IAPR

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

NEWSLETTER

Editor:

Dr Maria Petrou
Department of Electronic and Electrical Engineering
University of Surrey
Guildford GU2 5XH
United Kingdom
Tel: +44 1483 259801
Fax: +44 1483 34139
Email: m.petrou@ee.surrey.ac.uk

Contents

> **April Issue Deadline**
> **15 February 1995**

FROM THE EDITOR'S DESK

Dear Everybody,
This is the ISSUE after the EVENT before! 520 of you gathered in Jerusalem last October and had the chance to mix business with pleasure! The business part is all in the 5 kilograms of the Proceedings; and so that you do not think that IAPR sells knowledge by the gram, I should note that the acceptance rate of the papers was 1 in 2 (1 in 4 for oral presentations and 1 in 4 for posters). Thus, the knowledge is definitely measured in Kilos rather than in grams! There were submissions from 41 countries but apparently people from Belarus could not get visas to go and people from India had problems with flight cancellations due to an epidemic. There were four parallel tracks and a fifth one with posters. The areas covered were Computer Vision, Pattern Recognition, Signal Processing and Parallel Computing. You can find it all in the Conference Proceedings (ISBN 0-8186-6260-3) so I will tell you about the pleasure bit! In fact, I do not even need to tell you about that, because you can see for yourself on the next page; even belly dancers were summoned for the participants to practice in shape recognition! As for the camels, they were brought for the curve fitting practice (definitely very wobbly, if you know what I mean!). The banquet was a Bedouin feast in the desert, followed by a Sound and Light performance at Masada castle (the ruined palace of Herod) - a very moving and memorable experience.

Being the newsletter editor, I had the chance for the first time to sit at the Governing Board meeting as an observer. So, I will tell you some "behind the scenes" news. There are 46 Governing Board members representing the 32 member states. 37 of them were present or represented by
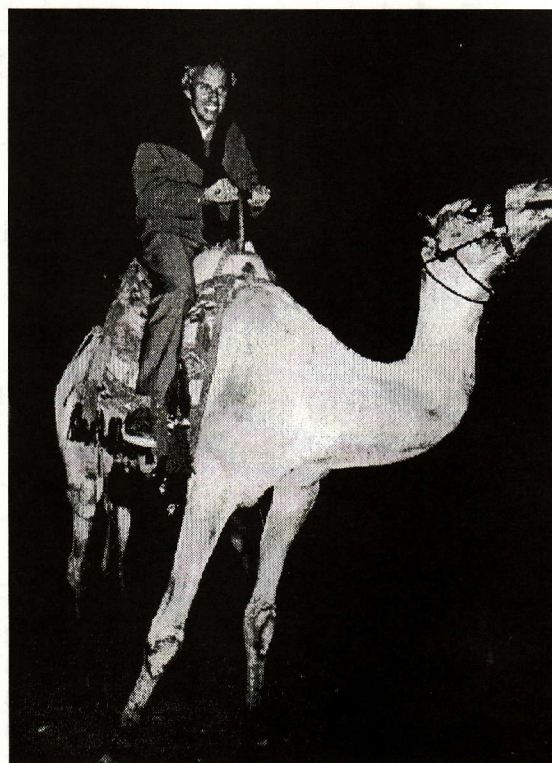
proxy at the meeting. Each member of the executive committee (J K Aggarwal, President, S Tsuji, First Vice-president, J Kittler, Second Vice-president, G Borgefors, Secretary, S L Tanimoto, Treasurer) and some heads of Technical Committees gave reports. It was good news all around, except from the Treasurer! (I don't think it is a coincidence that people ask for "the bad news" when they ask for the bill!) The main income of our association is from the ICPRs, and the other important source is the dues paid by the member societies. The main expenditure is the Newsletter (that is us(!!!)-my heart sunk at this point!). Other expenses are the Secretariat, loans to the TCs, and running expenses in general. The full sum allocated for loans to the TCs was not used, which was fortunate, as the IAPR could not have afforded it! New expenditures are the Fellowships and the Industrial Award. The projected biennial result for the next two years is a decrease in funds of about US $12,000, from a balance of US $72,000. The King Sun Fu award money is something separate invested mostly in mutual funds, which have decreased in value, to US $26,000. The award sum was not increased this year, and in the future it may become necessary to decrease it! (If you are to get it, hurry up, before it shrinks!)

A long discussion followed on how to balance the IAPR budget. The Treasurer noted that even with the decrease in funds there is no immediate danger, especially when remembering that IAPR should never have funds above US $100,000, due to taxation rules in USA. The Secretary noted that there is no way of decreasing Newsletter costs other than printing less than four issues a year. The general feeling of the meeting seemed to be that the Newsletter should be supported. (Hear! Hear!). Eventually, a budget was accepted with a temporary reduction in resources of about US $12,000, with the proviso that the next Executive Committee will work on generating new income (lucky them!). The good news is that the 13th ICPR (in Vienna in 1996) is expected to generate US $37,000 for the IAPR, but in the meantime a US $5,000 loan was approved to get it started. And of course, plans had to be made for the 14th ICPR. Two proposals had been submitted for its location: Brighton in Britain and Brisbane in Australia. My heart was with Brisbane (I have never been to Australia) but my brain with Britain; (more accessible to European and US participants who form the bulk of the conference goers). Britain lost! So, Australia, here we come! (The only trouble is we have to wait until 1998!)

The other news was that the Technical Committee TC12 (Automatic Speech Recognition), was found asleep at a time of duty ("dormant" was the term used), and it was sent to the heaven where all "good" committees go when the time comes to meet their maker! It will be replaced by the "Multimedia and Communication Systems" committee which could easily absorb the activities on speech as well. Finally, the big moment came: The election of the new Executive Committee. The constitution of IAPR allows the nomination of candidates via two routes: either via the Nominating Committee, following a process that takes place a few months before the meeting, or during the Governing Board meeting following a different process. There were two candidates for the Presidency, one nominated via each route: Gunilla Borgefors via the Governing Board-Nominating Committee route and Josef Kittler nominated directly by members of the Governing Board there. I was asked to wait outside (with the two candidates) when the relevant discussion took place, so I missed all of it. However, I had the chance to capture the new President later on, at a time of lowered defences, and I am pleased to present him to you here:

(He is the guy at the top)

And now, having dealt with the EVENT before the ISSUE, I will deal with the ISSUE after the EVENT! Well, it is that time of year again!

᠅☆᠅☆᠅☆᠅☆᠅☆᠅☆᠅☆᠅
I am pleased to announce
THE 2nd IAPR NEWSLETTER COMPETITION!
Here is your chance to start the New Year
with the right foot! Take part in the
CROSSWORD COMPETITION
First Prize US $70
᠅☆᠅☆᠅☆᠅☆᠅☆᠅☆᠅☆᠅

Send me a crossword which YOU made with definitions related to IAPR activities! Deadline: May 1995. And don't forget to send me the solution as well - it rather makes a difference!

Maria Petrou

SSPR WORKSHOP
NAHARIYA ISRAEL OCTOBER 1994

Workshops, which gather less than 100 people, with a single track and more time for presentation of papers and for discussions, are often very exciting events, provided the quality of the scientific content is good. This has been the case of the series of IAPR International Workshops on Structural and Syntactic Pattern Recognition, traditionnaly held just close to ICPR. Many attendees of these workshops have experienced fruitful and pleasant days, and there are probably quite a few collaborations between groups in different countries or regions which have been initiated during a coffee break at one of these workshops.

In 1994, the SSPR workshop was held in Nahariya (Israel), a pleasant resort town on the Mediterranean Sea, north of Haifa, at the Carlton Hotel. This city was founded more sixty years ago by German settlers and its clean and organised structure is probably a heritage of the founders.

The organizers of the workshop were colleagues from the Technion in Haifa, with Dov Dori and Alfred Bruckstein being co-chairs, Ms. Nilly Schnapp providing an excellent administrative support and many other people helped to have everything run very smoothly. Congratulations to the organizers for an excellent job! We think all the participants enjoyed their stay in Nahariya.

This workshop maintained the tradition of high-quality standards established by its predecessors. The range of papers presented covered multiple aspects of pattern recognition, in terms of methods and of applications, but the focus was kept on structural and syntactic approaches. Among all the papers presented, let us just mention some highlights. Leo Dorst presented an interesting view on mathematical morphology, with the concept of directional representations, which enable an elegant reformulation of basic morphological operations such as dilation, through algorithms such as the slope transform for function morphology. This also enables a scale-space approach in morphological operations. Anisotropic diffusion on contours allows Thierry Cohignac to extract robust local affine invariant features from smooth contours, providing a interesting alternative to existing methods. Matching structures is a key tool in our field. It was addressed directly or indirectly by many authors. Ronen Basri presented a method for matching based on a new concept in region-based matching, which applies to planar objects under similarity, affine and projective transformations. H. Bunke presented the new extensions of the tolerant error-matching principle developed in Bern; precompiling the image structure in relational data structure allows efficient matching procedures.

Text processing is always an active field in SSPR. Larry Spitz presented a very interesting and efficient approach for spotting words in document images without explicit OCR, through a coding of the character shapes. This can be very useful for the indexing of large databases of documentation. Henry Baird proposed an automatic method for constructing preclassification trees, with the interesting concept of "population": after building a first tree using one million training samples, with an entropy minimization approach, he populated this tree with many million more samples to drive the error rate down. A rigorous method was also used to determine the stopping rules for this population process, based on the upper bounds on error specified by the user.

