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Editorial

This is the 24th Bulletin of the International Graphonomics Society, BIGS 12, 2.

In order to increase the visibility of the IGS, the IGS office has succesfully applied for an International Standard Serial Number (ISSN) for BIGS. The code, *ISSN 1560-3253*, is printed on the back of the front cover of the current issue.

The IGS Board is pleased to announce that considerable progress has been made with the preparations of the three major publications following the 8th IGS Conference, IGS97, which was held at the University of Genova, Italy, August 24-28, 1997. The authors and titles of the papers which will shortly be published in a special double issue of Acta Psychologica are specified in the present BIGS issue.

This BIGS issue also presents an update on the preparations of the 9th International Conference of the IGS, IGS99, which will be held in Singapore, 28-30 June 1999. Besides general information about the conference, details about the conference's themes, the abstract submission procedure (for which the deadline is January 15th, 1999), conference fees, and lodging are specified.

The present BIGS further contains a book review by Arnold Thomassen concerning a new encyclopedia of writing systems. In addition, a summary is given of the results of a search for information available on the Internet relevant to the special theme of 9th Conference of the IGS, and the results of an electronic search for publications relevant to our members are presented. We invite IGS members to report their recent publications to the IGS office.

As usual, BIGS is completed with an update of the conference agenda, a list of recent and forthcoming workshops and conferences relevant to the IGS. Finally, IGS members are reminded to transfer their membership dues for 1998 and also for 1999.

Ruud Meulenbroek Réjean Plamondon Editors



IGS News Items

Message from the President

Montreal, November 4th 1998

Dear Fellow members,

It is about time to plan your participation to the next IGS conference. As mentioned by the Organizer of IGS99, Graham Leedham, each potential author is requested to prepare a four-page (maximum six-page) extended abstract, describing the work that you would like to present in Singapore. Such an extended description will allow the members of the Program Committee to better rate and evaluate the different papers submitted for presentation at the conference. It will also allow the organizers to publish an official conference preproceeding that can be immediately cited and referred to. Post-conference publication projects like books or journal special issues are also expected and we will keep you informed as soon as we come to an agreement with some publishers about this topic. With this approach, all participating authors will be guaranteed to have at least a refereed publication in the preproceeding. Those who would like to expand their works further in a longer and more detailed article or book chapter will be given the possibility as we have done in previous conferences.

Some board members will complete their term in June 1999. Any IGS member who would like to be considered as a potential candidate for a three year term, please send a short curriculum vitae to the IGS secretariat in the forthcoming months. We will proceed to the selection of some new Board Members in Singapore. If you cannot participate this time, but would like to nominate someone, please feel free to do so by sending us a short letter supporting your nominee.

Looking forward to receiving your extended abstracts and your nomination proposals by the beginning of the next years.

Best regards,

Réjean Plamondon IGS President



Publications Following the Eighth IGS Conference

Special double issue of Acta Psychologica following IGS '97

A special double issue of Acta Psychologica, entitled *Neuromotor Control in Handwriting and Drawing*, edited by Gerard P van Galen and Pietro G. Morasso, will be published soon. The following articles, based on papers presented at IGS '97 form the contents of the volume:

Opening article: 'Neuromotor control in handwriting and drawing: Introduction and overview' by the Editors: G. P. van Galen and P. G. Morasso.

Section 1: Neuromuscular and Biophysical Models: 'Geometric features of workspace and joint-space paths of 3D reaching movements' by M. Klein-Breteler, R. Meulenbroek and C.Gielen; 'Functional properties of graphic workspace: Assessment by means of a 3D geometric arm model' by J. Schillings, R. Meulenbroek and A. Thomassen; 'The stability of pen-joint and interjoint coordination in loop writing' by R. Meulenbroek, A. Thomassen, P. van Lieshout and S. Swinnen; 'Low-frequency periodicity in the coordination of progressive handwriting' by A. Thomassen and R. Meulenbroek; 'Can nonlinear muscle dynamics explain the smoothness of handwriting movements?' By V. Sanguineti, F. Frisone, S. Bruni and P. Morasso; 'The 2/3 Power Law: When and Why?' by R. Plamondon and W. Guerfali; 'Neuromuscular control model of the arm including feedback and feedforward components' by S. Stroeve;

