



International Association for Pattern Recognition, Inc.

An affiliate member of the International Federation for Information Processing

NEWSLETTER

Editor

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EDITORIAL COMMENTS

SWAN SONG

I have now been the Editor of the IAPR Newsletter for the past two years. After having been elected as the Treasurer of the IAPR at Miami Beach, I requested of Prof. Azriel Rosenfeld, the new President, that I be relieved of my duties and a new editor appointed.

I am pleased to inform the members of the IAPR that Prof. Ruzena Bajcsy, Department of Computer and Information Science, University of Pennsylvania, Philadelphia, PA, 19174, USA will be the new editor. I wish her good luck in her new position.

I would also like to thank all those people around the world who responded to my requests for material for the Newsletter. We are all I am sure being constantly bombarded with various demands. I was therefore quite pleased

that so many of you helped me by writing reports and sending along bits of information. I sincerely hope that you will continue to offer this kind of support to the new editor.

Martin D. Levine

Martin D. Levine
Editor

MESSAGE FROM THE PAST PRESIDENT

The 5th International Conference on Pattern Recognition is now a matter of the past and all the participants have returned to their homes, impressed by the magnitude and scope of this conference - almost 300 papers presented and over 600 persons in attendance. The interest in pattern recognition, its techniques as well as its applications, continues to expand and diversify at a dizzying rate.

The International Association for Pattern Recognition is entering its fifth year with strength and confidence. Membership has risen to 14 national societies, with the Republic of China joining as the most recent member. Our Newsletter, under the fine editorship of Martin Levine, has become a regular quarterly news medium for events relating to IAPR and the pattern recognition community in general. IAPR, as an affiliate of IFIP, is now the official organization representing pattern recognition in the international sphere.

With the new year, a new slate of officers has taken over the leadership of your Association. I hope you will give Professor Azriel Rosenfeld, your new president, the same warm support and co-operation you gave me during the past two years.

I should like to take special recognition of the dedicated service of Professor C.J.D.M. Verhagen, who retired last fall from his post at the Delft Technical University and now also as secretary of IAPR, a position he held since IAPR was founded. We thank him for all he has done for IAPR and wish him good fortune in his new status.

Finally I want to thank all those with whom I had the pleasure to work during these past two years, especially the members of the Executive Committee and of the Governing Board, for their support and good fellowship.

Herbert Freeman

NEW GOVERNING BOARD OF THE IAPR

President: Prof. Azriel Rosenfeld
University of Maryland
Computer Science Center
College Park, Maryland 20472
U.S.A.

First Vice-President: Dr. P.W. Becker
Electronic Institute
Technical University of
Denmark
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DK-2800 Lyngby, Denmark

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Sakyo-ku, Kyoto 606 Japan

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Canada

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Prof. di.ing. H. Marko
Institut für Nachrichten-
technik
Tech. Universität München
8-München 2, Arcisstr. 21
West Germany

AMENDMENTS TO THE IAPR CONSTITUTION AND BYLAWS

Adopted by the Governing Board at Miami Beach

Constitution Article IV

Old title: Officers
New title: Governing board and Officers

Section 4.1

Old text: The association shall have a Governing Board and an Executive Committee.

New text: The association shall have a Governing Board, an Executive Committee and the following officers: President, two Vice- Presidents, Secretary and Treasurer.

Section 4.3:

Old text: The Executive Committee shall consist of the following officers: President, Vice-President, Past-President, Secretary, Treasurer, Chairman of next International Conference and Past Chairman of the Conference.

New text: The Executive Committee shall consist of the following: President, First Vice-President, Second Vice-President, Past President, Secretary, Treasurer, Chairman of the next International Conference and

Past Chairman of the Conference.

Section 4.6:
Old text:

The term of office of the members of the Governing Board shall be four years: the term of office of the officers of the Executive Committee shall be two years. Re-election is permissible with the restriction that the length of uninterrupted duty of President, Vice-President or Secretary of the Executive Committee shall be four years at most.

New text:

The terms of the officers shall be two years. Re-election is permissible with the restriction that the length of uninterrupted duty of President, Vice-Presidents or Secretary shall be four years at most.