This was only a sample of the papers presented at SSPR'94. Other topics were explored like inference, in the field of learning structures, grammars or image processing. All these papers will appear in a forthcoming book, "Shape, Structure and Pattern Recognition", edited by D. Dori and A. Bruckstein and expected to be published in April 1995. The program also provided time for social activities and informal get-together. We had an interesting excursion to Rosh Hanikra, at the border with Lebanon, were we visited marine caves and had dinner. As the Mediterranean sea was nearby, many participants also used the opportunity to have a swim (temperatures were very high in Nahariya during the workshop, and the sea temperature was marvellous) or just to stroll along the beach. As mentioned, the organization was excellent, as was the accommodation and the food, so we will remember SSPR'94 with real pleasure and we hope that the organizers of SSPR'96 will meet the challenge of keeping the high quality, both scientifically and with respect to organization and general atmosphere, we have become accustomed to with the SSPR series.

Karl Tombre, Roger Mohr - France

Partially Occluded Shapes
ICPR Bedouin Feast, October 1994, Jerusalem

MESSAGE FROM THE OUTGOING PRESIDENT PROFESSOR J K AGGARWAL

I am honored and grateful to have had the opportunity to serve as IAPR President for the past two years. I feel very satisfied that a number of new programs have been implemented, which represent the fruition of the efforts of many persons over a number of years.

First, the initiation of the IAPR Fellow Program culminated in the selection of 35 persons, (listed below), who were presented with certificates at a ceremony at the recent ICPR. This program was created and will be administered by the Fellow Committee under the leadership of Professor Saburo Tsuji. Also, the Industrial Affiliates Membership program, developed by Professor Masakazu Ejiri and the members of the Industrial Liaison Committee, has been put into action. This program will enhance our visibility with industry and provide an important link between academic and industrial research in pattern recognition.

During the past two years, the Executive Committee has striven to accomplish improved communications with the Governing Board and the IAPR membership. One aspect of this emphasis was to improve distribution of the IAPR Newsletter. Under the direction of our new editor, Dr. Maria Petrou, with the assistance of Susan Duff, our Newsletter printing schedule has been standardized and the distribution time has been substantially reduced, resulting in more effective communication on IAPR related activities to our membership.

Other important business which has been transacted in the last biennium include: the abolition of the "Individual" membership category; amendment of voting procedures to permit voting by email and fax for Executive Committee decisions; the establishment of the Industrial Liaison Committee as a standing committee and the creation of a permanent award for the best industrial paper; the formalization and distribution of procedures for IAPR sponsorship and financial assistance for workshops and conferences; the creation of a new technical committee, TC-14, on Image Processing; the IAPR sponsorship of the journal Machine Vision and Applications, and improved distribution of Pattern Recognition Letters to individual IAPR members.

The recent ICPR in Jerusalem was an outstanding success that afforded the opportunity to exchange technical information as well as to visit Israel's cultural and historic sites. The Bedouin feast, and the tours of Masada and the city of Jerusalem were memorable experiences. The presentation of the Fellow certificates following the Bedouin feast in the middle of the desert is an experience the recipients are unlikely to forget. It is indeed a pleasure to thank the conference organizers, Drs. S. Ullman, S. Peleg and Y. Yeshuran, for arranging a technically sound program and the social events. It was a most enjoyable and memorable ICPR.

I would like to thank the members of the Executive Committee and the Governing Board, the committee chairmen, and the many committee members who have served with me during my term. I believe this period has been extremely productive for IAPR. I greatly appreciate their cooperation, hard work, and enthusiasm, which made my job as IAPR President a most rewarding experience. It is with a sense of accomplishment and pride that I hand over the reins to our new President, Josef Kittler, and the newly elected members of the Executive Committee, Vice Presidents Gunilla Borgefors and J.-I. Toriwake, Secretary Gabriella Sanniti de Baja, and Treasurer Josef Bigun. This new team is especially well equipped to continue the ongoing activities and to take us forward into new areas of endeavor.

Michael Duff (President 1990-1992) having a good look at his Fellowship Certificate just given to him by Jake Aggarwal (President 1992-1994)

IAPR FELLOWSHIP AWARDS OCTOBER 1994

The first IAPR Fellows honoured at 12th ICPR were: **Narendra Ahuja**, USA; **Eric Backer**, Netherlands; **Virginio Cantoni**, Italy; **Serge Castan**, France; **Per-Erik Danielsson**, Sweden; **Pierre Devijver**, France; **Vito Di Gesu**, Italy; **Michael Duff**, UK; **Herbert Freeman**, USA; **Edzard Gelsema**, Netherlands; **Robert Haralick**, USA; **Thomas Huang**, USA; **Pieter Jonker**, Netherlands; **Laveen Kanal**, USA; **Rangsami Kashyap**, USA; **Masakazu Kidode**, Japan; **Walter Kropatsch**, Austria; **Stefano Levialdi**, Italy; **Martin Levine**, Canada; **Gerhard Maderlechner**, Germany; **Dwijesh Dutta Majumder**, India; **Makoto Nagao**, Japan; **Erkki Oja**, Finland; **Theo Pavlides**, USA; **Shmuel Peleg**, Israel; **Matti Pietikainen**, Finland; **Re´jean Plamondon**, Canada; **Azriel Rosendfeld**, USA; **Toshiyuki Sakai**, Japan; **Alberto Sanfeliu**, Spain; **Jean-Claude Simon**, France; **Jack Sklansky**, USA; **Ching Y Suen**, Canada; **Mikio Takagi**, Japan; **Patrick Wang**, USA.

MESSAGE FROM THE INCOMING PRESIDENT PROFESSOR JOSEF KITTLER

I have always been happy and willing to serve the IAPR in whatever capacity was called for as borne witness by my numerous jobs with which I had been entrusted in the past such as Chairman of TC1, Chairman of Publications and Publicity Committee, General Chairman of IAPR Technical Committees, Newsletter Editor, 2nd Vice President and my membership of various IAPR Committees at some time or other. In that respect I was not all that unprepared to leave Jerusalem charged with some new responsibility with which I could help the cause of the Association. Nevertheless, ending up with the Presidency came to me as a surprise, inducing in me a mixed feeling of delight from the honour bestowed on me by the Governing Board, and at the same time apprehension in the face of the huge responsibility this leadership role entails. I would like to thank the Governing Board for electing me to this position and say that I will do my utmost to meet its challenges.

My tenure as President follows that of Professor Jake Aggarwal, during which a number of evolutionary changes have been accomplished. For the first time the Association awarded some of its members IAPR Fellowships to recognise their distinctive contributions to the field of Pattern Recognition and service to IAPR. An Industrial Affiliate Scheme has been introduced to foster a close involvement of industry in the activities of the Association. The IAPR Newsletter has been revitalised under the new Editor, Dr Maria Petrou, assisted on the production front by the IAPR Secretariat. Several new national member societies joined the Association, with the number of countries now totalling thirty-two. These achievements would not have been possible without the dedicated effort of not only the Past President but of the whole outgoing Executive Committee, with Professor Gunilla Borgefors, the Past Secretary, deserving a particular mention for her contributions to these accomplishments.

I would like to thank the outgoing Executive Committee members and welcome the new ones. Jake Aggarwal replaces Michael Duff in the capacity of Past President and Gunilla Borgefors takes over from Saburo Tsuji as First Vice-President. They will both provide valuable continuity in the operation of IAPR. Gabriella Sanniti di Baja, who has demonstrated her effectiveness and efficiency in the chair of the Education Committee, replaces Gunilla Borgefors as Secretary. Josef Bigun is succeeding Steve Tanimoto as Treasurer, taking the responsibility for the financial well-being of the Association across the Atlantic for the first time in IAPR's history. Prof Toriwaki is the incoming Second Vice-President. The most urgent task of a new administration is the appointment of IAPR Committees. Vice-President Gunilla Borgefors will continue to chair the Membership Committee to capitalise on the contacts she has established in that role with potential new member countries.

For the time being I shall continue to discharge my former responsibility for IAPR Technical Committees, now as part of the duties of the President. This task should now be relatively easy as all IAPR Technical Committees Chairmen have already been appointed. Pavel Pudil is joining TC1 (Statistical Pattern Recognition Techniques) as a co-chairman jointly with Davi Geiger. Marco Ferretti will chair TC6 (Special-Purpose Architectures), Franz Leberl assumes the responsibility for TC7 (Applications in Remote Sensing), Prof Nishida takes over TC8 (Applications in Industry), Jan Gerbrands will chair TC9 (Biomedical Pattern Recognition), and Guy Lorette succeeds Re'jean Plamondon in running TC11 (Applications in Text Processing). Horace Ip and Arnold Smeulders agreed to co-chair the newly established TC12 (Multimedia and Communication Systems) and Cettina Maccarone will chair TC13 (Pattern Recognition in Astronomy and Astrophysics). The other Technical Committees will continue under their past chairmen.

Following a well established tradition, the Nominating Committee will be chaired by Past President Jake Aggarwal. Other members of the Nominating Committee are Dr M Ejiri, Prof E S Gelsema, Prof H Niemann and Prof C Y Suen. The Nominating Committee membership has already been approved by the Governing Board as required by the IAPR Constitution.

Herb Freeman, in spite of the earlier reports of his retirement from IAPR, which proved to be widely exaggerated, will lead the Awards Committee which assists the Governing Board in selecting the recipient of the K S Fu Award and the Industrially-Related Paper Award. Michael Duff will chair the Constitution and Bylaws Committee which will have the task to look at some of the current procedures used for implementing the

articles of the IAPR Constitution and Bylaws which appear to require some tuning. The Conference and Meetings Committee will be chaired by Prof Re´jan Plamondon. Erkki Oja is becoming responsible for the Publications and Publicity Committee which will look into the opportunities offered by World Wide Web to increase publicity for IAPR and its activities. Dr Petrou will continue to serve as the Newsletter Editor.

