer issue of the *Newsletter,* we are pleased to announce two more member associations for the IAPR: the Turkish Society for Image Analysis and Pattern Recognition (TÖTÝAD) and the French Association for Pattern Recognition and Interpretation (AFRIF), who joined the IAPR after a GB ballot with a deadline of June 5, 1999. Participation in the ballot was large and the vote was unanimously in favour. At the ballot time, TÖTÝAD had 33 individual members and its GB representative is Dr. Aytül Erçil; AFRIF had 140 members and its GB representative is Prof. Guy Lorette. The complete addresses of TÖTÝAD and AFRIF, as well as those of their GB representatives, can be found on the IAPR website: http://peipa.essex.ac.uk/iapr/

Thus, IAPR now has 36 member societies, covering a large part of the globe. It is remarkable that the African continent is represented by only one national society, whereas the continent of South America is not represented at all. Comparing this with lists of participants of IAPR sponsored conferences, it would seem that there is room for further expansion. Apparently there are researchers there working in the field of Pattern Recognition and Image Processing and we should try to encourage them to join.

TECHNICAL COMMITTEE 6

In response to our call for help to find a suitable chairperson for IAPR TC6, *Special Hardware and Software Environments*, we received a few suggestions from GB representatives. Prof. Masatoshi Ishikawa has been approached first and has agreed to chair TC6. We do thank those GB representatives who came up with suggestions. We will certainly keep the names of suggested persons, to be considered for future occasions. The address of Prof. Masatoshi Ishikawa is: Department of Mathematical Engineering and Information Physics, Graduate School of Engineering, University of Tokyo, Hongo 7-3-1, Bunkyo-ku, Tokyo 113-8656, Japan (ishikawa@k2.t.u-tokyo.ac.jp). We encourage *Newsletter* readers whose activity is in the scope of TC6 to contact Prof. Ishikawa.

C&B AND LISTS OF MEMBERS

As anticipated in the Spring issue of the *Newsletter*, we have now formally requested (by December 31, 1999), the English version of the C&Bs of all National Associations. An important argument for collecting copies of the C&Bs of all National Associations is that IAPR is determined to ensure that its member associations do not introduce any rules and regulations which are contrary to the spirit of IAPR.

Certainly, changes could not be meaningfully assessed unless we have the full document on file.

Another important item related to IAPR Membership concerns the fact that individual members are not all known to the IAPR, which is a rather singular case for an association. The only names currently available to the IAPR are those of members of National Associations who opted for the individual distribution of the Newsletter. There are, indeed, also a few National Associations who provide their lists of individual members on their association webpage. We need to be able to check the status of National Associations for purposes of determining membership categories and the number of newsletters to be sent. Therefore, as was anticipated in the *From the ExCo* reports in the Spring and Summer issues of the *Newsletter*, all National Associations have now been formally asked to provide their updated lists of members (including only names and affiliations), by December 31, 1999. These lists should be updated every 2 years.

WEBPAGES & MEMBERSHIP CARD

Once more, we strongly recommend National Associations to prepare a home page of their society or, if they have already done so, to provide the URL to Michal Haindl, chairman of the Publications & Publicity Committee (haindl@utia.cas.cz), so that he can link the page to the IAPR webpage. A link to 17 out of 36 members is currently available.

Finally, we suggest National Associations issue a membership card to each individual member, as some associations already do. Upon payment of the yearly subscription, individual members could be sent a card printed with the name of the association, name and affiliation of the individual member and the year. One of the advantages for individual members could be that they benefit from reduced registration fees for IAPR sponsored conferences, on presentation of their membership card. For early registration, a copy of the card could be mailed to the conference secretariat, together with the registration application. Indeed, the ExCo and the Conferences & Meetings Committee generally encourage organizers of IAPR sponsored conferences, and in particular the ICPR organizers, to implement a differentiated fee structure and to offer to individual members of IAPR National Associations a reduced fee. We plan to make this a condition for IAPR sponsorship in the future. This issue will be on the agenda of the next Board meeting in Barcelona.

EXCO MEETING

We inform you that an ExCo meeting will be held on September 21, 1999 in Bangalore, during ICDAR'99. Among other items, the agenda of this meeting includes discussion on the activity of Standing Committees and Technical Committees. For this purpose, activity reports have been requested from the various chairpersons.

