



International Association for Pattern Recognition, Inc.

An affiliate member of the International Federation for Information Processing

NEWSLETTER

Editor

Ruzena Bajcsy
Department of Computer and Information Science
The Moore School/D2
University of Pennsylvania
Philadelphia, Pennsylvania 19104
Telephone: (215) 898-6222

Volume 6

Number 1

March 1983

FROM THE EDITOR'S DESK

Dear Colleagues,

The last editorial appropriately was from the new IAPR president, *J.C. Simon*.

This time I will be rather brief because, as I observe, the IAPR community has retreated for a while to do more work than noise. We do not have any flashy announcements to make! Hopefully, we are going to use this time for tackling the more difficult problems (the easy ones are already solved), which take more time and patience but yield more lasting results.

There is just one problem that I would like to mention. Recently I received several disturbing reports, especially from overseas about delays and inadequate distribution of the Newsletter. I do not know how many of you realize, but I am only the editor who puts it together. Once it is typed it goes to the IEEE Computer Society, in Silver Springs, Maryland, and they are responsible for printing and distributing the Newsletter.

In order to rectify the distribution situation I have: updated the distribution list and requested that the Newsletters be mailed by airmail to overseas. Hopefully this issue will reach you on time!

By the way, we heard from *Dr. R. Klette* from the German Democratic Republic who, in an effort to promote our association, has reported about the IAPR activities and its membership in their professional magazine.

Finally, I am very pleased to let you know that our Japanese correspondent, *Prof. Nagao*, has established a periodic report about the seminars in pattern recognition and computer vision in Japan. This way we all are more informed about the current Japanese activities in these areas. The list of the presentations is published later in this issue. We hope that in the future we shall receive similar information from other parts of the world!

I wish you all a pleasant and productive Spring!

Sincerely yours,

Ruzena Bajcsy

We have new chairmen of the IAPR technical committees:

CHAIRMEN OF THE IAPR TECHNICAL COMMITTEES (TC)

- TC 2 Syntactical Pattern Recognition Techniques
Pr. H. Bunke University of Erlangen,
Lehrstuhl für Informatik
Martenstrasse 3,
8520 ERLANGEN, R.F.A.
- TC 4 Image Understanding Techniques
Pr. B. Radig Universität Hamburg
Fachbereich Informatik
Schluterstrasse 70,
2000 HAMBURG 13, R.F.A.

TC 5 Software Systems and Languages
Pr. R. Haralick Virginia Polytechnic
 Institute and State Univ.
 Dept. of Electrical
 Engineering
 Blacksburg, VA 24610,
 U.S.A.

TC 6 Special Purpose Architectures
Dr. M. Duff University College
 London
 Gower St., London WC1E
 6BT
 Grande-Bretagne

TC 7 Applications in Remote Sensing
Dr. Goldberg ENSTelecom, 46,
 rue Barrault
 75634 PARIS CEDEX 13

TC 9 Biomedical Pattern Recognition
Pr. J. Sklansky Dept. of Elec. Engrg.
 University of California
 Irvine, CA 92717, U.S.A.

TC 10 Applications in Map and Line Drawing
 Processing
Pr. A. Macworth Computer Science Dept.
 Univ. of British Columbia
 2075 Wesbrook Mall
 Vancouver, BC V6T 1W5,
 Canada

TC 11 Applications in Text Processing
Pr. C.Y. Suen Dept. of Computer Science
 Concordia University
 1455 de Maisonneuve West
 Montreal, Quebec H3G 1M8,
 Canada

TC 12
Pr. R. de Mori Dept. of Computer Science
 Concordia University
 1455 de Maisonneuve West
 Montreal, Quebec H3G 1M8,
 Canada

UPDATED IAPR DIRECTORY

EXECUTIVE COMMITTEE

President	<i>Prof. J.C. Simon (Fr)</i>
First Vice-President	<i>Prof. T. Kohonen</i> (Finland)
Second Vice-President	<i>Prof. N. Hagao (Japan)</i>
Past-President	<i>Prof. A. Rosenfeld</i> (USA)
Secretary	<i>Dr. P.A. Divijver (BE)</i>
Treasurer	<i>Prof. H. Freeman (USA)</i>
Past-Chairman 6ICPR	<i>Prof. H. Marko (FRG)</i>
Chairman 7ICPR	<i>Prof. M. Levine (Ca)</i>

STANDING COMMITTEES

(First name listed is committee chairman)

Conference Committee	<i>Prof. H. Marko (FRG)</i> <i>Prof. T. Chang (PRCh)</i> <i>Prof. J-P. Haton (Fr)</i> <i>Prof. J. Nagumo (Japan)</i> <i>Dr. T. Pavlidis (USA)</i>
Membership Committee	<i>Prof. P-E. Danielsson (Sw)</i> <i>Dr. P.A. Divijver (Be)</i> <i>Prof. H. Kazmierczak (FRG)</i> <i>Prof. F. Leberl (Austria)</i>
Nomination Committee	<i>Prof. A. Rosenfeld (USA)</i> <i>Prof. P.W. Becker (Dk)</i> <i>Prof. S. Levialdi (It)</i> <i>Prof. D. Dutta Majumder</i> (India) <i>Prof. M. Takagi (Japan)</i>
Newsletter Editor	<i>Prof. R. Bajcsy (USA)</i>
Corresponding Editors	<i>Prof. E. Backer (for</i> Europe) <i>Prof. N. Nagao (for</i> Japan)