Gerhard Maderlechner will head the Industrial Liaison Committee which will attempt to encourage the growth of IAPR Industrial Affiliate membership. Pierre Devijver will lead the Fellow Committee which this time round is expected to deal with a substantially greater number of nominations. Stefano Levialdi will continue to maintain our link with IFIP. The Education Committee, which has now become a Standing Committee of IAPR, will be chaired by Chris Taylor. His committee is currently being constituted.

I am pleased to report also that the process of appointing IAPR committee members is essentially complete. This accomplishment provides an ideal opportunity for me to convey my thanks and deepest appreciation to the outgoing officers and committee members for their good work on behalf of the Association.

A detailed list of all the new appointments is available as a pull out section of this issue of IAPR Newsletter. Some of the appointees are well known faces in the community with a lot of experience while others bring new blood. This mixture should guarantee a smooth sailing towards continuously updated horizons which will ensure IAPR's relevance for a long time to come.

With most of my effort since our meeting in Jerusalem being devoted to the urgent task of restarting the IAPR machinery, there has been a little time to think about the goals to strive for during my period of office as IAPR President. Perhaps the most pressing one will be to redress the problem of the projected operating budget deficit. The Executive Committee has already started looking at ways additional revenues could be raised for the Association. Another aim will be to devise a scheme which would complement the existing IAPR Awards (K S Fu Award and Fellowships) by an award to encourage young scientists or engineers. Also, ground rules will have to be determined for the use of World Wide Web as an IAPR publicity medium. The issue of European Coordinating Committee which has not been conclusively resolved by the previous administration should be considered. I look forward to collaborating with you on maintaining the IAPR a live organisation relevant to the evolving needs of its members.

Looking ahead, the 13th International Conference on Pattern Recognition will be held in Vienna in October 1996. I hope to see you all there to participate in its technical programme and through your Governing Board members to help forge IAPR's future developments.

KING SUN FU AWARD 1994

Now, what do you call an editor who a couple of months BEFORE the decision of the K S Fu award, publishes a photo and a whole feature article about the recipient? Clever, for having predicted the outcome of the competition? Stupid, for having pre-empted herself and has nothing to write now? After careful consideration of the pros and cons, and thought given to the consequences, I decided that I prefer the first option!

Some of you now might think that my choice was not difficult! But the task of awards committees is usually more difficult. Our community has several worthy members who have offered a lot to the advancement of the field and five of them were nominated for this year's K S Fu Award. (It should be noted that no member of the Executive Committee or the Governing Board is eligible for the award and no member of the Executive Committee is allowed to nominate a candidate.) The award, which consists of a plaque and a cash prize, is given once every two years to an individual in recognition of a technical contribution of far reaching significance and impact on the field of Pattern Recognition or its closely allied fields. The undisputed winner this year was none else than

HERBERT FREEMAN

from Rutgers University, USA. There was a feature article in the July issue of the Newsletter on Professor Freeman with the opportunity of his retirement from active service in IAPR. The article had mainly concentrated on his activity within IAPR, however his scientific offer to the community should not be underestimated. One of the most commonly used tools in shape description, encoding and recognition, namely that of chain code (often called the Freeman chain code) was proposed by him in 1959. Professor Freeman has also made significant pioneering contributions to the representation and analysis of line drawings. He has published more than 120 papers and has supervised more than 36 PhD theses! More recently, Herbert Freeman had been working on recognition and pose determination of 3-D objects, using the "characteristic-view" approach, automated cartographic name placement (automatically placing the names for area, line, and point features on geographic maps), and off-line cursive hand-writing recognition in applications involving severely constrained vocabularies. Apart from his professional activities within IAPR, IEEE, IFIP and other professional organizations, he has served (and still serves) on the editorial boards of many prestigious journals in our area of research. The award was only a small token of appreciation of his numerous contributions to the Community.

Editor

BOOK REVIEW

Geometric Invariance in Computer Vision
Edited by Joseph L. Mundy & Andrew Zisserman
MIT Press, ISBN 0-262-13285-0

This book is a very well thought out and well presented introduction to the subject of invariance and its application to computer vision. I had always associated invariance with a set of musty books on the bottom shelf of the maths library, full of algebraic expressions and lemmas. Although I had always thought that this is a subject just waiting for an application, making the connection from dry lemmas to computer vision is not easy. This book achieves this goal with a readable and consistent presentation.

Another area of mathematics that always should be part of computer vision, and has for too long been inscrutible, is projective geometry, and the appendix of the book, written by the two editors of the volume, cuts through this subject like a surgeon's knife to the results of interest to the vision community. It does not wander away from what is strictly necessary, and shows the limitations of the subject - that it is principally concerned with the projection of one plane onto another, but goes on to the model of the perspective camera as a basis for extending the applicability of this theory to vision. Although this is only presented as an appendix, an aside of the main thrust of the book, it is in itself a very valuable part of this volume.

The book is divided into four sections - the first two dealing with algebraic and non-algebraic invariants. The third deals with invariants from multiple views, which is an exciting direction in which the application of invariance is expanding. The fourth section deals with applications. These sections are further subdivided into chapters written by various authors. At the start of each section is an overview setting out the aims and the approaches to be presented. A lot of these chapters are based on papers presented at a workshop in Reykjavik, Iceland in 1991.

After a very clear introduction to all the aspects of the subject of the book provided by the editors, the book delves into the nitty-gritty of algebraic invariance. I have to say that I found the first chapter of this section the least useful contribution to my understanding of the subject, being very reminiscent of those musty books in the maths library. The liberal use of acronyms (especially FFT for First Fundamental Theorem) jarred throughout the reading of this chapter. It did, however, provide a historical account of the development of the subject - and possibly why the application of it was not immediately apparent! The other chapters were, much more application driven. I particularly liked the chapter on the experimental evaluation of algebraic invariants, as this reassures the student of any new field - "Is any of this stuff of any practical use?" - "Is it worth learning?". The final chapter of this section demonstrates that very general and important theorems can be derived in the subject, and these influence our use of invariants.

The second section deals with curves or surfaces that are not expressed algebraically. The general approach in terms of exploiting the differentiability of these curves is presented in the first chapter. Invariants are found which depend upon high order derivatives. Again there is a very useful chapter on the evaluation of these invariants for practical purposes. Not surprisingly, any invariant which is dependent upon high order derivatives is not numerically stable enough for such use. Other invariants, of lower order, are also presented and there is a good chapter explaining the use of Lie groups in finding how many invariants a system may have, as well as the way to generate them. Other methods are also introduced, such as geometric constructs and the use of algebraic fits.

The third section is a short, but very important section, on the application of invariants to stereo (multiple views) and motion. The use of invariants could help us to avoid camera calibration as long as correspondences can be established. There is a chapter on invariants of 3D curves seen in a pair of coplanar image planes, which extends results presented in earlier chapters. The final chapter of this section is on motion of an object characterised by a 3D curve. Although this is a short section, it illustrates further applications of the ideas presented in the previous two sections to more complex problems in vision.

The last section concerns applications and again shows how invariants can help with a variety of problems. The majority of these chapters are concerned with the use of invariants as a means of indexing objects in a model based approach and can also be used to determine their relative positions under general projective transformation.

All in all, this is a good balance between theoretical development and practical application. The book provides a good introduction to the subject and what can be achieved. It has been well thought out so that information can be extracted easily, and so will provide a useful reference book too. In short, it is a good buy!

Philip L Palmer
University of Surrey, UK

Best Paper Awards - BMVC'94 Conference

(Proceedings ISBN 952 1898 IX from E Hancock: erh@uk.ac.york.minster
The British Machine Vision Association and Society of Pattern Recognition awarded the following prizes during their recent conference: The Science prize was split between **Tat-Jen Cham** and **Roberto Cipolla** and **Jun Sato** and **Roberto Cipolla** (University of Cambridge, UK) for their papers *Skewed Symmetry Detection Through Local Skewed Symmetry* and *Image Registration using Multiscale Texture Moments* respectively. The Industry prize (donated by Computer Recognition Systems, UK) went to **Jeff Hunter, Jim Graham** and **Chris Taylor** (Manchester University, UK), for their paper *User Programmable Visual Inspection.* The Best Poster prize went to **Antony Worrall, Geoff Sullivan** and **Keith Baker** for *A Simple Intuitive Camera Callibration Tool for Natural Images.*

Report on the activities of IAPR TC-10 Graphics Recognition

Document image analysis is an exciting field of pattern recognition, where lots of research activities take place, not only on optical character recognition (which is probably the first topic to come to mind when somebody mentions document analysis), but also on the analysis of physical and logical structures of scanned documents, and more generally the interpretation of the document's contents. IAPR's Technical Committee 10 on Graphics Recognition promotes interaction among researchers working in document image analysis in general, and graphics recognition in particular. Topics of primary interest to members of this Technical Committee are: recognition of graphical shapes- segmentation of graphics from text- conversion of line drawings and maps- interpretation of engineering drawings of various kinds- recognition of printed music, fingerprints, etc.