Edzard S. Gelsema
Gabriella Sanniti di Baja

FROM OUR OWN CORRESPONDENTS

From the Nordic Area Coresppondent
Gunilla Borgefors

BEST NORDIC THESIS AWARD 1997/98

The *Best Nordic Thesis Award* was given for the fourth time during the 11th Scandinavian Conference on Image Analysis (SCIA) in Kangerlussuak, Greenland in June this year. This Award series is a result of the closer co-operation between Nordic IAPR member societies that started in the 1980s. The idea is to encourage good theses in image analysis and pattern recognition and also to spread information about such good works. All theses defended during the two years before each SCIA can enter the contest. In the first step, the National societies nominate what each sees as the best two theses from their own countries. In the second step, these theses are sent for review by the other three Nordic countries. Each thesis thus gets three reviews, and the one that has the best overall results becomes the winner.

The award is traditionally announced and delivered at the SCIA conference dinner and consists of a nice plaque, lots of honour, and 10,000 kroner (Danish, Norwegian or Swedish depending on where the SCIA is held - if in Finland the amount in mark must necessarily be smaller. Thus it is most financially advantageous to get the award when SCIA is held in Denmark.).

The three first "Best Thesis" awards went to Jonas Gårding, Stockholm(1991-92), Haibo Li, Linköping (1993-94), and Kalle Åström, Lund (1995-96) (the present Swedish President), respectively. The announcement of the 4th was eagerly awaited at the Polar Bear Inn on the evening of 10th June. This year, for the first time, all eight nominated theses had been on display at the conference centre, which was very nice, as everybody could have a guess at who it would be and also get an idea of the best Nordic work since last time.

This year's winner was Aapo Hyvärinen from the Neural Networks Research Center, Laboratory of Computer and Information Science at the Technical University of Helsinki, Finland. This Centre is headed by K.S. Fu Award winner Prof. Teuvo Kohonen. The title of the thesis is "Independent Component Analysis: A Neural Network Approach". Aapo Hyvärinen studied mathematics and statistics at the universities of Helsinki, Vienna, and Paris, obtaining his Master's degree at the University of Paris-Dauphine in 1994. He studied for the Ph.D. degree in Helsinki and graduated in 1997. The thesis focuses on the recently developed linear transformation method for multivariate data called *independent component analysis* (ICA). In ICA the desired representation of the data is the one that minimises the statistical dependence of the components of the representation. Such a representation seems to capture the essential structure of the data in many applications. In the thesis, the problem of estimating the ICA transform is considered, using the paradigm of artificial neural networks. Currently Aapo Hyvärinen is working as a post-doctoral fellow at the Neural Network Research Center. His research interests include independent component analysis, sparse coding, and the visual system.

Unfortunately, Aapo Hyvärinen was not present at the Polar Bear Inn, but the award was entrusted to his supervisor Prof. Erkki Oja (who has served long as IAPR Governing Board representative for Finland).

Gunilla Borgefors
gunilla@cb.uu.se

From the East European Region
Professor S Ablameyko

AN UPDATE - 5 YEARS ONWARD

More than five years have passed since the publication in the IAPR Newsletter in 1994 of my article describing what was happening in the East European region. As you probably remember, I wrote that in 1992-94 there was a big decline in science and technology that led to a big reduction of scientific organisations and scientists. The changing environment forced us to adapt to international rules and to use them in our scientific/industrial life. This led to the appearance of new forms of technology and product development based on international collaboration. In this article I would

like to report what is the situation now and what changes were made. I will consider science and the software industry and show how they have now developed.

First of all, there is now more optimism than there was 5-6 years ago although the crisis in August 1998 gave many problems. 1996 was the last year of decline (the lowest point) for many East European (EE) countries and 1997 showed positive signs in most countries. Central European countries started their growth even earlier.

SCIENCE

As I wrote before, scientists made big changes by working at the international level and showing their results to the world scientific community. Some groups have been more successful than others but practically all of them understand this necessity. It has not been easy because it is very difficult to study the English language or to present results in a foreign language (especially when not of a young age).

Examples of strong groups are those led by Prof Yu. Zhuravlev (Moscow), Prof V .Soifer (Samara) and Prof Yu. Vasin (N. Novgorod, Russia), Prof T. Vintsyuk and Prof M. Shlezinger (Kiev, Ukraine) and Belarusian groups led by Prof S. Ablameyko, Prof R. Sadykhov, Prof V. Krasnoproshin, and Prof V. Shmerko.