Ad Hoc COMMITTEES

Awards	<i>Prof. D. Rutovitz (UK)</i> <i>Prof. Y.T. Chien (USA)</i> <i>Prof. P-E. Danielsson (Sw)</i> <i>Dr. T. Kasvand (Ca)</i>
Publicity and Education	<i>Prof. E. Backer (NL)</i> <i>Prof. R. Bajcsy (USA)</i> <i>Prof. S. Castan (Fr)</i> <i>Dr. P.A. Divijver (Be)</i> <i>Prof. G. Granlund (Sw)</i> <i>Prof. M. Kunt (Sw)</i> <i>Prof. M. Levine (Ca)</i> <i>Prof. S. Levialdi (It)</i> <i>Prof. L. Shapiro (USA)</i> <i>Prof. G. Toriwaki (Japan)</i>
Constitution and Bylaws	<i>Prof. H. Freeman (USA)</i> <i>Dr. P.A. Divijver (Be)</i> <i>Prof. K.S. Fu (USA)</i> <i>Prof. T. Sakai (Japan)</i>

Long Range Planning	<i>Prof. A. Guzman (Mexico)</i> <i>Prof. V. Cantoni (It)</i> <i>Dr. O. Faugeras (Fr)</i> <i>Dr. J. Kittler (UK)</i> <i>Prof. R. Lopez de Mantaras</i> (Spain) <i>Prof. H. Nagel (FRG)</i> <i>Prof. S. Peleg (Israel)</i>
---------------------	---

Technical Committees	<i>Prof. T. Kohonen (Finland)</i>
----------------------	-----------------------------------

MEMBERS OF THE GOVERNING BOARD

Austria	Prof. F. Leberl
Belgium	Dr. P.A. Devijver
Canada	Dr. T. Kasvand
People's Republic of China	Prof. T. Chang
Denmark	Prof. P.W. Becker
Federal Republic of Germany	Prof. H. Kazmierczak Prof. H. Marko Prof. T. Kohonen
Finland	Prof. J-C. Simon
France	Prof. J-P. Haton
India	Prof. D. Dutta Majumder
Israel	Dr. S. Peleg
Italy	Prof. E.R. Cainiello
Japan	Prof. T. Nagao Prof. M. Takagi
Mexico	Prof. A. Guzman
The Netherlands	Prof. E. Backer
Spain	Prof. R. Lopez de Mantaras
Sweden	Prof. P-E. Danielsson
Switzerland	Prof. M. Kunt
United Kingdom	Dr. D. Rutovitz
USA	Prof. H. Freeman Prof. K.S. Fu Prof. A. Rosenfeld Prof. M.S. Watanabe

CANDIDATE MEMBER
Hungary

Prof. T. Vamos

NATIONAL MEMBER ORGANIZATIONS

Austria	Austrian Working Group for Pattern Recognition of the Austrian Computer Society, and the Austrian Association for Cybernetics Category A. About 40 members Representative: Prof. F. Leberl
Belgium	Pattern Recognition Contact Group of the SOGESCI Category A. About 25 Members Representative: Dr. P.A. Devijver
Canada	Canadian Image Processing and Pattern Recognition Society Category A. About 175 members Representative: Dr. T. Kasvand
People's Republic of China	Pattern Recognition and Machine Intelligence Committee of the Chinese Association of Automation Category A. About 25 members Address: Prof. Hu Qi Heng Inst. of Automation Academia Sinica Beijing (Peking) China Representative: Prof. T. Chang
Denmark	Danish Pattern Recognition Society Category A. 31 members Representative: Prof. P.W. Becker

Federal Republic of Germany

Deutsch Arbeitsgemeinschaft fur Mustererkennung
Category B.
Representatives: Prof. H. Kazmierczak
Prof. H. Marko

Finland

Pattern Recognition Society of Finland
Category A. About 50 members
Representative: Prof. T. Kohonen

France

Pattern Recognition and Artificial Intelligence Group of AFCET
(Association Francaise pour la Cybernetique Economique et Technique)
Category B
Representative: Prof. J-P. Haton
Prof. J-C. Simon

India

Indian Unit for Pattern Recognition and Artificial Intelligence (IUPRAI)
Category A.
Rep.: Prof. D. Dutta Majumder

Israel

The Israel Working Group on Pattern Recognition and Image Processing of the Information Processing Association of Israel
Category A.
Representative: Dr. S. Peleg

Italy

Working Group for Pattern Recognition of the Italian Association for Automatic Computation
Category A. About 50 members
Representative: Prof. E.R. Cainiello

Japan

Audio-Visual Information Research Group (AVIRG)
Category B. 279 members
Address: Dr. K. Ozeki
NHK Tech. Res. Lab
1-10-11, Kinuta, Setagaya-ku
Tokyo 157, Japan
Representatives: Prof. T. Nagao
Prof. M. Takagi

Mexico

Chapter on Pattern Recognition and Image Processing from the "Asociacion Mexicana de Ingenieros en Comunicaciones Electricas y Electronica"
"Electronica" (AMICEE)
Category A. 20 members
Representative: Prof. A. Guzman

The Netherlands

Nederlandse Vereniging voor Patroonherkenningen Beeldverwerking
Category A. About 90 members
Representative: Prof. E. Backer

Spain

The Spanish Working Group for Pattern Recognition of the CEA-IFAC
Category A.
Rep.: Prof. R. Lopez de Mantaras

Sweden Svenska Sällskapet for Automatiserad Bildanalys (SSAB), (Swedish Society for Automated Image Analysis)
Category A. About 120 members
Representative: Prof. P-E. Danielsson

Switzerland The Swiss Association for Pattern Recognition
Category A.
Representative: Prof. M. Kunt

United Kingdom British Pattern Recognition Assoc.
Category A. 81 members
Representative: Prof. D. Rutovitz

USA IEEE Computer Society
Category C. About 3000 members
Representatives: Prof. H. Freeman
Prof. K.S. Fu
Prof. A. Rosenfeld
Prof. M.S. Watanabe

Candidate National Member

Hungary Artificial Intelligence and Pattern Recognition Group of the John Von Neuman Society for Computing Sciences
Representative: Prof. T. Vamos