To give a short report on TC-10's activities, we can mention the following scientific events:

♦ The 2nd IAPR Conference on Document Analysis and Recognition (ICDAR), co-sponsored by TC-10, TC-11 and IGS, was held in Tsukuba Science City, Japan, on October 20-22, 1993. ICDAR'93 was definitely a success, with around 400 attendees and an excellent organisation by our Japanese hosts. Many things were discussed in Tsukuba: scientific matters, organizational matters and friendly matters (conferences are also a good place to get acquainted with the real people behind the names in the bibliography lists!), so the outcome of ICDAR'93 was deemed very positive at all of these levels. The next ICDAR will be held in Montreal (Canada), on August 14-16, 1995. General chair is Professor C. Y. Suen (Canada), with co-chairs R. Plamondon (Canada) and S. Srihari (U.S.A.), and program co-chairs R. Kasturi (U.S.A.), G. Lorette (France) and K. Yamamoto (Japan). ICDAR'95 is sponsored by IAPR TC-10 and TC-11, by the International Graphonomics Society and by the Canadian Image Processing and Pattern Recognition Society.

♦ Just after ICPR in Jerusalem, more precisely on October 18-20, 1994, a workshop on Document Analysis Systems (DAS'94) was held in Kaiserslautern (Germany). Sponsors were IAPR TC-2, TC-10 and TC-11, and Daimler Benz. Workshops chairs: Andreas Dengel (Germany) and Larry Spitz (USA). The topics of interest to TC-10 were largely covered in this workshop.

♦ TC-10 co-sponsored (with TC-6 and TC-8) the 4th IAPR workshop on Machine Vision Applications, held on December 13-15, 1994 in Kawasaki, Japan. Its main topic was machine vision and its applications, which included machine vision algorithms, special purpose architectures, industrial applications and document, map and line drawing processing. Workshop Co-chairs: Mikio Takagi and Akira Maeda. An invited talk titled "The Object-Process Paradigm and its Application to Machine Vision" was given at this workshop by Dov Dori, an active member of IAPR TC-10.

♦ In addition to these scientific events, TC-10 has decided to organize its own workshop in connection with the next ICDAR in 1995. This IAPR Workshop on Graphics Recognition, sponsored by IAPR and organized by TC-10, will be held on August 10-11, 1995 at the Pennsylvania State University (USA), the week before ICDAR'95 in Montreal.

We have also set up an electronic mailing list for TC-10 related activities, where information is regularly communicated (one posting every month on average) about TC-10's specific activities, other IAPR events of interest to our graphics recognition community (SSPR'94, ICPR'94, IWVF'94) and various other relevant announcements (other scientific events in image processing, document analysis and pattern recognition which may be of interest to TC-10 members, information about available databases and information servers on the Internet, etc.). There are currently 147 members of this mailing list. Send E-mail to Karl.Tombre@loria.fr if you want to join the mailing list.

Karl Tombre, Chairman TC-10
(Karl.Tombre@loria.fr)

Best Industry-Related Paper Award at 12-ICPR - Jerusalem

The First-Place Award went to **Dr. Minori Noguchi** and **Prof. Shree K. Nayar** of Columbia University for their outstanding paper entitled "Microscopic Shape from Focus using Active Illumination".

Two Honorable Mention papers were also selected: "Towards Robust Automatic Traffic Scene Analysis in Real-Time" by D. Koller, J. Weber, T. Huang, J. Malik, G. Ogasawara, B. Rao and S. Russell of the University of California at Berkeley, and "Real-Time Facial-Feature Tracking based on Matching Techniques and its Applications" by H. Sako, M. Whitehouse, A. Smith and A. Sutherland of the Hitachi Dublin Laboratory. The winning papers were selected from the 449 papers accepted for presentation at the 12th ICPR Conference.

This award program was established three years ago to build better relationships with industry and to encourage practical research and development, especially cooperative work between academia and industry, and lead to greater participation from industry in IAPR activities.

The selection of the award winners was a difficult decision due to the high quality of the submissions. Weight was particularly given to the work's uniqueness, applicability, robustness, and importance to the future.

Masakazu Ejiri
Chairman Industrial Liaison Committee

CONFERENCE ANNOUNCEMENTS

19TH ÖAGM & 1ST SDRV WORKSHOPS
Maribor Slovenia
13-15 May 1995 [IAPR]

The Slovenian Society for Pattern Recognition and the Austrian Society for Pattern Recognition are organising this joint workshop which will include:

- Image Analysis and Understanding
- Computer Vision
- Neural Networks
- Speech Analysis and Understanding
- Pattern Recognition
- Applications

Paper submission:
3 copies of the full-length draft paper (English) to include:
> title of paper
> author's name, address, tel, fax and email
> abstract
> up to 10 pages of text and figures

Papers should be submitted to:
Franc Solina, University of Ljubljana, Faculty of Electrical Engineering and Computer Science, Trzaska, 61000, Ljubljana, Slovenia.

Paper submission deadline: **15 February 1995**

---

3 IEEE WORKSHOPS
Cambridge Massachusetts USA
18-19 June 1995

1. Physics-Based Modelling in Computer Vision (18th-19th)
Submit 4 copies complete paper (address p.10)
Paper submission deadline: **10 January 1995**
Final camera ready paper: **10 April 1995**

2. Context-Based Vision (19th)
3 copies manuscript (address p.10)
Paper submission deadline: **16 January 1995**
Final camera ready paper: **3 April 1995**

3.Shape/Pattern Matching-Computational Biology (19th)
4 copies complete manuscript (address p.10)
Paper submission deadline: **1 March 1995**

INTERNATIONAL CONFERENCE ON
DIGITAL SIGNAL PROCESSING
Limassol Cyprus 26-28 June 1995

Digital Signal Processing, Speech Coding, Non-Linear IP, Image Compression & Video Coding, Digital Filter Theory & Design, Adaptive Filters & Analysis, Image & Scene Analysis, IP Algorithims, Filter Banks, Wavelets & Sub-band Coding, Morphological Techniques, Neural Network Theory, Transfer Coding. Full details from address p.10.
Paper submission deadline: **10 March 1995**
Acceptance notification: **10 April 1995**

SIXTH BMVC CONFERENCE
Birmingham UK   11-14 September 1995

Topics to include: IP and Feature Extraction, Object Recognition & Scene Analysis, Reconstruction of 3D Shape, Advanced Pattern Analysis, Computational Issues in Perception, Robotic Vision. Full details address p 11.
4 copies full paper not exceeding 10 pages (approx 5000 words if no figures).   Include 2 title pages, 1 anonymous, containing only paper title and 5 key words.
Paper submission deadline: **24 April 1995**
Notification of acceptance: **12 June 1995**
Final camera ready paper: **7 July 1995**

DIGITAL IMAGE COMPUTING TECHNIQUES
Brisbane Australia 6-8 December 1994

To include Computer Vision and Object Recognition, Motion Analysis, Morphology, Medical Imaging, Fuzzy Logic and Neural Networks, Image Coding, Machine Vision & Robotics, Enhancement & Restoration, Industrial Applications, Software and Hardware Tools, Classification & Machine Learning.   4 Copies extended abstract 750-1000 words to address on p 11.
Paper submission date: **16 June 1995**
Final camera ready paper   **29 September 1995**
For latest details see WWW entry on URL:
http://www.cssip.elec.uq.oz.au/~walker/dicta95.html-

THIRD INTERNATIONAL COMPUTER SCIENCE
CONFERENCE
Hong Kong   11-13 December 1995   [IAPR]

The theme for the conference is Image Analysis Applications and Computer Graphics and will include:
Image Analysis Applications:
Industrial Visual Inspection, Vision for Robotic Applications, 3D or Color Imaging in Inspection, Document Image Processing, Cursive Script Recognition, Map & Drawing Analysis, Biomedical Image Analysis, Image Analysis for Multimedia, Remote Sensing Image Analysis, Software & Novel Systems.
Computer Graphics:
Natural Phenomenon Modeling, Shading & Rendering Algorithms, Image Synthesis & Realism, Computer Animation, Graphics for CAD/CAM, Graphics in Education, Arts, Simulation, Scientific Visualization, Virtual Reality, Graphics in Multimedia.
Paper submission:
Manuscripts (English) should be no longer than 5000 words, double-spaced, 11pt.type or larger, to include:
> title page
> names and addresses of authors
> abstract - not more than 200 words
> 4 hard copies with cover letter

Papers should be submitted to address on page 11.
Paper submission deadline: **17 April 1995**
Acceptance notification: **17 July 1995**
Final camera ready paper: **15 September 1995**