Section 5.1:

Change "Vice President" to Vice Presidents".

Section 5.2:
Old text:

The Vice President shall be responsible for the duties of the President in case of absence.

New text:

The First Vice President, or in his absence, the Second Vice President, shall be responsible for the duties of the President in case of the latter's absence.

Bylaws:

Section 6a:

Change "Vice President" to "Vice Presidents".

Bylaws:

Section 9j:

new section:

If a member of the Governing Board is unable to be present at a meeting, he may designate another person, including another member of the Governing Board, to cast a proxy vote in his behalf in some or all voting matters. Such proxies will be valid only if made in writing and signed by the member.

Section 11d:

new section:

Whenever possible, publicity matters relating to the international conference should clearly state that the conference is a

conference of the International Association for Pattern Recognition.

CONFERENCES

5th INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION

Konover Hotel, Miami Beach, Florida

Tutorials held November 29-30, 1980

Conference, December 1-4, 1980

Countries in alphabetical order participating in SICPR:

Austria	1	Israel	1
Belgium	3	Italy	9
Canada	22	Japan	36
China	6	Mexico	1
Denmark	2	Norway	1
Finland	2	Spain	1
France	43	Sweden	12
East Germany	2	Switzerland	2
West Germany	42	United Kingdom	13
Holland	9	U.S.A.	396
Hungary	1	Yugoslavia	1
India	1		

Total participants at Conference -- 608

NITPIC

....Dr. Viktor Brailovsky of Moscow was invited to participate on a panel at the Miami ICPR. He was arrested on November 13th and was not allowed to attend the Conference. A petition to Academician A.P. Aleksandrov, President of the Academy of Sciences of the USSR was circulated and an information meeting was held during the Conference....Contributions to the field and the IAPR by Profs. D.J.D.M. Verhagen of Delft University and K.-S. Fu of Purdue University were recognized at the Miami Beach Conference by a citation and small gift....The number of advanced registrants for the Miami conference was 408 out of a total of 608 attendees. The hotel was completely booked almost one month before the conference....There is a one year turnaround for Computer Graphics and Image Processing and a two year turnaround for the IEEE Transactions on Pattern Analysis and Machine Intelligence.... A Conference on Military and Space Applications of Robotics was held last November in Washington, D.C....."We won't have solved the computer vision problem until we have been able to design a vacuum cleaner that can discriminate between furniture, toys, and dirt". (Azriel Rosenfeld in the Image

Understanding Panel Discussion at Miami Beach).... A new book will soon be available entitled "Languages and Architectures for Image Processing" edited by M.J.B. Duff of the University College of London and S. Levialdi of the Instituto di Cibernetica in Naples. The book will be published by the Academic Press.... "It's all parameters" (Dana Ballard at the recent Miami Conference).... The Pattern Recognition and Machine Intelligence Committee of the Chinese Association of Automation from the Peoples Republic of China was accepted as an organizational member of IAPR. Mr. Chang Tong was installed as a member of the governing board The preparation of a flier entitled "What is IAPR?" is being considered. It is intended that it be available for distribution in order to publicize our interests and the work we are doing The IAPR is considering the creation of a number of working groups within the field of pattern recognition, each specifically concerned with a particular technical speciality.... Some consideration is being given to the creation of a new journal for the quick publication of short communications in the field of Pattern Recognition The 1984 Conference on Pattern Recognition will be held during the month of July in Montreal, Canada....

CONFERENCE REPORTS

CONFERENCE ON IMAGE ANALYSIS AND PROCESSING

Pavia, Italy October, 1980

A three day conference, sponsored by several Italian organizations, was held at the University of Pavia with the aim of presenting a cross-section of the current work in Image Analysis and Processing. Four invited speakers: G. Granlund, H.H. Nagel, H. Freeman and A.P. Reeves spoke about Image processing problems and solutions, time-varying image analysis, map encoding techniques and USA projects for building new parallel systems for fast image processing. Two additional invited talks on remote sensing were given by M. Bied-Charreton and G. Weill. Over 35 papers were also presented, the subjects ranging from new models for retinal vision to compact block coding schemes for storing digital images. The participants came from the University National Research Council, private industry, and local administrations.