ADDRESS DIRECTORY

(OF: office phone, HF: home phone, TE: telex)

Dr. E. Backer Delft Univ. of Technology
Dept. of Electrical Engr.
4 Mekelweg. 2600 GA Delft
The Netherlands
OF: 15-786176, HF: 1802-2089
TE: 31448 BITD-NL

Prof. R. Bajcsy The Moore School/D2
Computer and Information
Science Dept.
University of Pennsylvania
Philadelphia, PA 19104 USA
OF: 215-898-6222,
HF: 215-732-5926

Prof. P.W. Backer Electronic Institute
Technical University of Denmark
Bldg. 344
DK-2800 Lyngby (Denmark)
OF: 2/880588-(2844),
HF: 01-194794
TE: 37529 DTHDIA-DK

Prof. E.R. Caianiello Università di Salerno
Via Vernieri, 42
I-84100 Salerno, Italy

Prof. V. Cantoni Dipartimento di Informatica e Systemistica
Università di Pavia

Strada Nuova, 106/C
27100 Pavia, Italy
OF: 382/29142, HF: 382/469252
TE: 312841 UNIPAV I

Prof. S. Castan IUT d'Informatique
156, avenue de Rangueil
F-31077 Toulouse, France
OF: 16(61)531211

Prof. T. Chang Dept. of Automation
Qing-Hua University
Beijing (Peking)
People's Republic of China
OF: 28-2451

Prof. Y.T. Chien Dept. of Electrical Engineering
and Computer Science
University of Connecticut
Storrs, CT 06268, USA

Dr. P.E. Danielsson Dept. of Electrical Engineering
Linköping University
S-581 83 Linköping, Sweden
OF: 013/11 17 00,
HF: 013/17 26 72
TE: 50067 LINBIBL-S

Dr. P.A. Devijver Philips Research Laboratory
Avenue Em. Van Becelaere 2,
Box 8
B-1170 Brussels, Belgium
OF: 2.6734190, HF: 2.6738992
TE: 61511 PHEMB B

Prof. D. Dutta Indian Statistical Institute
Majumder Barrackpore Trunk Road, 203
Calcutta, 700 035 (India)

Dr. O. Faugeras I.N.R.I.A.
Domaine de
Voluceau-Rocquencourt
B.P. 105-78153 Le Chesnay Cedex
France
OF: (3)9549020
TE: 697 033F

Prof. H. Freeman Dept. Electr. Systems Engrg.
Rensselaer Polytechnic Inst.
Troy, NY 12181, USA
OF: 518/270-6330,
HF: 518/465-8001
TE: 646542 RPI TRO

Prof. K.S. Fu Purdue University
School of Electrical Engrg.
W. Lafayette, IN 47907, USA
OF: 317/494-8825,
HF: 317/463-4353
TE: 810 342 1892

Prof. G. Granlund Picture Processing Laboratory
Linköping University
S-581 83 Linköping, Sweden

Prof. A. Guzman IIMAS-UNAM Aptdo 20-726
Admon. 20 Deleg. Alv. Obregon
01000 Mexico, D.F. MEXICO
OF: (905)550-1829, 550-5215,
HF: (905)595-5075
TE: 17-74-523 UNAMME

Prof. J-P.
Haton CRIN, Universite de Nancy 1
B.P. 239
54506 Vandoeuvre-les-Nancy
Cedex, France
OF: (8)328.15.66,
HF: (8)351.72.27
TE: 960646

Dr. T. Kasvand N.R.C. Room 311, Bldg. M-50
Ottawa, Ontario K1A 0R8
Canada
OF: (613)993-2003,
HF: (613)225-5461
TE: 053-4134

Prof. H.
Kazmierczak FIM-GAN E.V.
Breslauerstrasse 48
D-7500 Karlsruhe I, W-Germany
OF: 0721-686820(685011)
HF: 0721-472442
TE: 07826564 BW

Dr. J. Kittler SRC Rutherford Appleton Lab.
Chilton, Didcot, Oxfordshire
OX11 0QX, U.K.
OF: 235-21900, HF: 234-50235

Prof. T.
Kohonen Dept. Technical Physics
Helsinki Univ. of Technology
SF-02150 Espoo 15, Finland
OF: 451-2451, HF: 428-273,
TE: 12-1591

Prof. M. Kunt Ecole Polytechnique Federale
de Lausanne
Departement d'Electricite
16, chemin de Bellerive
CH-1007 Lausanne Suisse

Prof. Dr.
F. Leberl Technical University Graz
Wastiangasse, 6
A-8010 Graz, Austria
OF: 0316/825310,
HF: 0316/448533
TE: 3-1265

Prof. S.
Levialdi Istituto Science
dell'Informazione
Universita degli Study
Via Amendola 173
I-70126 Bari, Italy

Prof. M.D.
Levine McGill University
Dept. Electrical Engrg.
3480 University Street
Montreal, PQ Canada H3A 2A7
OF: 514/3925413,
HF: 514/4887929
TE: 5268510 MTL McGill Univ.