FORTHCOMING CONFERENCES, WORKSHOPS AND EVENTS

1995	Event	Location	Contact [Sponsor]
4-7 Jan 3rd-ICAIA	Third International Conference on Artificial Intelligence Applications	Cairo Egypt	Prof A Goneid, Dept Computer Science, The American University in Cairo, 113 Kasr Al Aini Street, PO Box 2511, Cairo Egypt. Goneid@EGAUCACS.bitnet
12-15 Feb ISCCP-C	ISCC Pan-Chromatic Conference	Virginia USA	Steve Shafer, Computer Science Department, Carnegie-Mellon Univerisity, Pittsburgh, PA 15213, USA. sas@cs.cmu.edu
15-17 March EMBS	Int Conf on Computer Applications in Eng and Medicine	Indianapolis USA	Dr M El-Sharkawy, Dept Electrical Engineering, Purdue University, 723 W Michigan Street, Indianapolis 46202, USA. el-shark@etsun.engr.iupui.edu
23-24 March RecPad'95	7th Annual Conference on Pattern Recognition	Aveiro Portugal	RecPad'95, António Sousa Pereira, Dept. Electrónica e Telecomuniçoes, Universidade de Aveiro, 3800 Aveiro, Portugal. recpad95@inesca.pt
28-31 March Scanning'95	7th Annual International Scientific Meeting	Monteray USA	Mary K Sullivan, Foundation for Advances in Med & Sci, PO Box 832, Mahwah, New Jersey 07430-0832, USA. fams@holonet.net
18-20 April FOM'95	8th Int Conf 3D Image Processing in Microscopy & 7th on Confocal Microscopy	Taipei Taiwan	Dr P Cheng, Advanced Microscopy & Imaging Lab, Dept Elec & Comp Engineering, State University of New York at Buffalo, PO Box 84, Getzville, NY 14968. USA. elepcc@corn.eng.buffalo.edu
27-29 April WGMICV	Europe-China Workshop Geometrical modelling, Invariants for Computer Vision	Xi'an China	Prof R Mohr, LIFIA INRIA, 46 Avenue F Viallet, 38031 Grenoble Cedex, France. Mohr@imag.fr
8-12 May ICASSP-95	IEEE Int Conference on Acoustics, Speech and Signal Processing	Detroit USA	ICASSP-95, Diversified Management Services, PO Box 265, Eaton Rapids, MI 48827-0265, USA.
11-13 May ÖAGM	19th ÖAGM and 1st SDVR Workshop	Maribor Slovenia	Franc Solina, University of Ljubljana, Faculty of Electrical Eng & Comp Sci, Trzaska 25, 61000 Ljubljana, Slovenia. franc@fer.uni-lj.si [IAPR]
15-19 May VI'95	Vision Interface'95	Québec Canada	Denis Poussart, Department of Electrical Engineering, Laval University, Québec, Canada G1K 7P4. poussart@gel.ulaval.ca [IAPR]
6-9 June 9SCIA	9th Scandinavian Conference on Image Analysis	Uppsala Sweden	9SCIA, Centre for Image Analysis, Lägerhyddsvägen 17, S-752 37 Uppsala, Sweden. scia9@cb.uu.se [IAPR]
18-19 June WPBMCV	IEEE Workshop on Physics-Based Modelling in Computer Vision	Cambridge MA, USA	Demetri Metaxas, Dept Comp & Information Science, University of Pennsylvania, 200 South 33rd Street, Philadelphia, PA 19104-6389. USA.
19 June WCBC	IEEE Workshop on Context-Based Vision	Cambridge MA, USA	Tom Strat, SRI International, 333 Ravenswood Avenue, Menlo Park, California 94025, USA.
19 June WSPM	IEEE Workshop on Shape & Pattern Matching	Cambridge MA, USA	Andrea Califano, IBM TJ Watson Research Center, 30 Saw Mill River Road, Hawthorne, New York 10532, USA. acal@watson.ibm.com
20-22 June WNSIP	1995 IEEE Workshop on Nonlinear Signal and Image Processing	Halkidiki Greece	Professor Ioannis Pitas, Department Electrical & Computer Eng., Aristotle University of Thessaloniki, PO Box 463, 54006 Thessaloniki, Greece. pitas@vergina.eng.auth.gr
20-23 June 5-CCV	Fifth International Conference on Computer Vision	Cambridge MA, USA	Eric Grimson, Artificial Intelligence Lab, 545 Technology Square, MIT, Cambridge, Massachusetts 02139, USA. welg@ai.mit.edu
26-28 June DSP 95	International Conference on Digital Signal Processing	Limassol Cyprus	DSP 95, Department of Computer Science, University of Cyprus, Kallipoleos 75 PO Box 537, Nicosia, Cyprus. dsp95@cs.ucy.ac.cy

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

1995	Event	Location	Contact [Sponsor]
3-6 July IPA95	5th Int Conf on Image Processing and its Applications	Edinburgh UK	IPA95 Secretariat, IEE Conference Services, Savoy Place, London, WC2R 0BL, UK. conference@iee.org.uk [IAPR]
9-14 July 40 SPIE	SPIE's 40th Annual Meeting - Mathematical Imaging	San Diego USA	For full details of the many conferences forming this meeting, contact: SPIE, PO Box 10, Bellingham, Washington 98227-0010, USA. Phone: +1 206 676 3290
5-9 Aug IROS'95	IEEE/RSJ International Conference on Intelligent Robots and Systems	Pittsburgh USA	Patricia Mackiewicz, School of Computer Science, Carnegie-Mellon Univeristy, 5000 Forbes Avenue, Pittsburgh, PA 15213-3891 USA. patty@cs.cmu.edu
10-11 Aug GRec95	IAPR Workshop on Graphics Recognition	Pennsylvania USA	Professor R Kasturi, Dept Computer Science & Engineering, Penn State University, University Park, Pennsylvania 16802, USA. kasturi@cse.psu.edu [IAPR]
10-11 Aug ISATP'95	1995 IEEE International Symposium on Assembly and Task Planning	Pittsburgh USA	Prof Sukhan Lee, Dept Computer Science, University of Southern California, Los Angeles, California 90089-0781, USA. rajeev@cs.uiuc.edu
14-16 Aug ICDAR '95	Third Int Conference on Document Analysis and Recognition	Montreal Canada	Professor R Kasturi, Dept Computer Science & Engineering, Penn State University, University Park, Pennsylvania 16802, USA. kasturi@cse.psu.edu [IAPR]
6-8 Sept CAIP'95	6th International Conference Computer Analysis of Images and Patterns	Prague Czech Republic	Vaclav Hlavac, Czech Technical University, Faculty of Electrical Engineering, Department of Control Engineering, Karlovo namesti 13, CZ-121 35 Prague 2, Czech Republic. caip95@vision.felk.cvut.cz [IAPR]
11-14 Sept BMVC'95	Sixth British Machine Vision Conference	Birmingham UK	David Pycock BMVC'95, School of Electronic & Electrical Engineering, The University of Birmingham, Edgbaston, Birmingham B15 2TT UK BMVC95@bham.ac.uk
13-15 Sept ICIAP '95	8th International Conference on Image Analysis and Processing	San Remo Italy	Professor Leila De Floriani, ICIAP '95, University of Genova, Viale Benedetto XV 3, I-16132 Genova, Italy. iciap@dibe.unige.it [IAPR] WWW entry, URL: http://afrodite.lira.dist.unige.it/confs/ICIAP.ps
17-22 Sept ISIT'95	IEEE International Symposium on Information Theory	Whistler Canada	Prof I Blake, Dept Elec Comp Eng, University of Waterloo, Waterloo, Ontario, Canada N2L 3GI. ifblake@claude.uwaterloo.ca
18-20 Sept CAMP'95	Computer Architectures for Machine Perception	Como Italy	Alessandra Setti, Dip. di Informatica e Sistemistica, Via Abbiategrasso 209, 27100 Pavia, Italy. ale@ipvvis.unipv.it [IAPR]
19-21 Sept PRIA'95	Third Scientific Conference on Pattern Recognition and Image Analysis	Minsk Belarus	Professor S Ablameyko, Institute of Engineering Cybernetics, Belarusian Academy of Sciences, Surganov str 6, 220012 Minsk, Belarus. mahaniok%bas10.basnet.minsk.by@demos.su
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
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	3rd Int Computer Science Conf - 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]

YEAR AT A GLANCE CONFERENCE PLANNER

Contact Addresses on pages 10-11
Previous Newsletter Conference Reports are shown in Brackets (volume, number)
● = submission date
■ = final paper deadline
dates = meeting dates

Conference	Location	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
3rd-ICAIA	Cairo	4-7											
ISCCP-C	Virginia		12-15										
EMBS	Indianapolis			15-17									
RecPad'95	Aveiro	■31	23-24										
Scanning'95	Monteray		28-31										
FOM'95	Taipei	●1		1	18-20								
WGMICV(v16 n3)	Xi'an			■1	27-29								
ICASSP-95	Detroit					8-12							
ÖAGM	Maribor		■15			11-13							
VT'95(v16 n4)	Quebec			■15		15-19							
9SCIA(v16 n3)	Uppsala		■28				6-9						
WPBMCV	Cambridge, MA	●10			■10		18-19						
WCBC	Cambridge, MA	●16		■3			19-19						
WSPM	Cambridge, MA			●1			20-22						
WNSIP(v16 n3)	Halkidiki			■1			20-23						
5-CCV	Cambridge, MA						20-23						
DSP 95	Nicosia			●10			26-28						
IPA95(v16 n4)	Edinburgh			■8				3-6					
40 SPIE	San Diego							9-14					
IROS'95	Pittsburgh								5-9				
GRec95(v16 n3)	Pennsylvania					15			10-11				
ISATP95	Pittsburgh		■1						10-11				
ICDAR '95(v16 n3)	Montreal					■1			14-16				
CAIP'95(v16 n4)	Prague		●1		●24					6-8			
BMVC'95	Birmingham						■20			11-14			
ICIAP'95(v16 n4)	San Remo	●2			■15	■6		■7		13-15			
ISIT'95	Whistler	●1			■15					17-22			
CAMP'95(v16 n4)	Como	●31			■30					18-20			
PRIA'95(v16 n4)	Minsk			●15				■1		19-21			
ESSRS II	Florence						●16				9-13		
DICTA'95	Brisbane				●17					■29			6-8
ICSC'95	Hong Kong				●17					■15			11-13