A final session was devoted to the presentation and discussion of the National and European Joint Research Center Programs dealing with geodata processing. More specifically, the Special Programs by the Italian National Research Council on Environmental and Applied Computer Sciences were analysed and a coordination among the related working groups was established.

The Pattern Recognition group affiliated to IAPR, met and decided to run a school on Pattern Recognition and Image Processing in 1981.

The proceedings of the Pavia Conference

are available and a selected set of papers will appear in a special issue of Signal Processing published by North Holland.

S. Levialdi Scientific Chairman

V. Cantoni Conference Secretary

INFORMATION PROCESSING IN MEDICAL IMAGING

Edited by Di Paola & Edmond Kahn 42 papers in English.

INSERM L'INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE

Vol. 88, 700 pages - 120 FF/40 US \$ including air mail postage.

Proceedings of the INSERM Symposium held in Paris in July 1979, dealing with the following topics:

- Nuclear Magnetic Resonance, Ultra Sound and Nuclear Scattering Imaging
- Radiological and Computerized Axial Tomography Imaging
- Nuclear Medicine Imaging - Positron Emission Tomography
- Gamma Emission and Compton Scattering Tomography
- Dynamic Functions Studies
- Display Systems and Algorithms

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CONFERENCES & WORKSHOPS

IEEE COMPUTER SOCIETY CONFERENCE ON PATTERN RECOGNITION AND IMAGE PROCESSING

August 3-5, 1981

Hyatt Regency Hotel, Dallas, TX

Conference Committee

- | | |
|---|---|
| Chairman: | J.K. Aggarwal, University of Texas (Austin) |
| Vice Chairman and Treasurer: | Larry S. Davis, University of Texas (Austin) |
| Technical Program Chairman: | Azriel Rosenfeld, University of Maryland (College park) |
| Local Arrangements and Registration Chairman: | Stephen A. Underwood, University of Texas (Arlington) |

Exhibits: Marg Know, University of Texas
(Austin)

Publication Kenneth R. Diller, University of
Chairman: Texas (Austin)

Program Committee

Ruzena Bajcsy, University of Pennsylvania

Richard O. Duda, SRI International

Herbert Freeman, Rensselaer Polytechnic Institute

K.S. Fu, Purdue University

Robert M. Haralick, Virginia Polytechnic Inst.
and State University

Martin D. Levine, McGill University

H.H. Nagel, University of Hamburg

David Nitzan, SRI International

William B. Thompson, University of Minnesota

Papers will be presented on all aspects of pattern recognition and image processing. Special sessions are planned on time-varying imagery, 3-D object representation, automatic generation of recognition strategies, and map data processing.

The conference is being held in conjunction with ACM SIGGRAPH 81, and a joint session on topics of common interest to image processing and computer graphics will be held. There will also be a day of preconference tutorials covering basic aspects of pattern recognition and image processing conducted by leading experts in the field.

11th INTERNATIONAL SYMPOSIUM ON INDUSTRIAL ROBOTS

Tokyo, Japan
October 7-9, 1981

Any enquiries relating to the Symposium should be sent to:

Mr. Y. Komori
Organizing Secretary, 11th ISIR
Japan Industrial Robot Association
Kikai Shinko Kaikan Bldg.
3-5-8, Shiba-Koen, Minato-ku
Tokyo, 105, Japan

An exhibition of industrial robots and their associated equipment will be held concurrently with the Symposium.

SECOND ASSP WORKSHOP ON TWO-DIMENSIONAL DIGITAL SIGNAL PROCESSING

Mohonk Mountain House
New Paltz, New York
October 5-7, 1981

The second ASSP Workshop on Two-Dimensional Digital Signal Processing will be held on October 5-7, 1981, at the Mohonk Mountain House on Lake Mohonk, New Paltz, New York. It is sponsored by the IEEE Acoustics, Speech and Signal Processing Society.