Prof. R. Lopez Universitat Politecnica
de Mantaras de Barcelona
FACULTAT D'INFORMATICA
Jordi Giona Salgado, 31
Barcelona-3, Spain

Prof. H. Marko Inst. fuer Nachrichtentechnik
Tech. Universitaet Muenchen
Arcisstrasse, 21
8-Muenchen, W-Germany
OF: 089/2105-8383,
HF: 089/852424
TE: 522854 TUMUE-D

Prof. M. Nagao Faculty of Engineering
Kyoto University
Sakyo-ku, Kyoto 606, Japan

Prof. H-H.
Nagel Fraunhofer-Institut fur
Informations und
Datenverarbeitung - IITB
Sebastian-Kneipp-Str. 12-14
D-7500 Karlsruhe 1, FR Germany
OF: 0721/6091-1
TE: 7-825931 2 10

Prof. J. Nagumo University of Tokyo
Faculty of Engineering
Bunkyo-ku, Tokyo 113, Japan
OF: 03-812-2111-6930
HF: 03-443-3014
TE: 2722111 FEUT J

Dr. T. Pavlidis Bell Laboratories (2C-456)
Murray Hill, NJ 07974 USA
OF: 201-582-7582
HF: 201-464-7310

Dr. S. Peleg Dept. of Computer Science
The Hebrew Univ. of Jerusalem
91940 Jerusalem, Israel

Prof. A.
Rosenfeld University of Maryland
Computer Science Center
College Park, MD 20742 USA
OF: 301-454-4526
HF: 301-593-2245
TE: 197605 IPST UM CORK

Dr. D. Rutovitz Medical Research Council
Western General Hospital
Crewe Road, Edinburgh UK
OF: (031) 332-2471
HF: (031)228-6335

Prof. T. Sakai Faculty of Engineering
Kyoto University
Sakyo-ku, Kyoto 606, Japan
OF: 075/751-2111(5371)

Prof. L.G.
Shapiro Dept. of Computer Science
Virginia Polytechnic Institute
and State University
562 McBryde Hall
Blacksburg, VA 24061 USA
OF: 703/961-6931 HF: unlisted

Prof. J-C. Simon
Institut de Programmation
Tour 55-65, Univ. Paris VI
4 Place Jussieu
F-75230 Paris Cedex 05, France
OF: 3362525, HF: 2607936

Prof. M. Takagi
Institute of Industrial
Sciences, University of Tokyo
7-22-1 Rappongi
Minato-ku, Tokyo 106, Japan
OF: 03/479-0289 HF: 03/472-5074

Prof. G. Toriwaki
Toyohashi Univ. of Technology
Dept. Informatics and Computer
Science
Toyohashi 3340 Japan

Prof. T. Vamos
J. Von Neumann Society for
Computing Sciences
1368 Budapest 5, P.O.B. 240
Budapest, Hungary
OF: 329-349
TE: 22-5369

Prof. M.S. Watanabe
Physics Department
University of Hawaii at Manoa
2565, The Mall Honolulu
Hawaii 96822, USA
OF: 808/948-7510 HF:
808/737-1220 HF: 808/737-1220

REPORTS

REPORT FROM
6th International Conference on
PATTERN RECOGNITION
Munich, Germany
October 19-22, 1982

Press Release - ICPR 82

Pattern recognition is the subject of scientists and engineers who set their goal in developing means and methods with which computers will be able to recognize, to process and to interpret informations in forms as they are familiar to us, such as text and graphics; images and scenes; voice signals and sounds. This will not just render new capabilities for information processing automats but also an essential contribution to an (almost) natural man-machine-dialogue will be made. Therefore, pattern recognition plays a major role for the development of future information processing systems.

The 6th International Conference on Pattern Recognition, ICPR, took place at the Technische Universitaet Muenchen from October 19 to 22, 1982. The conference was organized by the International Association for Pattern Recognition, IAPR, and the Deutsche Arbeitsgemeinschaft fur Mustererkennung, DAGM, under the guidance of Prof. Dr.-Ing. H. Marko.

The IAPR is an association with 20 national member societies from 15 countries, the Federal Republic of Germany being represented by the DAGM - a study group of 7 German scientific societies. Of a series of six this was the first conference to take place in Germany, earlier conferences were held in Washington, D.C. (1973), Copenhagen (1974), Coronado (1976), Kyoto (1978) and Miami (1980), the next one will be in *Montreal, Canada (1984)*. The Munich conference was sponsored by the Federal Ministry of Research and Technology, the Free State of Bavaria, the City of Munich, the Technische Universitaet Muenchen, the Gesellschaft fur Strahlen- und Umweltforschung m.b.H and the SIEMENS AG.

With an attendance of almost 700 participants from 27 countries, the Munich ICPR was the largest so far. In parallel sessions 251 papers were presented which were selected from 337 submitted papers. Furthermore, the program included 15 invited introductory papers for the scientific sessions, 4 panel discussions with experts from various countries and an exhibition of 50 chosen posters. The participants presenting papers came from 23 countries, the majority of them (about 75%) from the USA, the Federal Republic of Germany, Japan and France.

A remarkable feature of the Munich conference was that special care was not just given to the scientific standard of the program, but that the application of pattern recognition was emphasized, too. For the first time the ICPR was accompanied by a technical exhibition - where fifteen companies and major research institutions were represented - and visits to research and development facilities - where 9 institutions including the Technische Universitaet, local research facilities and industry could be visited.

The conference program covered all fields of pattern recognition and its applications. The main interest was focused on computer-aided picture processing with all its aspects. Contributions from the field of artificial intelligence, particularly methods for the representation and usage of knowledge as well as search and control strategies, mark a new epoch for the topic of image understanding. Remarkable progress has been achieved also with regard to the scientific penetration of this complex subject and the development of standardized theories and strategies.

Concerning practical applications, industrial and medical applications were predominant. Pattern recognition techniques offer advantage, where data from repetitive measurements at the present is evaluated and interpreted by persons; for example, inspectorial and diagnostic work. Automatic recognition of workpieces and components in quality control, production and fault detection, as well as the automatic inspection and analysis of integrated circuits are typical areas of

applications of pattern recognition in the industrial environment. Methods for automatic character recognition, computer-aided analysis, document processing and text interpretation aim for clerical occupations, enhancing the efficiency of the workflow in management, office organization and administration. In the medical field the main objectives are automated detection and classification of pathological cell structures (e.g., preventive cancer tests) as well as computer-aided evaluation of blood pressure curves, electrocardiograms and electroencephalograms.