IAPR DIRECTORY 1995

GOVERNING BOARD

Australia	Ass. Prof A J Maeder
Austria	Professor W G Kropatsch
Belarus	Professor S Ablameyko
Belgium	Professor P A Devijver
Bulgaria	Dr V Valev
Canada	Professor R Plamondon
	Professor C Y Suen
China	Professor Qingyun Shi
Czech Republic	Dr M Haindl
Denmark	Professor K Conradsen
Finland	Professor E Oja
	Professor M Pietikainen
France	Professor S Castan
	Professor G Stamon
Germany	Professor H Niemann
	Professor Dr J S Poppl
Hong Kong	Dr H H S Ip
Hungary	Dr D Chetverikov
India	Professor D Dutta Majumder
Israel	Dr S Edelman
Italy	Professor P Mussio
Japan	Dr M Ejiri
	Professor M Takagi
Korea (South)	Professor C N Lee
	Professor Dong Yun Kim
Netherlands	Professor E S Gelsema
	Professor Dr ir A W M Smeulders
Norway	Assistant Professor T Hallgren
Poland	Dr L Chmielewski
Portugal	Professor A J de C Campilho
Slovenia	Dr F Solina
South Africa	Professor F S Roux
Spain	Professor A Sanfeliu
Sweden	Professor B Kruse
	Dr T Gustavsson
Switzerland	Professor M Kunt
Taiwan	Professor Jhing-Fa Wang
	Professor Zen Chen
Ukraine	Professor T K Vintsiuk
	Professor M I Schlesinger
United Kingdom	Professor J Kittler
	Professor C J Taylor
USA	Professor J K Aggarwal
	Professor R M Haralick
	Professor J Sklansky
	Professor T Huang

STANDING COMMITTEES

Executive Committee
Professor J Kittler	President
Professor G Borgefors	First Vice President
Professor J Toriwaki Second	Vice President
Professor J K Aggarwal	Past President
Dr G Sanniti di Baja	Secretary
Dr J Bigun Treasurer	

Awards Committee
Professor H Freeman	Chairman
Professor P-E Danielsson	
Professor R L Kashyap	
Professor A Sanfeliu	
Professor Y Shirai	

Conferences & Meetings Committee
Professor R Plamondon	Chairman
Ass. Prof A J Maeder	
Professor M Pietikainen	
Dr H Yeshurun	

IFIP Representative
Professor S Levialdi

Constitution & Bylaws Committee
Professor M J B Duff	Chairman
Professor R M Haralick	
Ass. Prof A J Maeder	

Education Committee Chairman
Professor C J Taylor

Fellow Committee
Professor P A Devijver	Chairman
Professor G H Granlund	
Professor T Huang	
Professor W G Kropatsch	
Professor C Y Suen	
Professor M Takagi	

Industrial Liaison Committee
Dr G Maderlechner	Chairman
Dr R M Bolle	
Dr M Ejiri	
Dr B E Flinchbaugh	
Dr M Kidode	
Dr L O'Gorman	
Dr D Petkovic	

Membership Committee
Professor G Borgefors	Chairman
Dr D Chetverikov	
Dr P C K Kwok	

Nominating Committee
Professor J K Aggarwal	Chairman
Dr M Ejiri	
Professor E S Gelsema	
Professor H Niemann	
Professor C Y Suen	

Publications & Publicity Committee
Professor E Oja	Chairman
Professor S Ablameyko	
Professor Dr E Backer	Joint PRL Editor
Dr A F Clark	
Professor E S Gelsema	Joint PRL Editor
Dr M Haindl	
Dr M Petrou	Newsletter Editor

TECHNICAL COMMITTEES

TC1	Statistical Pattern Recognition Techniques	**Dr D Geiger, Dr P Pudil**
TC2	Structural & Syntactical Pattern Recognition	**Professor P S P Wang**
TC3	Neural Networks	**Professor E Oja**
TC4	Computer Vision & Image Understanding	**Professor W Martin, Professor L Shapiro**
TC5	Benchmarking & Software	**Dr A F Clark**
TC6	Special-Purpose Architectures	**Professor M Ferretti**
TC7	Applications in Remote Sensing	**Professor F W Leberl**
TC8	Applications in Industry	**Professor H Nishida**
TC9	Biomedical Pattern Recognition	**Dr J J Gerbrands**
TC10	Graphics Recognition	**Dr K Tombre**
TC11	Applications in Text Processing	**Professor G Lorette**
TC12	Multimedia & Communication Systems	**Dr 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**

CONTACT ADDRESSES FOR IAPR MEMBER ASSOCIATIONS

Australia
Australian Association for Pattern Recognition (150 Members)
Ass. Prof A J Maeder
School of Electrical & Electronic Systems
Engineering
Queensland University of Technology
GPO Box 2434
Brisbane 4001   Australia
Fax: +61 7 864 1516
Email: a.maeder@qut.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@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: +7 0172 31 84 03
Email:mahaniok%bas10.basnet.belpak.minsk.by@demos.su

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 2 752 078
Email: vvalev@bgearn.bitnet

Canada
Canadian Image Processing & Pattern Recognition Society (220 Members)
Professor R Plamondon
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: ha03@music.mus.polymtl.ca

China
Pattern Recognition & Machine Intelligence Committee of the Chinese Association of Automation (100 Members)
Professor T Chang
Department of Automation
Tsinghua University
Beijing
People's Republic of China

Czech Republic
Czechoslovak Pattern Recognition Society (50 Members)
Dr M Haindl
(c/o Dr J Flusser)
Institute of Theory of Information and Automation
Czech Academy of Sciences
Pod vodarenskou vezi 4
182 08 Praha 8   Czech Republic
Fax: +42 2 847452
Email: haindl@cspgas11.bitnet

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

Finland
Pattern Recognition Society of Finland (205 Members)
Mr J Kangas
Laboratory of Computer & Information Science
Helsinki University of Technology
SF-02150 Espoo
Finland
Fax: +358 0 451 3277
Email: jari.kangas@hut.fi

France
Pattern Recognition and Artificial Intelligence Group of AFCET (210 Members)
c/o Marie-France Kalogera
156 Boulevard Pereire
F-75017 Paris
France

Germany
Deutsche Arbeitsgemeinschaft fur Mustererkennung (DAGM) (300 Members)
Professor Dr J S Poppl
Medizinische Universitat Lubeck
Institut fur Medizinische Informatik
Ratzeburgerallee 160
W-2400 Lubeck 1
Germany
Fax: +49 451 500 6610
Email: poeppl@medinf.mu-luebeck.d400.de

Hong Kong
Hong Kong Society for Image Computing (100 Members)
Dr H H S Ip
Department of Computer Science
City Polytechnic of Hong Kong
Tat Chee Avenue
Kowloon
Hong Kong
Fax: +852 788 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
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)
Ms B-S Shezaf
Managing Director IPA
PO Box 53113
Tel-Aviv 61530
Israel
Fax: +972 3 647 3683
Email: ila2000@zeus.datasrv.co.il

Italy
Working Group for Pattern Recognition of the Italian Association for Automatic Computation (120 Members)
Professor P Mussio
Universita' di Roma "La Sapienza"
Corso di Laurea in Scienze dell' Informazione
Via Saleria 113
00198 Roma
Italy
Fax: +39 6 8541842
Email: mussio@dsi.uniroma1.it

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

Korea (South)
Korean Artificial Intelligence Group (500 Members)
Professor Dong Yun Kim
Department of Information Science
Ajou University
Kyoung-ki Do
Suwon Si
Paldal Ku
South Korea 441-749
Fax: +82 331 213 8284

Netherlands
Nederlandse Vereniging voor Patroonherkennung en Beeldverwerking (320 Members)
Professor Dr ir A W M Smeulders
Vakgroep Computer Systems
Universiteit van Amsterdam
Kruislaan 403
1098 SJ Amsterdam
Netherlands
Fax: +31 20 525 7490;   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
Institute of Fundamental Technological Research
Swietokrzyska 21
PL 00-049 Warszawa
Poland
Fax: +48 22 269815
Email: lchmiel@.ippt.gov.pl

Portugal
Associacao Portuguesa de Reconhecimento de Padroes (APRP) (50 Members)
Professor A J de C Campilho
Faculdade de Engenharia da Universidade do Porto
Rua dos Bragas
4099 Porto Codex
Portugal
Fax: +351 2 319280
Email: campilho@fe.up.pt

Slovenia
Slovenian Society for Pattern Recognition (63 Members)
Dr F Solina
Faculty of Electrical Engineering and Computer Science
University of Ljubljana
Trzaska cesta 25
61001 Ljubljana
Slovenia
Fax: +386 61 264 990
Email: franc@fer.uni-lj.si

South Africa
Pattern Recognition Association of South Africa (42 Members)
Professor F S Roux
Department of Electrical and Electronic Engineering
Potchefstroomse Universieit
Private bag X6001
Potchefstroom 2520
South Africa
Fax: +27 148 992799
Email: eeifsr@puknet.puk.ac.za

Spain
Spanish Association of Pattern Recognition and Image Analysis (80 Members)
Professor A Sanfeliu
Instituto de Cibernetica
Universidad Politecnica de Cataluna
Diagonal 647
08028 Barcelona
Spain
Fax: +34 3 401 6605;   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)
Professor Jhing-Fa Wang
Institute of Information Engineering
National Cheng Kung University
1 Ta-Hsueh Road
Tainan
Taiwan
Republic of China
Fax: +886 6 274 7076
Email: Wangjf@Server2.iie.ncku.edu.tw

Ukraine
Ukrainian Association on Information Processing and Pattern Recognition (625 Members)
Professor T K Vintsiuk
Sound Pattern Recognition & Synthesis Department
Institute of Cybernetics of the Academy of Sciences of Ukraina
40 Academician Glushkov Avenue
Kyjiv 252207   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 A F Clark
Department of Electronic Systems Engineering
University of Essex
Wivenhoe Park
Colchester CO4 3SQ
UK
Fax: +44 1206 872900
Email: alien@essex.ac.uk

USA
IEEE Computer Society (880 Members)
Professor L Shapiro
Department of Computer Science and Engineering
FR-35
University of Washington
Seattle
Washington 98195
USA
Tel: +1 206 543 2196
Email: shapiro@lillith.ee.washington.edu