The objective of the workshop is to provide a forum for discussion of new theoretical developments in 2-D digital signal processing and of applications to "real world" problems. The intent is to attract researchers from many diverse fields who ordinarily do not have such an opportunity for discussions together.

The workshop will consist of both plenary sessions of a tutorial character and parallel sessions of a traditional workshop nature. Three main themes have been identified for the workshop:

Algorithms for 2-D DSP:
Estimation and Detection
Spectral Estimation
Filter Design and Implementation
System Theory

Geophysical Applications of 2-D DSP:
Wave Equation Migration
Spectral Estimation and Filtering
Seismic Modeling and Inverse Problems
Geophysical Pattern Recognition

Image Processing Applications
Image Segmentation and Scene Analysis
Image Restoration
Ultrasonic Image Processing
Image Modeling

Attendance at the workshop will be by both invitation and application. For information concerning participation, please contact the Registration Chairman prior to July 1, 1981:

Dr. Thomas L. Marzetta
Schlumberger-Doll Research
Old Quarry Road
Ridgefield, CT 06877
(203) 438-2631

WORKSHOP STEERING COMMITTEE

PROGRAM COMMITTEE

Michael P. Ekstrom	Azriel Rosenfeld
General Chairman	Image Processing
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John Woods, Algorithms
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1007 Century Building, Winnipeg, Manitoba R3H 0W4.

SIGGRAPH '81

*Sponsored by the
Association for Computing Machinery*

EIGHTH ANNUAL CONFERENCE ON COMPUTER GRAPHICS AND INTERACTIVE TECHNIQUES

August 3-7, 1981 Dallas

SIGGRAPH '81, the Eighth Annual Conference on Computer Graphics and Interactive Techniques, will be held in conjunction with the IEEE PRIP Conference August 3-7, 1981 at the Dallas Convention Center, Dallas, Texas. The conference will consist of a blend of paper and panel discussions with major emphasis on human-machine communication and applications demonstrating state-of-the-art techniques. Both hardware and software topics are encouraged. An emphasis will be placed on industrial (foreign and local), government, and other innovative end-user applications. Tutorials will precede the conference.

General Conference Information -

*Dr. Douglas Green
Department of Electrical Engineering
Texas A & M University
College Station, Texas 77843
(713) 846-2021*

CALL FOR PAPERS

6TH INTERNATIONAL CONFERENCE ON PATTERN RECOGNITION

Munich, Germany, Oct. 91-22, 1982

ADVANCE INFORMATION

The 1982 International Conference on Pattern Recognition is the sixth in a series of international conferences devoted to all aspects of pattern recognition theory and practice. The Conference will be held on October 19-22, 1982 at the Technical University in Munich, Germany.

Technical exhibits and poster sessions will be provided.

Areas of Interest

CLASSIFICATION OF PATTERNS

assigning a pattern to a class - statistical, structural and syntactic methods for classification of patterns, clustering and learning techniques, preprocessing for classification, feature extraction for classification.

LOCAL ARRANGEMENTS

Richard Gran
Grumman Aerospace
Corporation
Bethpage, NY 11714

REGISTRATION/TREASURER

Thomas L. Marzetta
Schlumberger-Doll Research
Old Quarry Road
Ridgefield, 06877

PUBLICITY

Bradley W. Dickinson
Department of Electrical Engineering & Computer Sci.
Princeton University
Princeton, N.J. 08544
U.S.A.

FIFTEENTH INTERNATIONAL SYMPOSIUM ON REMOTE SENSING OF ENVIRONMENT

*May 11-15, 1981
Ann Arbor, Michigan*

The Fifteenth International Symposium on Remote Sensing of Environment, to be held from May 11 to 15, 1981 in Ann Arbor, Michigan, will address state-of-the-art capabilities and techniques, as well as new or innovative concepts in scientific research and development, leading to a better understanding of the technology and its effective application.

This symposium, open to all who have an interest in remote sensing, is intended to promote increased international cooperation in research, development and application of this technology, and to stimulate an exchange of information on all aspects of this multidisciplinary field.