Let me take as an example my own institute - Institute of Engineering Cybernetics (IEC), Belarusian Academy of Sciences and my laboratory - Laboratory of Image Processing and Recognition (LIPR). The Institute passed through a transition period without large losses, reoriented its structure, introduced new rules and now works successfully. My laboratory, with a staff of 15, actively participates in international collaboration. We have various projects funded from Belarus and other countries. There are projects funded from the European Commission. We have strong links (papers and projects) with research organisations from Italy, Germany, UK, France, Sweden, Korea, Japan, and Austria. Apart from the above mentioned projects, LIPR had grants from the UK Royal Society, NATO/CNR Italy, Spanish Ministry of Science and Education, German Academic Exchange Service (DAAD), UK Engineering and Physical Sciences Research and the Turkish Ministry of Science and Technology. Every year 7-8 of our members visit other groups and around 10 foreign researchers come to us.

We publish around 50 papers every year and more than half of them are in English in proceedings of international forums and international journals. Two books were published last year by international publishers and several by national ones. We work as members of programme committees of many international conferences held in USA, Japan, Germany, Italy and other countries. Laboratory staff are members of editorial boards of two journals and regularly review papers for various international journals including IEEE Transactions on SMC, Image Processing and Signal Processing, IEE Proceedings, Pattern Recognition Letters, JVCIM, Signal Processing, Image and Vision Computing, etc.

During the last 3-4 years the staff situation was also stabilised. Now there is practically no movement in/from research institutes. However, the main remaining problem is the still very small salaries (around 80 US$ for senior researchers) and an absolute lack of money for visits/exchange. All our visits are performed by using external (outside of Belarus) funding. Summarising the situation in science, we can say:

- *The number of scientific directions have been reduced when compared with 6-7 years ago and research organisations now develop the directions where they are strong or where there is a demand from industry.*
- *Most research groups try to work at an international level that is very important for them and is also usually required by their headquarters (governmental bodies, Academies, etc.).*
- *Traditional Russian mathematical culture is still preserved at a high level that is reflected in many journals and publications on these topics.*
- *Lack of money prevents the organisation of and participation in international conferences, societies, and events. We do hope for understanding of this situation from the international community.*

SOFTWARE INDUSTRY

Here we can also see positive signs. Generally, Russian software companies grow and become more competitive although it is quite a long process. Let me take as an example the area of Geographical Information Systems and more precisely input of maps into computers (I work in this area). Several reviews were published on commercial systems in image vectorization showing that the Russian market accumulated more systems than any other part of the world. This is explained by two main reasons. The main developing period of GIS technologies in USA and Western Europe was in the time when scanning technology was very expensive and used quite rarely. That is why the main input of cartographic data was made by digitizers. On the other hand, Western countries use much more often the technology of map digitizing and updating on the basis of remote sensing images obtained from the air or from

satellites. In Russia, the main interest in GIS technologies was during recent years when scanning technologies and scanners became inexpensive and often used. Systems for image processing and vectorization were developed early and their transference into PC computers was made very quickly. Together with the fast growth of GIS systems, scanning technologies became very popular and have now become practically the main form of map input in Eastern Europe. There are many Russian-based image vectorization systems that are successfully used for map input.

An example of a successful software company is a joint venture between IBM and the Research Institute of Computers (Minsk) - IBA. It was created in 1993 as a small firm with the aim to adapt IBM products for the Russian market. After the first products, the company began to perform more complicated contracts. At present, IBA has 300 employees with the following main types of activity: software development; software and hardware marketing in East European countries; assembly of ES9000 and PCs and others. The IBA staff works in the areas of creating software for AS/400 and RISC/6000 computers, database creating, Lotus Notes projects, telecommunication tools and others. One third of the entire staff is permanently away on business trips in the USA and European countries.