Russia
Scientific Council on Pattern Recognition and Scene Processing of the CIS Academy of Sciences (1190 Members)
Dr-Ing I Gurevitch
Russian Academy of Sciences
Scientific Council "CYBERNETICS"
40 Vavilov Street
117967 Moscow
Russia
Fax: +7 095 1290797
Email: igurev@nsk.uucp.free.msk.su

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: +7 0172 39 51 71
Fax: +7 0172 31 84 03   Email:
mahaniok%bas10.basnet.belpak.minsk.by@demos.su

Aggarwal Professor J K
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.ee.utexas.edu

Backer Professor Dr E
Department of Electrical Engineering
Delft University of Technology
Postbus 5031
2600 GA Delft
Netherlands
Tel: +31 15 786176
Fax: +31 15 622000
Email: backer@et.tudelft.nl

Bernsen Mr J
Philips Centre for Manufacturing Technology
PO Box 218
5600 MD Eindhoven
The Netherlands
Tel: +31 40 73 59 71
Email: john@vangogh.cft.philips.nl

Bigun Dr J
Swiss Federal Institute of Technology
EPFL
DE-LTS
CH-1015 Lausanne
Switzerland
Tel: +41 21 693 2796
Fax: +41 21 693 7600
Email: Josef.Bigun@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
Department of Computer Science and Engineering
University of South Florida
Tampa
Florida 33620-5399
USA
Tel: +1 813 974 3032
Email: kwb@sol.usf.edu

Campilho Professor A J de C
Faculdade de Engenharia da Universidade do Porto
Rua dos Bragas
4099 Porto Codex
Portugal
Tel: +351 2 317105
Fax: +351 2 319280
Email: campilho@fe.up.pt

Castan Professor S
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

Chang Professor T
Department of Automation
Tsinghua University
Beijing
People's Republic of China

Chen Professor Zen
Department of Computer Science & Information
Engineering
National Chiao Tung University
Hsinchu
Taiwan
Republic of China
Tel: +886 35 712121
Fax: +886 35 724176
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

Chmielewski Dr L
Institute of Fundamental Technological Research
Swietokrzyska 21
PL 00-049 Warszawa
Poland
Fax: +48 22 269815
Email: lchmiel@.ippt.gov.pl

Christensen Dr H I
Laboratory of Image Analysis
Aalborg University
Fr Bajers Vej 7-D
DK-9220 Aalborg
Denmark
Tel: +45 98 151133
Fax: +45 98 154008
Email: hic@vision.auc.dk

Clark Dr A F
Department of Electronic Systems Engineering
University of Essex
Wivenhoe Park
Colchester CO4 3SQ
UK
Tel: +44 1206 872432
Fax: +44 1206 872900
Email: alien@essex.ac.uk

Conradsen Professor K
IMM, Institute of Mathematical Modelling
Building 321
Technical University of Denmark
DK-2800 LYNGBY
Denmark
Tel: +45 42 88 1433
Fax: +45 42 88 13 97
Email: kc@imsor.dth.dk

Danielsson Professor P-E
Computer Vision Laboratory
Dept of Electrical Engineering
Linkoping University
S-581 83 Linkoping
Sweden
Tel: +46 132 81000
Fax: +46 139 282
Email: ped@isy.liu.se

Devijver Professor P A
Ecole Nationale Superieure des
Telecommunications de Bretagne (ENSTBr)
BP 832
F-29285 Brest
France
Tel: +33 98 00 13 00
Fax: +33 98 00 10 02
Email: PA.devijver@enst-bretagne.fr

Di Gesú Professor V
Dipartimento di Matematica ed Applicazioni
Universita di Palermo
Via Archirafi 34
I-90123 Palermo
Italy
Tel: +39 91 6040411/6040209
Fax: +39 91 6165425
Email: digesu@ipamat.math.unipa.it

Duff Professor M J B
Department of Physics and Astronomy
University College London
Gower Street
London
WC1E 6BT
UK
Tel: +44 171 380 7010
Fax: +44 171 380 7011
Email: m.duff@ucl.ac.uk

Dutta Majumder Professor D
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

Edelman Dr S
Department of Applied Mathematics & Computer
Science
The Weizmann Institute of Science
Rehovot 76100
Israel
Tel: +972 8 342856
Fax: +972 8 344122
Email: edelman@wisdom.weizmann.ac.il

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

Ejiri Dr M
Central 2 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

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@ipvmv.unipv.it

Flinchbaugh Dr B E
Central Research Laboratories
Texas Instruments
PO Box 655474 MS 238
Dallas
Texas 75265
USA
Tel: +1 214 995 0349
Fax: +1 214 995 8600
Email: bef@ti.com

Freeman Professor H
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

Geiger Dr D
Siemens Corporate Research Inc
755 College Road East
Princeton
New Jersey 08540   USA
Tel: +1 609 734 3624
Fax: +1 609 734 6565
Email: geiger@siemens.siemens.com

Gelsema Professor E S
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
PO Box 5031
2600 GA Delft
The Netherlands
Tel: +31 15 786424
Fax: +31 15 781843
Email: gerbrands@et.tudelft.nl

Granlund Professor G H
Computer Vision Laboratory
Linkoping University
S-581 83 Linkoping
Sweden
Tel: +46 13 281303
Fax: +46 13 138526
Email: gosta@isy.liu.se

Gros Professor J
Faculty of Electrical Engineering and Computer
Science
University of Ljubljana
Trzaska cesta 25
61001 Ljubljana
Slovenia
Tel: +386 61 176 8316
Fax: +386 61 264 990
Email: nejka@fer.uni-lj.si

Gurevitch Dr-Ing I
Russian Academy of Sciences
Scientific Council "CYBERNETICS"
40 Vavilov Street
117967 Moscow
Russia
Tel: +7 095 1290797
Fax: +7 095 1290797
Email: igurev@nsk.uucp.free.msk.su

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
c/0 Dr Jan Flusser
Institute of Theory of Information and Automation
Czech Academy of Sciences
Pod vodarenskou vezi 4
182 08 Praha 8   Czech Republic
Tel: +42 2 815 2551
Fax: +42 2 847452
Email: haindl@cspgas11.bitnet

Hallgren Assistant Professor T
IDT,NTH
Technical University of Norway
N-7034 Trondheim
Norway
Tel: +47 7 3593679
Fax: +47 7 3594466
Email: torbh@idt.unit.no

Haralick Professor R M
Department of Electrical Engineering
FT-10
University of Washington
Seattle
Washington 98195
USA
Tel: +1 206 685 4974
Fax: +1 206 543 3842
Email: haralick@ee.washington.edu

Haton Professor J-P
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

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
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 Dr H H S
Department of Computer Science
City Polytechnic of Hong Kong
Tat Chee Avenue
Kowloon
Hong Kong
Tel: +852 788 8641
Fax: +852 788 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
Pattern Recognition Section
Faculty of Applied Physics
Delft University of Technology
Posthus 5046
2600 GA Delft
Netherlands
Tel: +31 15 783763
Fax: +31 15 626740
Email: pieter@ph.tn.tudelft.nl

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

Kangas Mr J
Laboratory of Computer & Information Science
Helsinki University of Technology
SF-02150 Espoo
Finland
Tel: +358 0 451 3275
Fax: +358 0 451 3277
Email: jari.kangas@hut.fi

Kashyap Professor R L
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
Toshiba Kansai Research Laboratory
8-6-26 Motoyamaminami-cho
Higashinada-ku
Kobe 658
Japan
Tel: +81 78 435 3501
Fax: +81 78 435 8678
Email: kdd@krl.toshiba.co.jp

Kim Professor Dong Yun
Department of Information Science
Ajou University
Kyoung-ki Do
Suwon Si
Paldal Ku
South Korea 441-749
Tel: +82 331 219 2632
Fax: +82 331 213 8284

Kittler Professor J
Department of Electronic and Electrical
Engineering
University of Surrey
Guildford
Surrey GU2 5XH
UK
Tel: +44 1483 259294
Fax: +44 1483 34139
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@garbo.isy.liu.se

Kropatsch Professor W G
Institut für Automation 183/2
Department for Pattern Recognition and Image
Processing
Technical University of Vienna
Treitlstrasse 3/1832
A-1040 Vienna   Austria
Tel: +43 1 58801
Fax: +43 1 5869697
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

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 Computer Science
University of Calgary
2500 University Drive NW
Calgary
Alberta TN2 1N4
Canada
Fax: +1 403 284 4707
Email: kwok@cpsc.ucalgary.ca

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

Leberl Professor F W
Institute for Computer Graphics
Graz University of Technology
Munzgrabenstr 11
A-8010 Graz
Austria
Tel: +43 316 841766
Fax: +43 316 846304
Email: leberl@oans.tu-graz.ac.at
OR - leberl@icg.tu-graz.ac.at

Lee Professor C N
Department of Mathematics
Pohang University of Science & Technology
Pohang, Kyungbuk
790-784 Korea
Tel: +82 562 2792041
Fax: +82 562 2792799
Email: cnlee@posmath.postech.ac.kr

Levialdi Professor S
(IAPR Representative to IFIP)
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

Lorette Prof G
IRISA
Campus universitaire de Beaulieu
35042 Rennes Cedex
France
Tel: +33 99 847358
Fax: +33 99 383832
Email: lorette@irisa.fr

Maccarone Dr M C
IFACI/CNR
Piazza Verdi 6
90139 Palermo
Italy
Tel: +39 91 605 5360
Fax: +39 91 605 5355
Email: maccarone@iifcaiv.ifcai.pa.cnr.it

Maderlechner Dr G
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@bsun6.2fe.siemens.de