IEEE GEOSCIENCE AND REMOTE SENSING SOCIETY

The 1981 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'81) will be held at the Twin Bridges Marriott Hotel in Washington, D.C. on June 8-10, 1981. The meeting is being sponsored by the IEEE Geoscience and Remote Sensing Society, and co-sponsored by many European and North-American organizations.

SEVENTH CANADIAN SYMPOSIUM ON REMOTE SENSING

Winnipeg, September 9-11, 1981

This meeting will be sponsored by the Canadian Aeronautics and Space-Institute, and will be hosted by the Manitoba Branch of the Canadian Institute of Surveying. For further information contact Bill Best, Manitoba Remote Sensing Centre,

ANALYSIS OF PATTERNS

determining a symbolic description of patterns - extraction of simple constituents of patterns including contour extraction, region determination, and texture analysis; coding, normalization, and filtering; models; control strategies; speech and image understanding.

IMPLEMENTATIONS

- data structures and data bases, special processors, digital and optical systems, innovative computer architectures, interactive systems.

APPLICATIONS

- character recognition, speech recognition, industrial applications, medical applications remote sensing, and other fields.

POSTER SESSIONS COVERING THE AREAS OF INTEREST

SUBMISSION OF PAPERS

Prospective authors are invited to submit four copies of a draft of a full-length paper by Feb. 1, 1982 to the program chairman:

Prof. Dr. H. Niemann
Lehrstuhl für Informatik
Universität Erlangen-Nürnberg
Martensstraße 3
8520 Erlangen
F.R. of Germany
Tel: (09131)85-7774

A paper will be either a long paper (about 6000 words) or a short paper (not more than 3000 words), each paper should contain a 200-word summary. Short papers will include those reporting on last minute results. A long paper will have about 25 minutes for presentation, and a short paper will have about 15 minutes. Authors should identify clearly their preference either long or short at the top of their draft papers. There will be the possibility of reducing a long paper to a short presentation according to the judgement of the reviewers. It is expected that long papers will be more thoroughly reviewed for acceptance and most of the papers included in the program will be for short presentations. All papers accepted for presentations will be included in the Conference Proceedings. The first page of each submitted draft should only contain the type of the paper (long or short), the title, the name of the author(s), one mailing address, a 200-word summary, and five key words which best characterize the paper in the order of decreasing importance (according to the author's feeling).

Contributions to the poster sessions should be submitted by April 1, 1982 to the Program Chairman.

Authors will be notified concerning the acceptance of their papers by May 1, 1982, and will receive kits for typing their manuscripts. A cameraready

copy of the accepted paper should be available to the Publications Chairman by July 1, 1982.

The language for presentation and publication of papers is ENGLISH.

SYMPOSIUM DER DEUTSCHEN ARBEITSGEMEINSCHAFT FÜR MUSTERERKENNUNG

"Modelle und Strukturen"

October 6th to 8th in Hamburg

The DAGM (German Association for Pattern Recognition) invites submissions to its annual symposium. In particular papers are invited on "Models and Structures", aimed at a presentation and discussion of structures as they are used to model the sensory environment in pattern recognition processes.

The symposium consists of invited surveys, short talks (15 min) and poster sessions. The conference language will be German, but English is acceptable. Contributors should send a summary (1 page) to the address given below not later than

April 15th, 1981

Accepted papers will be published in the conference proceedings.

For further information contact:

Dr. B. Radig
Fachbereich Informatik
Universität Hamburg
Schluterstr. 70
D-2000 Hamburg 13
Tel: (040) 4123-4148

SPECIAL ISSUE OF PAMI

The IEEE Transactions on Pattern Analysis and Machine Intelligence will publish a special issue on Exploratory Pattern Analysis in November 1982. Topics of interest include validation and verification of results of cluster analysis and data representation; dimensionality questions; theoretical models; comparative analysis of performance and complexity.

Submit four copies of manuscript (see January 1980 issue of IEEE PAMI for information for authors) by October 1, 1981 to A.K. Jain or R.C. Dubes, Department of Computer Science, Michigan State University, East Lansing, Michigan 48824.