Summarising and speaking about the current state of the software industry in Eastern Europe, we can extract the following directions of its development:

- *Development of problem-oriented software systems in Research Institute, Universities and Companies (much cheaper than in the West and usually with the same or even higher quality).*
- *Adaptation and documentation (in Russian) of licensed western software systems and their marketing.*
- *Adaptation and documentation (in Russian) of licensed western software systems and their marketing.*
- *Adaptation and integration of western software products in complex industrial information systems with their further development.*
- *Quite a small part of our own original software systems are competitive in the world software market.*
- *Filling a world database with information.*
- *Development of service, consulting, publishing in the software industry.*

Of course, the Russian software market is not as well developed as it should be but there are positive signs of development and we hope for further successful growth.

*Sergey Ablameyko*
abl@newman.bas-net.by

The International Association for Pattern Recognition has announced a call for nominations for the 2000 King-Sun Fu Prize. The prize honours the memory of Professor King-Sun Fu, who 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.

The prize, which is the premier award in the field of pattern recognition, is given biennially to a living person in recognition of a technical contribution of far-reaching significance and impact on the field of pattern recognition or its closely allied fields made at any time in the past. It consists of a cash amount and a suitably inscribed plaque. Past recipients of the prize have been A. Rosenfeld (1988), R. Kashyap (1990), L. Kanal (1992), H. Freeman (1994), T. Kohonen (1996), and J.C. Simon (1998).

The 2000 prize is intended to be presented at the International Conference on Pattern Recognition in Barcelona, Catalonia, Spain, scheduled for 3-8 September 2000. The nomination must be made on a special nomination form, and must be received by the K.S. Fu Prize Committee no later than **15 January 2000**. For further information and to obtain copies of the nomination form, write or send a fax or email to:

Dr. Azriel Rosenfeld
Chairman, K.S. Fu Prize Committee
Center for Automation Research
University of Maryland, College Park,
MD 20742-3275 USA

Email: ar@cfar.umd.edu
Fax: 1-301-405-4526
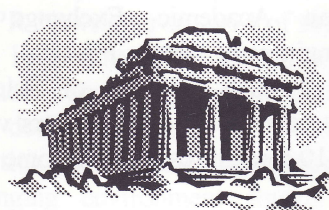
FORUM

Pressure on space in this issue meant that we had to hold the Forum article, *Publish or Die*, until the Winter edition.

WELCOME BACK TO FRANCE

IAPR

Representative

Guy Lorrette

AFCET was a scientific society covering a very broad scope of research domains. Until 1997, the French member of the IAPR was a mere sub-group of AFCET, more precisely its "pattern recognition and artificial intelligence" technical committee. Then, AFCET ceased to exist, and hence France was no longer officially represented in the IAPR.

In France, we have a very active research community in pattern recognition, image processing and computer vision. The main research groups are affiliated with universities, engineering schools, CNRS (National Centre of Scientific Research) and INRIA (French National Institute for Research in Computer Science and Control). At the 11th RFIA (the French Pattern Recognition and Artificial Intelligence conference), several researchers met together and decided to create a new society. In May of this year, AFRIF (French Association for Pattern Recognition and Interpretation) was officially created. It has now more than 140 members, a governing board of 17 and an executive committee.

President

Marc Richetin

AFRIF decided to pursue AFCET's activities by taking over the organization of the RFIA conferences, in co-operation with AFIA (French Association for Artificial Intelligence). These conferences have existed since 1978 and represent the main event for both societies. In January 1998, the last of these conferences was held in Clermont-Ferrand and was attended by more than 260 researchers of both research domains. The next one, 12th of the series, will be held in Paris in February 2000; more information about this event is available at the URL: http://www.tsi.enst.fr/rfia2000/

AFRIF also plans to have its own web site in the future.

AFRIF is also one of about twenty founder societies of a new federal structure covering a larger scientific area in computer science in France: ASTI (Society for Information Sciences and Technologies).

Vice-President

Karl Tombre

General Secretary   Jaime LOPEZ KRAHE
Treasurer   Saida BOUAKAZ
Assistant General Secretary   Nozha BOUJEMA

TECHNICAL COMMITTEE 15
GRAPH-BASED REPRESENTATIONS

Following our report (Vol 21 No 3) on the 2nd IAPR TC15 Workshop on Graph-based Representations we would like to discuss some of the issues raised. Graph problems treated in the workshop can be divided into 5 major categories:

1. Matching. Two different sub-cases are distinguished:
a) Graph matching: graphs are used to model the data and the problem is to find a matching between different graphs (exact or inexact isomorphism, sub-graph isomorphism, etc.)
b) Matching using graphs: graphs are used to model a complex (non univocal) matching between objects.