Section 2: Learning and Cognitive Models: 'Axial pen force increases with processing demands in handwriting' by C. van den Heuvel, G. van Galen, H. Teulings and A. van Gemmert; 'On-line size control in handwriting demonstrates the continuous nature of motor programs' by G. van Galen and J. Weber; 'Differential effects of task complexity on contextual interference in a drawing task' by J-M. Albaret and B. Thon;

Section 3: Neuropsychological Issues: 'Elderly subjects are impaired in spatial coordination in fine motor control' by J. Contreras-Vidal, H. Teulings and G. E. Stelmach; 'Spatial features of angular drawing movements in Parkinson's disease patients' by A. Vinter and P. Gras; 'Handwriting and speech changes across the levodopa cycle in Parkinson's Disease' by P. Poluha, H. Teulings and R. Brookshire; 'The influence of mental and motor load on handwriting movements in Parkinsonian patients' by A. van Gemmert, H. Teulings and G. Stelmach.

Special Issue of Intelligent Automation and Soft Computing

Second, a special issue of the journal Intelligent Automation and Soft Computing, edited by Francesco Masulli, Réjean Plamondon and Anna-Maria Colla is in the final stage of preparation. The issue will contain approximately six articles based on papers presented at IGS'97.

Journal of Forensic Document Examination

Finally, a separate section of the Journal of Forensic Document Examination is currently in preparation. The section will be devoted to selected papers from IGS '97 under the editorship of Marvin L. Simner and Patricia Girourard. Publication is anticipated early next year.



IGS99 - The Ninth IGS Conference 1999

Time is passing very quickly and it is almost time to submit your paper to IGS99. Submissions for presentations are due by 15th January 1999. You should have received the first call for papers earlier this year. Another call for papers will be circulated to all members during early December 1998. But, just to fill in a few details and remind you of the event, here is a little more information.

About the conference...

The ninth IGS conference will be held in Singapore, during 28-30 June 1999, which is a Monday through Wednesday. The conference will be held in one of the many conference hotels in Singapore. All hotels are within 30 minutes of the airport (Changi International Airport) and are grouped around the central district of the city. As there is a wide choice of possible hotels the actual venue will be selected in January 1999 when we have a clear idea of the number of attendees and range of presentations and are then able to select the most appropriate venue to support the conference.

All aspects of the science and technology of handwriting and related graphic skills will be considered for presentation at IGS99 with a special theme, relevant to the region of Written Oriental Languages. Papers are invited on, but not necessarily limited to, the following topics:

MOTOR CONTROL - Cognitive and motoric processes; Kinematics and kinetics; Biomechanics and biophysics

EDUCATION - Cross-sectional and longitudinal studies; Teaching, learning disabilities; Remediation, Letter design, Art, Paleography

MOTOR DISORDERS - Diagnostics and treatment, Central and peripheral disorders; Parkinson's and Huntington's disease

COMPUTER SCIENCE AND ENGINEERING - Pattern recognition; Artificial intelligence; On-line and off-line processing; Recording and analysis techniques

FORENSIC SCIENCE - Case studies; Technical developments; New scientific techniques; Person identification

WRITTEN ORIENTAL LANGUAGES - Calligraphy; Teaching, Development; Recognition

About the conference format...

The conference will include oral and poster presentations and invited talks by distinguished researchers. We anticipate the conference running as two parallel sessions over the three days with some plenary sessions. All presentations will be in English. Authors wishing to provide a demonstration or alternative activity other than oral and poster presentations are encouraged to contact the organizers as soon as possible. To maximise the opportunity for discussion lunch and refreshments will be provided as part of the conference package at the conference venue on each of the three days. A conference banquet and social event will also be arranged.



About paper submissions, reviewing and deadlines...