The conference provided an excellent survey of the field of pattern recognition; to the expert it offered the opportunity for profound and detailed discussions with colleagues from all over the world and for potential users it supplied access to comprehensive information on the future expectations. The conference proved clearly that the findings and methods of pattern recognition will have significant influence on the further development of information and communication technology.

The *PROCEEDINGS* of the 6th International Conference on Pattern Recognition, IEEE Catalog No. 82 CH 1801-0, Computer Society Order No. 436, contained in 2 volumes with just over 1200 pages the papers and posters presented at the conference. They may be ordered from the IEEE Computer Society, P.O.B. 80452, Worldway Postal Center, Los Angeles, CA 90080, USA.

Manfred Lang
Publications Chairman 6th ICPR

Siemens AG
Central Information

CONFERENCE ANNOUNCEMENTS

SIMULATION IN ENGINEERING SCIENCES IMACS '83 Symposium Nantes (France) 9-11 May 1983

This international symposium is organized by IMACS (International Association for Mathematics and Computers in Simulation) with the help of AFCET (Association Francaise pour la Cybernetique Economique et Technique) and ENSM (Ecole Nationale Supérieure de Mécanique de Nantes). Local organization is achieved by the Automatic Control Laboratory, a research team linked with the CNRS.

The purpose is to bring together the engineers and researchers concerned with the automation of mechanical and energetic processes, in order to take stock of their knowledge in the field of simulation.

The program of the symposium, available on request from AFCET, includes four plenary sessions in which current subjects will be dealt with, such

as PARALLEL CALCULATION, SIMULATION SOFTWARE, SIMULATION OF THE ENERGETIC, ECONOMIC AND ECOLOGICAL ASPECTS OF AN INDUSTRIAL SYSTEM, AND SIMULATION OF FLUID OUTFLOW. The international program committee has accepted about sixty original papers presented by authors from all the highly industrialized nations. Only one out of three papers are of French origin.

The themes studied during the sessions will deal with the methods and techniques of simulation and control, the simulation tools, hardware and software, the applications to various fields such as energetics, biology, chemistry, mechanics and vehicles. It is also worth noting that two sessions will be devoted to manipulators and robots.

All along the symposium scientific demonstrations will be performed close by the lecture rooms, their purpose being to display simulation hardware and software.

For further information and detailed programme:

AFCET - 156 Bld Pereire - F.75017 Paris
Phone: (1)766 24 19

Ecole Franco-Allemande de Robotique
ROBOTIQUE: PERCEPTION ET INTELLIGENCE ARTIFICIELLE
Bonas (Gers-France)
16-21 Mai 1983

Organized by AFCET:
Association Franco-Allemande
pur la Science et la Technologie
60 Boulevard Saint-Michel, 75272 Paris Cedex 06

Deutsch-Französische Gesellschaft
für Wissenschaft und Technologie
Wissenschaftszentrum Ahstrasse 45, D-5300 BONN 2

For more information, contact:

In France:	In Germany:
Monsieur J.P. Crestin	Monsieur B. Radig
Directeur de l'enseiht	Fachbereich Informatik
2, rue Charles Camichel	Schluterstr. 70
31071 Toulouse Cedex	D-2000 Hamburg 13

SATELLITE SYMPOSIUM OF 11th I.C.A.
TOULOUSE JULY 15-16 1983
Process of Phonetic Encoding
and Decoding of Speech

Chairman: Professor G. Perennou
Universite Paul Sabatier,

Venue: Universite Paul Sabatier, Toulouse

Objectives and programme: This symposium will attempt to clarify the mechanisms which make it possible to pass from an acoustic signal to its phonologic description and vice versa, both with the human being and in systems of synthesis and systems of automatic recognition of human speech. This symposium will bring together the various approaches of phonetics, experimental psychology and automated speech recognition. The two-day session will proceed through a succession of plenary papers, invited contributions, poster sessions and round tables.

All correspondence relating to the satellite symposium should be sent to:
Symposium satellite Toulouse/Ilede ICA

C.E.R.F.I.A.
Universite Paul Sabatier
118, Route de Narbonne
31062 - Toulouse Cedex, FRANCE
Telephone: (61) 52 13 21

WORKSHOPS

Specialist Workshop
PATTERN RECOGNITION IN PHOTOGRAMMETRY
27-29 September 1983 (Tuesday-Thursday)
Grazer Congress
Schmiedgasse 2, A-8010
Graz, Austria

Main Topics

RECONSTRUCTION OF 3-D OBJECT SHAPE
Parallax Detection, Shape from Shading,
Determination of Sensor Orientation,
Image Transformation (Rectification,
etc.), Aircraft and Satellite Images,
Radar, Medical and Industrial, etc.

KNOWLEDGE-BASED IMAGE ANALYSIS AND IMAGE
UNDERSTANDING
Knowledge Models and Digital Maps,
Image-Based Information Systems,
Map-Guided Image Analysis,
Computer-Assisted Photo-Interpretation,
Use of Terrain Data and of Image
Simulation, etc.

DATA STRUCTURES AND CONVERSIONS
Line Following, Vectorization in Scanned
Cartographic Images, Editing of
Vectorized Data, Effect of Data
Structures, Data Compression.

MISCELLANEOUS OTHER TOPICS

Organized by

Working Group 111/5 of the International
Society for Photogrammetry and Remote
Sensing.