2. Synthesis or compaction of the information provided by n graphs: definition of the mean graph of n graphs, learning prototypes for a collection of graphs, represent the evolution of a graph through time. Hereafter, this category is referred to as Graph Synthesis problems.

3. Data Clustering using graphs or Clustering of Graphs. The latter is also related to Graph Synthesis problems.

4. Graph Contraction. Duality and Pyramid techniques for segmentation.

5. Graph Representations find powerful coding of a graph to efficiently solve algorithmic problems. Combinatorial maps, 3D Topology, RunGraphs, Hamming distance, Efficient matching by translating algorithmic complexity to the preprocessing step. We place here the related question: which kind of graph to use for a specific problem (Graphs or Hypergraphs)?

After GbR'97, graphs methods and applications were classified into three categories depending on the size of the graphs (e.g. <100, 1000, 10000) they were dealing with. This can be refined now observing that people present at the workshop usually don't work with only one graph but use at least two graphs for matching problems and up to an arbitrary number of graphs for graph synthesis problems. Yet, the size and even the nature of the different graphs involved can be very different (e.g. image primitives graph and model graph for matching).

We thus propose to divide the problems into homogeneous (all the graphs involved are equivalent) and heterogeneous problems. Thus for example almost all graph synthesis problems are fully homogeneous (except where graphs are ordered with time). At the opposite, graph matching problems are generally highly heterogeneous (huge data graph vs. small model graph(s)). Which size should be considered then? This question is strongly related to tractability problems often involved in Graph Theory.

Our next workshop will take place in Italy. We all agreed that organising a biennial workshop is not enough to justify the IAPR partnership. We must show that this TC highly contributes to collaborations between research groups involved in this community. Some joint papers arising from collaborations between different labs will already appear in the proceedings of GbR99 but we think that we have to emphasise this particular point. Our hope is that the third of the papers presented in the next workshop will arise from collaborations between different labs. Of course this also means that we should intensify the fruitful exchanges of students and researchers started during the past two years. In the same approach as the benchmarking work, we also agree to focus on some special *challenges* which can help our community to federate its research. These challenges are as follows:

Strategies for matching graphs having large set of nodes. Very powerful tools already exist for matching graphs. However, due to their complexity, these algorithms cannot be used for graphs having very large set of nodes (say more than 1000). Because we cannot change these tools, we can work on the *data*, i.e. the graph. The goal of this *challenge* is to propose new strategies involving graph reduction, stochastic or heuristic sampling.

Increasing the "intelligence" of a pixel-based graph. When working with image based features, we often end up with a RAG-like graph which is very useful for image analysis but not for image and pattern recognition because it takes only into account very rough relations. How can we enhance such a graph without loosing of course its main properties?

Benchmarking. This topic is of importance if we want to take into account the mistakes we made in the past with the researches on edge detection (some many new

optimal edge detectors have been invented only because no tools were available to make them compete or just compare and classify based on real data). M. Vento and H. Bunke will soon propose the way we can achieve this.

n-D representations. Graphs can be use for image feature representation, and mainly in a 2D space. We can also mention some works on 3D representations. What about 4D? Are graphs a useful representation for temporal data?

As these challenges are up to now only titles, we invite you to contribute to their more detailed definitions using our mailing list [tc15@rfv.insa-lyon.fr]. Progress on these topics will be made available through our web page (you can already have a look to the new version of the TC15 web page at http://rfv.insa-lyon.fr/TC15).

<div align="right">

Jean-Michel Jolion
INSA France
Chairman TC15

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Technical Committee 9
Call for Participation
Biomedical Applications

The IAPR Technical Committee 9 on Biomedical Application has been revived after a long period of hibernation. A steering group of active members has been formed, consisting of:

|	
Prof. M.H. Loew	(Washington, DC, USA)
Prof. F. Pernus	(Ljubljana, Slovenia)
Prof. H.S. Stiehl	(Hamburg, Germany)
Prof. M.A. Viergever	(Utrecht, Netherlands)
Dr. K.L. Vincken	(Utrecht, Netherlands)

The following activities were initiated this year:

- Creation of a TC9 homepage with links to the sites of TC9 members, and to lists of relevant conferences and courses. [http://www.isi.uu.nl/IAPR.TC9]

- Organization of the Workshop on Biomedical Image Registration, 30-31 August 1999, Bled, Slovenia [see http://biprog.fe-uni-lj/si/wbir99]

- Editing of the book *Performance Characterization and Evaluation of Computer Vision Algorithms*, with a significant fraction of biomedical applications. The book will be published this year by Kluwer Academic Publishers.