Papers should describe original and unpublished work. Prospective authors should submit three copies of a complete paper of up to about four (maximum six) A4 single line-spaced pages in length. At least one author of an accepted paper must register for the conference. Details of the required paper format can be obtained from the Authors Guide on the conference web page http://www.ntu.edu.sg/sas/events/igs99 and will also be included in the call for papers you will receive soon. Please send your manuscripts by 15th January, 1999 to:

IGS99 Secretariat
Nanyang Technological University
Conference Management Centre
Administration Annex #04-06
Nanyang Avenue
Singapore 639798

OR you may submit one copy of your paper electronically by emailing it as a Postscript or PDF format attachment to igs99@ntu.edu.sg. If in doubt about how to do this from your computer email us first and we will help. OR you may submit one copy by fax to + (65) 793 0997.

Remember the important dates are:

Paper Submission: **15th January 1999**Notification of Acceptance: **15th March 1999**Camera-ready Papers Due: **15th April 1999**

About the costs.....
Registration rates will be

Early bird (before 15th April 1999)	
Member	S\$580
Non-member	S\$630
Standard (after 15th April 1999)	
Member	S\$630
Non-member	S\$680
(Currently US\$1.00 = S\$1.65)	

These rates include the conference package consisting of one copy of the conference proceedings, conference bag and information pack, attendance at all conference sessions, lunch and refreshments on each of the three conference days, conference banquet and social programme.

Typical hotel rates at the hotels in Singapore range from S\$100 - S\$180 per night. The conference secretariat will negotiate the best corporate rates for IGS99 attendees and we will advise on these prices in January 1999 when we confirm the conference venue. You may also wish to check out Airline Stopover packages as experience has shown they are sometimes very good value for money.



About the publication of papers...

All papers presented at the conference will be published in a bound copy of the proceedings with an ISBN number and will be available at the conference. Avenues to publish extended versions of selected papers in other appropriate refereed outlets such as special issues of international journals after the conference are currently being investigated. Details will be announced before the conference.

and a bit about Singapore and the region.....

Singapore is an independent republic and consists of one main island and some 60 small ones. It is located approximately 137 km north of the Equator. It is separated from Peninsular Malaysia by the 1km wide Straits of Johor to the north of the island (which can be crossed by road and rail using two causeway bridges) and from the Indonesian islands by the Straits of Singapore, which can be crossed by a short ferry trip. The main island of Singapore is about 42 kilometres from east to west and 23 kilometres from north to south. The total land area (including that of the smaller islands) is 647.5 square kilometres. International air transport to and from Singapore is very easy and efficient as is internal transport within the island so nowhere is very far away once you get to Singapore. The climate will be hot and humid so light clothes are recommended, as is an umbrella (for the sun as well as the rain).

There are numerous places in Singapore suitable for short pre- and post-conference visits. For on-line information on Singapore you may browse the web sites http://www.singapore.com and http://www.newasia-singapore.com. For those with a wish to combine the conference with a short or longer holiday in the region you may consider exploring West Malaysia to the north of Singapore with towns and cities to visit such as Malacca and Kuala Lumpur, or resort areas such as Genting Highlands, Taman Negara, or the eastern coastal coral islands such as Tioman, all of which are within easy reach of Singapore. Slightly further afield are Thailand and East Malaysia (states of Sarawak and Sabah) and Borneo (Kalimantan), Cambodia and Indonesia (including Bali), all of which have a multitude of geographic, historical and cultural sites for the more adventurous. And just a few hours flight away is Australia and the Great Barrier Reef. If you would like more information about pre- and post- conference tours please contact us and we will advise on possible itineries and local travel operators.

If you have any questions or comments on any aspect of IGS99 and related matters please do not hesitate to contact us: Secretariat: igs99@ntu.edu.sg Fax: +(65) 793 0997; Conference chair: asgleedham@ntu.edu.sg; Fax: + (65) 792 6559 or at the postal address given above. You might also like to visit our Web page at: http://www.ntu.edu.sg/sas/events/igs99 which will be updated as soon as any new information is available.

I look forward to welcoming you to Singapore.

Graham Leedham IGS99 Conference chair



Book Review

The graphic codes of language

by Arnold J.W.M. Thomassen

Review of Florian Coulmas (1996). The Blackwell encyclopedia of writing systems. Oxford: Blackwell Publishers. ISBN 0-631-19446-0. xxix + 603 pages. 70.- Pound Sterling.