Maeder Ass. Prof A J
School of Electrical & Electronic Systems
Engineering
Queensland University of Technology
GPO Box 2434
Brisbane 4001, Australia
Tel: +61 7 864 1988
Fax: +61 7 864 1516
Email: a.maeder@qut.edu.au

Martin Professor W
Department of Computer Science
Thornton Hall
University of Virginia
Charlottesville
Virginia 22901, USA
Tel: +1 804 982 2202
Fax: +1 804 982 2214
Email: wnm@uvacs.cs.virginia.edu

Mussio Professor P
Universita' di Roma "La Sapienza"
Corso di Laurea in Scienze dell' Informazione
Via Saleria 113
00198 Roma
Italy
Tel: +39 6 499 18310
Fax: +39 6 8541842
Email: mussio@dsi.uniroma1.it

Niemann Professor H
Universitat Erlangen-Nurnberg
Lehrstuhl fur Mustererkennung (Informatik 5)
Martensstrasse 3
91058 Erlangen
Germany
Tel: +49 91 31 85 7774
Fax: +49 91 31 303 811
Email: niemann@informatik.uni-erlangen.de

Nishida Professor H
The University of Aizu
Tsuruga
Ikki-machi
Aizu-Wakamatsu City
Fukushima
965 Japan
Tel: +81 242 372608
Fax: +81 242 372729
Email: nishida@u-aizu.ac.jp

O'Gorman Dr L
AT & T Bell Laboratories, Room 2B-221
Murray Hill
New Jersey 07974-0636
USA
Tel: +1 908 582 7262
Fax: +1 908 582 5809
Email: log@research.att.com

Oja Professor E
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

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
Department of Electronic and Electrical
Engineering
University of Surrey
Guildford
Surrey GU2 5XH
UK
Tel: +44 1483 259801
Fax: +44 1483 34139
Email: m.petrou@ee.surrey.ac.uk

Pietikainen Professor M
Department of Electrical Engineering
University of Oulu
FIN-90570 Oulu
Finland
Tel: +358 81 5532782
Fax: +358 81 5532600
Email: mkp@ee.oulu.fi

Plamondon Professor R
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: ha03@music.mus.polymtl.ca

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

Pöppl Professor Dr J S
Medizinische Universitat Lubeck
Institut fur Medizinische Informatik
Ratzeburgerallee 160
W-2400 Lubeck 1
Germany
Tel: +49 451 500 6600
Fax: +49 451 500 6610
Email: poeppl@medinf.mu-luebeck.d400.de

Pudil Dr P
Institute of Information Theory and Automation
Czech Academy of Sciences
Pod vodarenskou vezi 4
18208 Praha 8
Czech Republic
Tel: +42 2 660 52353
Fax: +42 2 664 13031
Email: pudil@utia.cas.cz

Roux Professor F S
Department of Electrical and Electronic
Engineering
Potchefstroomse Universieit
Private bag X6001
Potchefstroom 2520
South Africa
Tel: +27 148 991111
Fax: +27 148 992799
Email: eeifsr@puknet.puk.ac.za

Sanfeliu Professor A
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: iapr@imagm.na.cnr.it

Schlesinger Professor M I
Image Recognition Department
Institute of Cybernetics of the Academy of Science
of Ukraina
40 Academician Glushkov Avenue
Kyiv 252207
Ukraina
Tel: +7 044 266 2569
Fax: +7 044 266 7418
Email: schles%image.kiev.ua@ts.kiev.ua

Shapiro Professor L
Department of Computer Science and Engineering
FR-35
University of Washington
Seattle
Washington 98195, USA
Tel: +1 206 543 2196
Email: shapiro@lillith.ee.washington.edu

Shi Professor Qingyun
National Lab for Machine Perception
Center for Information Science
Peking University
100871 Beijing
People's Republic of China
Tel: +86 1 2501935
Fax: +86 1 2564095
Email: qys@pics16.cis.pku.edu.cn

Shirai Professor Y
Faculty of Engineering
Osaka University
Suita, Osaka
Japan 565
Tel: +81 6 877 5111
Fax: +81 6 876 4975
Email: shirai@ccmip.ccm.osaka-u.ac.jp

Sklansky Professor J
Department of Electrical and Computer
Engineering
University of California
Irvine
California 92717
USA
Tel: +1 714 856 6726
Fax: +1 714 856 4152
Email: sklansky@envy.eng.uci.edu

Smeulders Professor Dr ir A W M
Vakgroep Computer Systems
Universiteit van Amsterdam
Kruislaan 403
1098 SJ Amsterdam
Netherlands
Tel: +31 20 525 7463
Fax: +31 20 525 7490
Email: smeulder@fwi.uva.nl

Solina Dr F
Faculty of Electrical Engineering and Computer
Science
University of Ljubljana
Trzaska cesta 25
61001 Ljubljana
Slovenia
Tel: +386 1768 389
Fax: +386 61 264 990
Email: franc@fer.uni-lj.si

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
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

Takagi Professor M
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

Taylor Professor C J
Department of Medical Biophysics
University of Manchester
Stopford Building
Oxford Road
Manchester, M13 9PT
UK
Tel: +44 161 275 513o
Fax: +44 161 275 5145
Email: ctaylor@wiau.mb.man.ac.uk

Tombre Dr K
INRIA Lorraine & CRIN/CNRS
Batiment LORIA
615 rue du jardin botanique
BP 101
54602 Villers-les-Nancy CEDEX
France
Tel: +33 83 59 2071
Fax: +33 83 27 8319
Email: tombre@loria.fr

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

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

Valev Dr V
Institute of Mathematics
Bulgarian Academy of Sciences
PO Box 373
1090 Sofia
Bulgaria
Tel: +359 2 713 2830
Fax: +359 2 752 078
Email: vvalev@bgearn.bitnet

Venta Dr O
VTT - State Research Centre of Finland
Laboratory of Electrical & Automation
Engineering
PO Box 34
FIN-02151 Espoo Finland
Tel: +358 0 456 6556
Fax: +358 0 456 6475
Email: olli.venta@vtt.fi

Vintsiuk Professor T K
Sound Pattern Recognition & Synthesis
Department
Institute of Cybernetics of the Academy of Sciences
of Ukraina
40 Academician Glushkov Avenue
Kyjiv 252207   Ukraina
Tel: +7 044 266 4356
Fax: +7 044 266 1570
Email: vintsiuk%golos.kiev.ua@relay.ussr.eu.net

Vossepoel Dr A M
Delft University of Technology
Applied Physics
PO Box 5046
2600 GA Delft
Netherlands
Tel: +31 15 782033
Fax: +31 15 626740
Email: albert@ph.tn.tudelft.nl

Wang Professor P S P
College of Computer Science
Northeastern University
Boston
Massachusetts 02115, USA
Tel: +1 617 437 3711
Fax: +1 617 437 5121
Email: pwang@corwin.ccs.northeastern.edu

Wang Professor Jhing-Fa
Institute of Information Engineering
National Cheng Kung University
1 Ta-Hsueh Road
Tainan
Taiwan
Republic of China
Fax: +886 6 274 7076
Email: Wangjf@Server2.iie.ncku.edu.tw

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

IAPR SECRETARIAT
66 Weston Park
Thames Ditton
Surrey
KT7 0HL
United Kingdom
Tel: +44 181 398 2766
Fax: +44 181 398 2766
Email: 100042.511@compuserve.com

➡➡➡➡➡
PLEASE CONTACT THE SECRETARIAT
AT THE ADDRESS SHOWN ABOVE
IF THERE ARE ANY ALTERATIONS TO THIS DIRECTORY
➡➡➡➡➡➡

IAPR ADVERTISEMENTS AND PUBLICATIONS

PATTERN RECOGNITION LETTERS
Sponsored by IAPR
North-Holland

Editors-in-Chief:
E Backer   Delft University, The Netherlands
E S Gelsema   Erasmus University, The Netherlands

Elsevier has substantially reduced the 1995 subscription rate for the 12 issues of volume 16 (ISBN 0167-8655),of Pattern Recognition Letters for individual members, member societies and industrial affiliates of IAPR.   This volume, (including carriage), will be:

Dfl. 504.00 for individual mailing
Dfl. 285.00 for bulk mailings

For further information contact:
Elsevier Science BV,   Attention: Joyce Snoek,   PO Box 103
1000 AC Amsterdam,   The Netherlands
Tel: +31 20 5862 602
Fax: +31 20 5862 616

MACHINE VISION AND APPLICATIONS
Sponsored by IAPR
Springer-Verlag

Recently, an agreement has been concluded between IAPR and the journal Machine Vision and Applications. IAPR will sponsor the journal and IAPR members will have reduced subscription rates: for the 6 issues to be published in 1995,

US $49.00, plus
US $ 35.00 carriage charge

It should be noted that the IAPR sponsorship of the journal Pattern Recognition Letters is not affected by this agreement. Machine Vision and Applications publishes technical contributions in machine vision research and development, and places particular emphasis on engineering and technology aspects of image processing and computer vision. Examples of topics covered by the journal are: - algorithms - architectures - VLSI implementations - AI-techniques and expert systems for machine vision - languages - front-end sensing applied to image-related problems   - multi-dimensional and multisensor machine vision   - optical computing - real-time techniques   Abstracted/Indexed in: Current Contents ISSN 0932-8092 Title No. 138

For further information and FREE sample copies contact:
Dr. Nicola Klupsch, Springer-Verlag, Tiergartenstr. 17 , D-69121 Heidelberg Germany
Tel. (06221) 487358
Fax. (06221) 487190   e.mail: klupsch@springer.de
To subscribe email: subscriptions@springer.de