TC9 aims to be a platform for all biomedical applications of image analysis and pattern recognition. The scope of the acquisition modalities comprises X-ray based techniques including CT and DSA, MR imaging and spectroscopy, acoustic and ultrasound techniques, radionucleide imaging including SPECT and PET, microscopic modalities as EM and CSLM, electromagnetic signal and imaging techniques including EEG, MEG and EIT, as well as optical and infrared imaging and spectroscopy. From a methodical point of view, activities in the entire scala of image reconstruction, multimodality registration, image processing, analysis, visualization and evaluation are welcome.

We encourage IAPR members who are working in biomedical applications to participate in TC9 by emailing to Dr Koen Vincken [koen@isi.uu.nl], who will act as secretary. We will add your name and coordinates to the TC9 membership list, and provide a link to the webpage of your institute or group. If you are interested in playing an active role in TC9, e.g., by organizing a workshop or a summer school, setting up a reference database for algorithmic evaluation, or compiling a literature list, please indicate this. We will be happy to support such initiatives.

Finally, we encourage you to submit papers on biomedical applications to ICPR 2000. It is our objective to have a good representation of TC9 at the conference in Barcelona.

<div align="right">

Max A. Viergever
Utrecht University
Chairman, TC9

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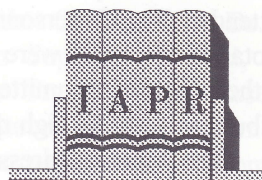
BOOK REVIEWS

Copies of books for review in the Newsletter should be sent direct to the Book Reviews Editor:

IAPR Book Reviews Editor
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IAPR SPONSORED MEETING REPORTS

Pattern Recognition in Practice (PRP-VI)
Vlieland   2-4 June 1999

The 6th conference on Pattern Recognition in Practice was held for the third time on the island of Vlieland in the Netherlands.   Sponsors of the conference were IAPR and the Dutch Association for Pattern Recognition and Image Processing (NVPHBV).   Conference chairmen were Edzard Gelsema and Laveen Kanal, and the program committee consisted of Terry Caelli, Bob Duin, Edzard Gelsema, Anil Jain, Laveen Kanal, Padhraic Smyth, and Jifke Veenland.
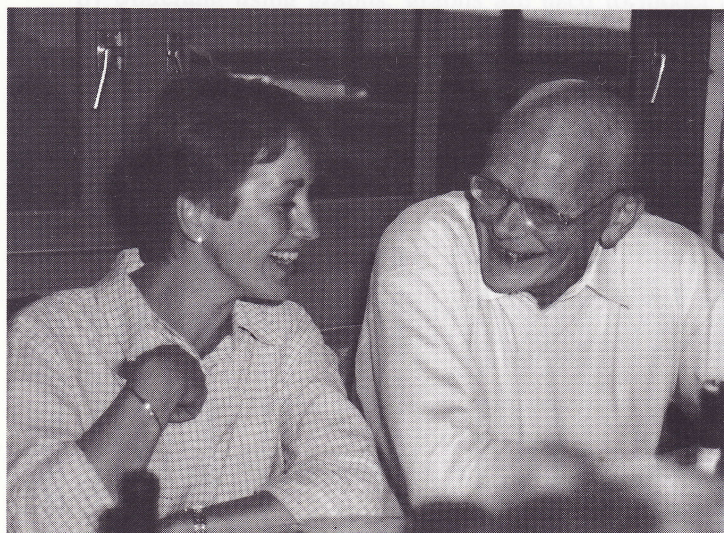

Edzard Gelsema, Chairman PRP-VI and
Rosa Scholte, Head of the Organising Secretariat

The conference was attended by 57 persons from 17 different countries. A total of 47 papers were presented. They were selected by the program committee from 82 submissions. All contributions were of high quality and previously unpublished. The topics addressed by the conference included, among others, shape, 3-D objects, low level processing, texture, statistical pattern recognition, Bayesian networks, machine learning, string and graph matching, character recognition, document analysis, retrieval, fusion and multiple experts, and remote sensing.