Florian Coulmas is Professor of Sociolinguistics at Chuo University, Tokyo. He recently produced a learned and extensive account of the many options that the various cultures have selected and exploited to represent their language in an appropriate graphic code: The different writing systems. In this sturdy volume, the author makes his impressive knowledge and insight into language and writing systems accessible by arranging it into a straightforward alphabetical sequence, as an encyclopedia indeed. Coulmas is also the author of a monograph titled 'The writing systems of the world', and editor of 'The handbook of sociolinguistics'.

The encyclopedic articles are as highly legible as they are thorough and concise. They provide clear definitions and interesting explanations of technical and less technical terms and concepts. In many cases also a deeper theoretical account is given. Here the author displays an admirable degree of up-to-date sophistication where it comes to the interpretation of the written forms, orthographies and writing functions of language. His examples and abundant illustrations are concerned with over 400 different (major) languages and writing systems, as these developed throughout history all over the world, and as they are used today.

I choose the letter W as an example of the kind of topics that are dealt with. This choice was made purely because it is one of a small size: In spite of its association with 'writing' and 'word', the letter W has relatively few entries covering less than three percent of the entire volume. Here are these entries: W, w [letter name, form, and origin], Wade-Giles romanization [of Chinese script], wax tablets, Noah Webster (1758-1843), wenyan [classical literary Chinese], Winnebago syllabry [native American], Wolof alphabet [West-African], word, word blindness, word boundary, word play [pastime], word processing, word recognition, word representation, word separation [word boundary], word writing [logogram], word orthography, writ [written command], writer's cramp, writing, writing community, development of writing [in history], etymology of 'writing', writing surface, writing system, writing tools, written language, written norm [as different from the norm for spoken language].

As may be seen from these examples, the encyclopedia is multidisciplinary. It provides an exceptional account by a single author who appears to be justified in basing himself confidently on his broad expertise and his rich internalised knowledge base. As a sociolinguist, Coulmas is in my view not only well informed about sociology and linguistics, but also about archeology,



paleography, and anthropology, as well as about cognitive psychology and psycholinguistics. In his articles he also takes practical issues into account such as education, reading, spelling, and spelling reform; and likewise he discusses such subjects as the decipherment of unknown scripts.

Moreover, one finds more technical information on typefaces, printing, and the human production of handwriting, and observations on the directionality of letters and scripts, and more technical reflections on the consequences of literacy. Nearly every entry makes reference to several -often quite recent-publications for further reading. These publications are adopted in a multi-disciplinary bibliography containing some 650 titles.

Every time I opened this book to look up something of special interest, or just to browse, I was captured and pleasantly surprised to find another well-written entry on another intriguing topic. Repeatedly, I experienced that I had difficulty to stop myself from reading further, and to get 'back-to-work', like returning to writing this review. I regard this as a very convincing recommendation to anyone interested in the large variety of written forms of language.

Further News

International Standard Serial Number for BIGS

To enhance the visibility of IGS, the IGS office has successfully applied for an ISSN number for BIGS. The code *ISSN 1560-3253* is printed on the back of the front cover of the present BIGS issue, and, of course, it will also be printed there in future issues. Electronic searches in databases will be facilitated by the ISSN code. Furthermore, the IGS board hopes that the new formal status of BIGS will prompt IGS members to consider submitting short papers to the Editors for publication. Concise research notes, book reviews, and commentaries will all be seriously reviewed by the Editors. If considered relevant to our members and corresponding to the goals of our Society, the submitted manuscripts will be published in the, now officially, referrable Bulletin of the International Graphonomics Society.

New Address of IGS Homepage on WWW

Due to a reorganization of the computer facilities of the Faculty of Social Sciences of the University of Nijmegen, The Netherlands, the IGS homepage on the Internet has been given a new site address. The new address is:

http://www.socsci.kun.nl/psy/igs



Until January 1st, 1999, the IGS homepage can still be reached through its former address (http://www.psych.kun.nl/igs). As from January 1st, 1999, the IGS homepage can only be accessed through the new address.