Austrian Working Group on Pattern Recognition
Graz Research Center
Technical University Graz
Austrian Computer Society

For more information and for submission of
extended abstracts (2 pages), contact:

Dr. F. Leberl, Technical Univ. Graz
Wastiangasse 6, A-8010 Graz
Tel.: (0316) 82531-0, Telex 31265

Dr. M. Faintich, DMA-Aerospace Center
St. Louis Air Force Stn.
St. Louis, MO 63118, USA
Tel.: 314-263 4937

Abstracts of Proposed Papers: 30 April 1983

THIRD ASSP WORKSHOP ON
MULTIDIMENSIONAL DIGITAL SIGNAL PROCESSING
Stanford Sierra Camp
Fallen Leaf Lake
Lake Tahoe, California
October 19-21, 1983

Workshop Steering Committee

PROGRAM COMMITTEE
Richard Gran, Co-Chairman
Grumman Aerospace Corporation
Bethpage, NY 11714

John W. Woods, Co-Chairman
ECSE Department
Rensselaer Polytechnic Institute
Troy, NY 12181

Thomas Huang, Image Applications
Coordinated Science Laboratory
University of Illinois
Urbana, IL 61801

Jae S. Lim, DSP Algorithms
EECS Department
MIT
Cambridge, MA 02139

Paul L. Stoffa, Geophysical Applications
Gulf Center for Marine Crustal Studies
1 Blue Hill Plaza
Pearl River, NY 10989

LOCAL ARRANGEMENTS
Anil K. Jain
Dept. of Electrical and Computer Engineering
University of California
Davis, CA 95616

REGISTRATION/TREASURER
John Hulsman
Grumman Aerospace Corporation
Bethpage, NY 11714

PUBLICITY

Bradley W. Dickinson
EECS Department
Princeton University
Princeton, NJ 08544

The Workshop 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 multidimensional 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 plenary sessions of a tutorial character, poster sessions where each participant will make a presentation, and parallel sessions of a traditional workshop nature. Three main themes have been identified for the Workshop:

DSP ALGORITHMS

Spectral Estimation, Interaction Between Signal Processing and Artificial Intelligence, Signal Modeling and System Identification, Fast Algorithms for Signal Processing

IMAGE APPLICATIONS

Image Models, Image Reconstruction from Incomplete Observations, Computerized Imaging and Tomography, Computer and VLSI Architecture for Image Processing

GEOPHYSICAL APPLICATIONS

Satellite Data Processing and Imaging, Seismic Modeling, Wave Equation Migration, Seismic Inverse Problems

Attendance at the Workshop will be by both invitation and application. For information concerning participation, please contact the Registration Chairman prior to June 1, 1983:

John Hußmann
Grumman Aerospace Corporation
Bethpage, NY 11714
(516)575-2054

JAPANESE DOMESTIC ACTIVITIES IN PATTERN RECOGNITION AND IMAGE PROCESSING

The Institute of Electronics and Communication Engineers of Japan has an interest group on "pattern recognition and learning". The group holds a meeting once for every month and a few papers are presented. The papers listed here were presented at the October, November, January, and February meetings. In December the group had a special topic of knowledge engineering and the papers were a little remote from IAPR interest, so they have not been included.

OCTOBER 1982

RELATION BETWEEN BIO-AFFINITY OF MUSIC AND I/F POWER SPECTRUM

Shigeo WATANABE, TEAC Corporation

OPTIMUM DIGITAL IMAGE RESTORATION UNDER ADDITIVE NOISES

Nobutaka NAKAMURA and Hidemitsu OGAWA
Faculty of Engineering
Tokyo Institute of Technology

SAMPLE POINTS AND SAMPLING THEOREMS

Jun IMIYA and Hidemitsu OGAWA
Faculty of Engineering
Tokyo Institute of Technology

DESCRIPTIONS OF ADJACENCY RELATION BETWEEN COMPONENTS IN A DIGITIZED PICTURE AND THEIR APPLICATIONS

Yoshiyuki YASHIMA
Faculty of Engineering, Nagoya University
Jun-ichiro TORIWAKI
Toyohashi University of Technology
Shigeki YOKOI
Teruo FUKUMURA
Faculty of Engineering, Mie University

CLASSIFICATION OF BINARY DIGITIZED IMAGES OF NEURON

Kiyoko YOKOVAMA
Naohiro ISHII
Nagoya Institute of Technology
Nobuo SUZUMIAR
Kenichi NAKA
National Institute for Basic Biology

UTILIZATION OF CHARACTER STRINGS IN THE RECOGNITION OF HAND-WRITTEN JAPANESE DOCUMENTS

Katsuo IKEDA, Yu-ichi OHTA, Masahiro SUZUKI
The University of Tsukuba

ON-LINE RECOGNITION OF HANDPRINTED JAPANESE CHARACTERS

Tetsuo TOMIMOTO, Kimiko SHIMA, Hiroshi OTA
Matsushita Electric Industrial Co., Ltd. W.R.L.

NOVEMBER 1982

IMAGE CONSTRUCTION METHOD FOR DISTRIBUTION OF GAMMA RAY SOURCES (PART 1)

Yo. ISOMICHI
Univ. Hiroshima, Fac. Integrated Arts and Sciences

IMAGE RECONSTRUCTION FROM INCOMPLETE PROJECTIONS

Jun IMIYA and Hidemitsu OGAWA
Fac. of Engineering, Tokyo Inst. of Technology

A METHOD OF SEGMENT EXTRACTION FROM CHARACTER PATTERNS WITHOUT THINNING PROCESS

Yoshihiro KITAMURA, Shogo AYAME,
Hidehiko SANADA, Yoshikazu TEZUKA
Faculty of Engineering, Osaka University

NUMERAL CHARACTER RECOGNITION
BY THE ALGORITHM OF THE NEOCOGNITRON
Kunihiko FUKUSHIMA, Sei MIYAKE, Takayuki ITO
NHK/Broadcasting Science Research Laboratories

ON A PRECLASSIFICATION METHOD
BY FEATURE EXTRACTION
USING DIVERGENCE OPERATOR ON VECTOR FIELD
Tetsuo HATTORI, Yoichiro WATANABE
Doshisha University
Hidehiko SANADA, Yoshikazu TEZUKA
Osaka University

HANDPRINTED KANJI CHARACTER RECOGNITION
BY RECTANGULAR SEGMENT MATCHING
BASED ON NEIGHBORHOOD CONDITION
Mineo SHOMAN, Noboru BABAGUCHI
Faculty of Engineering, Ehime University
Hidehiko SANADA, Yoshikazu TEZUKA
Faculty of Engineering, Osaka University

HANDPRINTED CHINESE CHARACTER RECOGNITION
BY THE STROKE EXTRACTION METHOD
USING PERIPHERAL STRUCTURAL INFORMATION
Tokiichiro TAKAHASHI, Seiichiro NAITO, Isao MASUDA
Musashino Electrical Communication
Laboratory, N.T.T.