PRP-VI was organized as a single-track conference with oral presentations only.   There was ample time for questions and discussion. Discussions were taped and transcribed during the conference. The transcriptions will be included in the proceedings, which are scheduled to appear as a special issue of *Pattern Recognition Letters* in November 1999.

The conference was superbly organized. It provided an excellent opportunity to get an overview of the latest developments in pattern recognition with a particular emphasis on applications in various areas.   The attendees not only benefited from the high scientific quality of the meeting, but also enjoyed the friendly atmosphere and pleasant surroundings of Vlieland.

Personally, I tremendously enjoyed jogging along the seemingly endless beach (yes, there was time left for that, and I didn't need to sneak out of the lecture room). Another highlight on the social side was the conference banquet, which was actually a barbecue on the beach. It started with a glass (or more) of "Vlielandbitter", a liquor, which is a local speciality of the island. Then we had plenty of superb food. And in the end, we were entertained by the "Vlielander Zeemanskoor", the local sailors' chorus.   The absolute highlight of their performance was the last song, for which they were joined by Edzard Gelsema. (I hope that Edzard will stay with our community and not eventually become a musician, because I vividly remember him also performing with the Gundaguys Bush Band at the ICPR in Brisbane last year!)
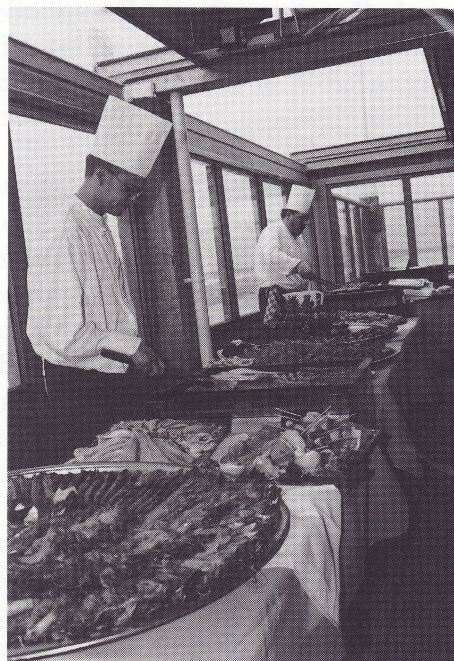
Barbecue

Preparation

PRP-VI was an ideal occasion to meet old friends and to make new ones. The participants are very much looking forward to coming together again at PRP-VII, which is tentatively planned to be held on the island of Vlieland in June 2001. And we hope to see many new attendees too.
Horst Bunke, Switzerland

11th Scandinavian Conference on Image Analysis

Kangerlussuak Greenland

7-11 June 1999

Delegates visit the Inland Ice

Where can I meet the musk-oxen?
How do I get to the Inland Ice?
Where can I see seal flensing?

These were some of the most frequently asked questions at the 11th Scandinavian Conference on Image Analysis, with the theme *Bridging Continents and Millennia*. 165 Image Analysis researchers, representing 19 nationalities, spent a memorable week in this unusual setting - a setting where the scientific and the social programs became intertwined. Delegates listened to lectures - 112 Contributed and 6 Invited, participated in poster dialogues, had breakfast, lunch, and dinner together - true interaction. Everybody joined the social programs, and since the sun never set, the days were long. After dinner many delegates and their accompanying persons took off for a bicycle ride, a helicopter tour to the Inland Ice, (as seen above) or went for a hike in the surrounding mountains. The venue was Kangerlussuak Conference Center - a modern up-to-date facility manned by a most helpful and friendly staff.

This IAPR sponsored Conference was hosted by The Pattern Recognition Society of Denmark represented by its Chairman, Professor Knut Conradsen of the Section for Image Analysis, Dept. of Mathematical Modelling, Technical University of Denmark; Program Chairman was Associate Professor Bjarne Ersboell, also from the above Image Analysis Section; General Chairman was Professor Peter Johansen, the Computer Science Dept. of the Copenhagen University. The answer to who actually should have credit for launching the idea of holding the Conference in Greenland is blowing in the wind. At least half a dozen people claim it was their idea - again emphasizing what a great conference it was!