FRONTIERS OF COMPUTERS IN MEDICINE

COMP MED 81

Shamrock Hilton Hotel/South Main & Holcombe Blvd.
Houston, Texas Monday, September 21, 1981

SPONSORED BY:

IEEE Engineering in Medicine and Biology Society
IEEE Computer Society
The Institute of Electrical and Electronics Engineers, Inc.

INVITED & CONTRIBUTED PAPERS

INTEREST AREAS OF COMPUTERS IN MEDICINE INCLUDE, BUT ARE NOT LIMITED TO:

- o Real-Time Pattern Analysis
- o Computer Architecture
- o Image Analysis
- o Computer Graphics
- o Medical Information Systems
- o Artificial Intelligence
- o Decision Making
- o Software Methodology
- o Networks & Distributed Systems
- o Multi-Microprocessor Systems

Submitted papers will be critically reviewed. Papers are published in the Conference Proceedings. Abstracts are published in the IEEE Transactions on Biomedical Engineering. Outstanding papers will be invited for full publication in the Transactions.

Attendees will also find biomedical computing tutorials, papers, and workshops of interest in the EMBS Conference immediately preceding COMP MED 81 and in the ACEMB Conference immediately following. A single registration will cover both EMBS and COMP MED 81.

The deadline for Receipt of Papers is April 15, 1981. Complete and forward reply card or for more information contact:

Robin B. Lake, Ph.D., Program Chairman
Department of Biometry
University Hospitals
Cleveland, Ohio 44106
(216) 444-3491

MACHINE INTELLIGENCE AND PATTERN ANALYSIS

TECHNICAL COMMITTEE OF THE IEEE COMPUTER SOCIETY

The current and the most recent activities of the Biomedical Pattern Recognition Subcommittee of the IEEE Computer Society's Machine Intelligence and Pattern Analysis Technical Committee are summarized below.

A special issue on biomedical pattern recognition of the IEEE Transactions on Pattern Analysis and Machine Intelligence appeared in

September 1980 under the guest editorship of Dr. Jack Sklansky. Another special issue is being planned for 1982 to include advances in those areas which were left out in the 1980 issue due to space limitations.

A database format for external exchange has been proposed by Dr. Judith M.S. Prewitt and her task force members including Drs. Tanimoto, Nagy, Selfreidge and Anderson. Although covering general subjects, it uses biomedicine as a model. This has been implemented on VAX computer. A guideline for portable software, in particular, with regard to the recommendation of what language to be used, is also under preparation.

The subcommittee will sponsor a biomedical image and pattern analysis conference as an add-on to the 6th International Conference on Pattern Recognition, Munich, Germany in October 1982. The scope of technical subjects covered will be broadened to include the evaluation of software systems insofar as clinical results are concerned. Dr. Murray Eden will chair this conference, and will work together with Dr. Lindberg of IMIA (IFIP TG-4) to organize the technical sessions. A one-day tutorial is also being planned; various topics related to image analysis in nuclear medicine, radiology, ultrasound and thermography as well as EEG and EKG waveform analysis will be considered.

The U.S.-France Second Biomedical Image Processing Workshop will be held in Washington, D.C., 1982. It is sponsored by the NSF of USA and CNRS of France. Although officially not an activity of the IEEE Computer Society, a committee member, Dr. Judith Prewitt, will co-chair the workshop.

Presently, the subcommittee officers are: Dr. Jack Sklansky (subcommittee chairman), Dr. Judith M.S. Prewitt (chairman of task force on biomedical database and software), Dr. Murray Eden (chairman of task force on conferences and workshops), Dr. C.C. Li (publicity chairman), and Dr. Samuel C. Lee (membership chairman).

NEW EQUIPMENT

***** NEW SECTION *****

A new section entitled NEW EQUIPMENT is being introduced. Contributors are invited to submit short announcements (less than 50 words) to the editor about new or novel equipment and systems.

THE TEKTRONIX 4634 IMAGING HARD COPY UNIT

The 4634 Imaging Hard Copy Unit is designed to produce photographic quality copy from raster scan video sources. Utilizing a fiber optic tube process, it produces twelve or more levels of continuous tone gray scale. It is a viable alternative to expensive camera systems, with a copy cost of only 24¢.