ACQUISITION OF WRITER'S CHARACTERISTICS
FOR CHINESE CHARACTER RECOGNITION
Seiichiro NAITO, Isao MASUDA
Musashino Electrical Communication
Laboratory N.T.T.

EXPERIMENTAL OCR FOR MULTI-FONT CHINESE CHARACTERS
Shin-ichi MEGURO, Michio UMEDA
Musashino Electrical Communication Lab., N.T.T.

RECOGNITION OF HANDWRITTEN SCRIPT ENGLISH WORDS
USING A SYNTACTIC METHOD
Katsuyuki YOSHINO, Kyota AOKI
Faculty of Engineering, Utsunomiya University

A LEAST-ERROR RECOGNIZER
FOR CONTEXT-FREE TREE LANGUAGES
Kyota AOKI, Kazumi MATSUURA
Faculty of Engineering, Utsunomiya University

AN ANALYSIS OF THE PROBABILITY OF ERROR
FOR MULTI-CLASSES RECOGNITION
USING THE PROBABILITY DENSITY
OF THE RATING OF UPPER CLASSES
Mitsuru SAKAI, Hiroyuki HASE,
Masaaki YONEDA, Junsaku YOSHIDA
Faculty of Engineering, Toyama University

PIECEWISE LINEAR DISCRIMINANT FUNCTIONS
IN PATTERN RECOGNITION
Yoshihiko HAMAMOTO, Toshihiko OKADA, Shingo TOMITA
Faculty of Engineering, Yamaguchi University

JANUARY 1983

IMAGE RESTORATION BASED ON

AN ANISOTROPIC NONCAUSAL STOCHASTIC MODEL
Yasuo YOSHIDA, Hisanao OGURA
Dept. of Electronics,
Kyoto Institute of Technology

AN INTERACTIVE SYSTEM FOR TESTING
IMAGE PROCESSING ALGORITHMS AND ITS APPLICATION
TO WEATHER MAP PROCESSING ALGORITHMS
Masao FUTAMURA, Kazunori YAMAMORI,
Yuuji YOSHIDA, Teruo FUKUMURA
Faculty of Engineering, Nagoya University

AN INTEGRATED SYSTEM FOR
AUTOMATED PROCESSING OF WEATHER MAPS
Masachika ISHIZUKA, Yuuji YOSHIDA, Teruo FUKUMURA
Faculty of Engineering, Nagoya University

AN APPLICATION OF THE SURFACE TREE
TO RETRIEVAL OF DIGITIZED TERRAIN ELEVATION
DATABASE BY USING SKETCHES AS A RETRIEVAL KEY
Akira SUGIYAMA, Jun-ichiro TORIWAKI
Toyoashi University of Technology

A THINNING ALGORITHM
FOR THREE-DIMENSIONAL BINARY IMAGES

Yuuichi KAWASE, Shigeki YOKOI
Faculty of Engineering, Nagoya University
Jun-ichiro TORIWAKI, Teruo FUKUMURA
Toyoashi University of Technology

A SEGMENTATION METHOD FOR MULTI-SPECTRAL
CELL IMAGES BASED ON A TWO-DIMENSIONAL HISTOGRAM
Yoshio NOGUCHI
Electrotechnical Laboratory

ONLINE HAND-SKETCHED FLOWCHART RECOGNITION
BY CANDIDATE LATTICE METHOD WITH CONNECTION RULES
Biroshi MURASE, Toru WAKAHARA, Michio UMEDA
Musashino Electrical Communication Lab., N.T.T.

A METHOD OF RECOGNIZING AN ENVIRONMENT
BY A VISION SYSTEM OF A MOVING ROBOT
Toshiaki ICHINOSE, Masahiko YACHIDA, Saburo TSUJI
Faculty of Engineering Science, Osaka University

3-D MEASUREMENT OF FLEXIBLE WIRE TIPS
BY STRIPE LIGHT
Xiang-Q. HUANG, M. YACHIDA, S. TSUJI
Faculty of Engineering Science, Osaka University

ON THE LEARNING BEHAVIOR OF VARIABLE-STRUCTURE
STOCHASTIC AUTOMATA IN THE MATRIX GAME
Kenshiro OKAMURA, Taiho KANAOKA,
Toshihiko OKADA, Shingo TOMITA
Faculty of Engineering, Yamaguchi University

ON A CHARACTERS RECOGNITION SYSTEM
BASED ON DISTANCE FROM THE BOUNDARY
OF CHARACTER REGION
Yoshikazu TEZUKA, Hidehiko SANADA, Tetsuo HATTORI
Nsaoki TANAKA, Yoshihiro KITAMURA, Mineo SHOMAN
Faculty of Engineering, Osaka University
Faculty of Engineering, Ehime University

POST PROCESSING IN CHARACTER RECOGNITION USING
LINGUISTIC KNOWLEDGE AND PATTERN KNOWLEDGE
Mikio SHINYA, Shinichi MEGURO, Michio UMEDA
Musashino Electrical Communication Lab., N.T.T.

A STUDY OF WORD MATCHING METHOD
WITH DICTIONARY FOR PATTERN RECOGNITION
Yukiyasu IIDA, Ioshiaki SUGIMURA
Yokosuka Electrical Communication Lab., N.T.T.