SCIA99 was fortunate in having been able to attract, *inter alia*, the following speakers:

Professor Nicholas Ayache from INRIA, France, who gave a lecture on Medical Image Analysis and Surgery Simulation: Recent Advances and Perspectives; Professor Stuart Geman from Brown University, Rhode Island, USA, who spoke about Hierarchy in Machine and Natural Vision; Dr. Jos P. Mallant, Elexso Sortiertechnik, Hamburg, Germany, lectured on Visual Inspection in the Food Industry and Professor Brian Ripley, University of Oxford, U.K., gave a talk entitled Statistical Considerations in Magnetic Resonance Imaging of Brain Function. Furthermore, Brian Ripley kept about 25 delegates very busy and involved during a two-day Workshop on Statistical Image Analysis preceding the Conference. Dr. Antti Soini, Finnish Automation Support, Helsinki, Finland, spoke about Technology Transfer from Research to Industry and Professor Steven W. Zucker from Yale University, USA, spoke to the audience about Complexity and Confusion in Computational Vision. Looking at the last few SCIAs, subjects like: *contents based search in image databases*, *deformable models* and *medical imaging* (especially *brain imaging*) seem to be on an upward trend. On a downward trend, one might mention subjects like: *character recognition* and computer vision subjects *like shape from X*.

Proceedings: Vol 1 Oral Presentations, vol 2 Poster Presentations (ISBN 87-88306-42-9) available from The Pattern Recognition Society of Denmark, Dept. of Mathematical Modelling, bldg. 321, Technical University of Denmark, DK-2800 Lyngby [hw@imm.dtu.dk] *Helle Welling, Denmark*

FORTHCOMING IAPR CONFERENCES WORKSHOPS AND EVENTS

Please check updated information on: **http://peipa.essex.ac.uk/iapr/**

1st International workshop on Pattern Recognition in Remote Sensing (PRRS) - Sponsored by IAPR-TC7

1 September 2000 - Andorra la Vella, Andorra

Papers are invited for the first International workshop on Pattern Recognition techniques in Remote Sensing to be held prior to ICPR 2000 in Barcelona. The papers will be published in the workshop proceedings, and a selected number in a special issue of Pattern Recognition Letters. The workshop fee is 80 US$, including a copy of the proceedings, lunch and coffee breaks.

Submit 4 copies of a no more than 10 page paper (A4 double spacing) to:
Prof M Petrou (PRRS),
School of Elec Eng, University of Surrey,
Guildford, GU2 5XH, United Kingdom
[m.petrou@ee.surrey.ac.uk]

Submission deadline:	March 31, 2000
Notification of acceptance:	May 15, 2000
Camera ready copy:	June 30, 2000

15 ICPR 3-8 September 2000 Barcelona, Spain

Please note: _Submission Date Changes Below_ - full details: **http://www.cvc.uab.es/ICPR2000**

				1999	2000	1999
1999						
4-8 Oct 3DIM'99	Second International Conference on 3-D Digital Imaging and Modelling	Ottawa Canada	Abstract: Final Manuscript:	05/03/1999 11/06/1999		Fax: +1 613 952 0215 pierre.boulanger@iit.nrc.ca, http://www.vit.iit.nrc.ca/3DIM99
28-31 Dec ICAPRDT'99	4th International Conference on Advances in Pattern Recognition and Digital Techniques	Calcutta India	Abstract: Final Manuscript:	15/07/1999 15/10/1999		Fax: +91 33 577 6680 icaprdt99@isical.ac.in http://www.isical.ac.in/~icaprdt99
2000					2000	
1 Sept PRRS	1ª International Workshop on Pattern Recognition in Remote Sensing	Andorra	Absatract: Final Manuscript:		31/03/2000 30/06/2000	Fax: +44 1483 34139 m.petrou@ee.surrey.ac.uk
2000					2000	
3-8 Sept 15'ICPR	15th International Conference on Pattern Recognition	Barcelona Spain	Abstract: Final Manuscript:		01/12/1999 14/04/2000	Fax: +34 93 325 27 08 otac@infase.es http://www.cvc.uab.es/ICPR2000
13-15 Dec DGCI 2000	9ª Discreet Geometry for Computer Imagery	Uppsala Sweden	Abstract: Final Manuscript:		28/04/2000 01/09/2000	Fax: +46 18 55 34 47 ingela@cb.uu.se http://www.cb.uu.se/~dgci2000