HANDWRITTEN CHINESE CHARACTER RECOGNITION
BY USING NETWORK
Toshiaki EJIMA, Yosuke NAKAMURA, Masayuki KIMURA
Faculty of Engineering, Tohoku University

HANDPRINTED "KANJI" AND "HIRAGANA" CHARACTER
RECOGNITION USING WEIGHTED DIRECTION INDEX
HISTOGRAMS AND QUASI-MAHALANOBIS DISTANCE
Masanori KURITA, Shinji TSURUOKA, Yasuji NIYAKE
Faculty of Engineering, Mie University
Shigeki YOKOI
Faculty of Engineering, Nagoya University

FEBRUARY 1983

TEXTURE ANALYSIS BY SELF-ORGANIZATION METHOD
Masami OGATA and Makoto SATO
Faculty of Engineering,
Tokyo Institute of Technology

OPTIMUM CUBIC CONVOLUTION INTERPOLATION
Akira ICHINOSE and Hidemitsu OGAWA
Faculty of Engineering,
Tokyo Institute of Technology

TEXTURE ANALYSIS BY SELF-ORGANIZATION METHOD
Masami OGATA and Makoto SATO
Faculty of Engineering,
Tokyo Institute of Technology

OPTIMUM CUBIC CONVOLUTION INTERPOLATION
Akira ICHINOSE and Hidemitsu OGAWA
Faculty of Engineering,
Tokyo Institute of Technology

A METHOD FOR 3-D POSITION DETERMINATION
BASED ON LINEAR FEATURE MODELS
Nobuyuki KITA, Koreaki FUJIMURA
Electrotechnical Laboratory

THREE-DIMENSIONAL RECONSTRUCTION OF THE WIRES
FOR AUTOMATIC SOLDERING
Jun-ichi KITSUKI, Toshio KONISHI, Mikio TAKAGI
Institute of Industrial Science,
University of Tokyo

SEGMENT MATCHING OF SHAPES
BASED ON CLIQUE DETECTION OF GRAPHS
Shigeyuki SAKANE
Electrotechnical Laboratory

GODELIZATION OF KNOWLEDGE THAT KEEPS IN STORE FOR
RECOGNIZER (RECOGNITION PARTIAL FUNCTION,
RECOGNITION PROCESS AND SEMANTICAL PATTERN)
Shoichi SUZUKI

Department of Management Information
School of Information, Bunkyo University

A CONSTRUCTION OF POLES' DEVIATION TRACKING FILTER
Masata AKAGI, Taizo IJJIMA
Department of Computer Science
Tokyo Institute of Technology

A DP-MATCHING LSI SYSTEM DESIGN
FOR SPEECH RECOGNITION
Masao WATARI, Hiroaki SAKOE, Seibi CHIBA
Hisao ISHIZUKA, Yuichi KAWAKAMI, Toshiki IWATA
Nippon Electric Co., Ltd.

NEW JOURNAL

A New Quarterly Journal from
Butterworth Scientific:
IMAGE AND VISION COMPUTING

General Editor: Keith Baker (Univ. of Sussex, UK)

First Issue: February 1983

Recent advances in microelectronics are making it possible to clarify or analyse pictures generated electronically by TV camera, X-ray apparatus, electronic microscope, ultrasonic sensor or thermographic equipment.

After processing, this information can be used further to control industrial robots, monitor mass-produced articles at high speed, guide missiles or to create colour-coded pictures.

The technology is finding application in such diverse fields as astronomy, biomedicine, robotics, remote sensing, broadcasting and video, metallurgy, seismology and radar.

Until now the literature covering original research and applications in this field has been scattered and disunified.

IMAGE AND VISION COMPUTING is a new international and interdisciplinary journal that will provide communication between workers from these different backgrounds, with a strong emphasis on applications.

CALL FOR PAPERS

Papers are invited on the following topics:

- * applications and case studies of image computing, including remote sensing robot vision, industrial quality control, video special effects and tomography
- * experimental psychology
- * image generation, including flight simulation and holography
- * vision and perception theory

- * mathematical foundations, including fast Fourier analysis and recursive filtering
- * pattern recognition and artificial intelligence
- * software techniques, including databases and data structures
- * special-purpose hardware, including VLSI

M.J.B. Duff
University College
London, UK

D.J. Granrath
Science Applications
Inc., USA

W.B. Heginbotham
PERA, UK

J. Kittler
Rutherford Appleton
Laboratory, UK

H.S. Stiehl
Technische Universität
Berlin, West Germany

N.S. Sutherland
Univ. of Sussex, UK

S. Ullman
MIT, USA

P.N.T. Wells
Bristol and Weston Heath
District (Teaching) UK

* Papers, written in English, should be 4000-5000 words long plus illustration. Potential authors should submit three copies of the paper typed on one side only in double spacing to:

Amanda Harper
Butterworth Scientific
Limited-Journals Division
P.O. Box 63, Westbury House
Bury Street, Guildford, Surrey
GU2 5BH, UK

To be published quarterly In November,
February, May and August commencing with
February 1983 issue.

The Advisory Editorial Board includes:

J.K. Aggarwal
University of Texas
at Austin

H.H. Baker
Stanford University, USA

B.G. Batchelor
UWIST, UK

A. Rosenfeld
Univ. of Maryland, USA

R.H. Selzer
Jet Propulsion
Laboratory, USA

A. Sloman
Univ. of Sussex, UK

Change of Address

HANS-HELLMUT NAGEL
Fraunhofer-Institut für
Informations-
und Datenverarbeitung (IITB)
Sebastian-Kneipp-Str. 12-14



Non-profit
Organization
U.S. Postage
Paid
Silver Spring,
Maryland
Permit No. 1398