Results from Search for Information on the Internet

Information which is relevant to IGS members and which can be accessed on World Wide Web Internet services is summarised in BIGS regularly. The aim is to provide IGS members who have access to WWW with addresses of interesting sites. IGS members who have no facilities to access WWW are updated through this summary. The present overview contains site addresses that resulted from a (broad) search for new information by using the keyword handwriting.

http://wwwdsp.ucd.ie/~stephenm/

This site describes processor architectures for online handwriting recognition from the The Digital Signal Processing (DSP) research group at the University College Dublin. The site provides not only interesting information and relevant links to related sites but also indicates a vacancy for a researcher in this area (Oct, 1999). Contact: Stephen McInerney. E-mail: stephenm@faraday.ucd.ie; DSP/VLSI M. Eng. Researcher, Room 244, Tel: +353.1.706.1914; DSP Group, Department of Electronic Engineering, Fax: +353.1..283.0921; University College Dublin, Dublin 4, Ireland.

http://ais.iss.nus.sg/



This site provides information about The Asian Interactive Systems Group (AIS), a centre for the research, development and design of Asian language technologies that result in a new, Asian human-computer interaction paradigm. The AIS group is part of the Kent Ridge Digital Laboratories, which is located on the campus of the National University of Singapore. The AIS group consists



of members from Singapore, Malaysia, the People's Republic of China, Japan, USA, and UK. The group developed the Advanced Chinese Input Suite (ACIS), the world's first input system that enables users to enter Chinese in a way that is natural, intuitive and easy-to-use. Text can be created and edited directly in the document via speech or handwriting, without going through complicated keyboard input methods. ACIS integrates a microphone, a tablet and several software components into a comprehensive human interface solution for Chinese computing.





1999: The Year of Handwriting

The National Schoolmuseum in Rotterdam, The Netherlands, in collaboration with the Museum for the Book and the Scryption Museum (in The Hague and Tilburg, respectively, both also in The Netherlands), have announced 1999 as The Year of Handwriting. The reason for this announcement is the fact that nowadays less and less is being written by hand. Between March, 26th and October, 3rd, 1999, the National Schoolmuseum will organize an exhibition on the History and the Future of Handwriting. The exhibition will contain displays on the development of writing instruments, alphabets, technologies, and eductional schemes. Furthermore, a special curriculum for primary school children will be developed. During 1999, seven seminars will be organized on subjects such as analphabetism, writing in different cultures, dyslexia, lateralization, writing posture, handwriting education, and the future of handwriting education. Information about the activities during the Year of Handwriting can be obtained by writing to the National Schoolmuseum, Nieuwemarkt 1-A, 3011 HP, Rotterdam, The Netherlands. Tel: +31.10.4045. 425; Fax: +31.10.2332.801.



Recent publications

In this section of BIGS the bibliographical details of recent publications relevant to the IGS are reported. In addition to publications by IGS members that were reported to the IGS office, the results of searches in Psyclit and Medline are given that were directed at papers on handwriting and related graphic skills which were published during the six months prior to the distribution of BIGS. IGS members are invited to report the bibliographic details of their recent publications to the IGS office.

- Chiang, J. H. (1998). A hybrid neural network model in handwritten word recognition. *Neural Networks*, *11* (2), 337-346.
- Croisile, B. & Hibert, O. (1998). Spatial or afferent agraphia without left sided neglect. *Aphasiology, 12 (2),* 147-159.
- Daniel, M. E., Froude, E. H. (1998). Reliability of occupational therapist and teacher evaluations of the handwriting quality of grade 5 and 6 primary school children. *Australian Occupational Therapy Journal*, *45* (2), 48-58.
- Del-Rosario, M. A., Davis, M. M., Chong, S. K. (1998). Wobbly handwriting. *Lancet*, 351 (9099), 336.
- Freeman, J. W. (1998). Farewell to old decency: the demise of handwritten medical records. S-D-J-Med., 51 (6), 187-188.
- Gasser, T., Windgassen, K., Bereznai, B., Kabus, C., & Ludolph, A. C. (1998). Phenotypic expression of the DYT1 mutation: a family with writer's cramp of juvenile onset. *Annals of Neurology*, *44* (1), 126-128.
- Graham, S., Weintraub, N., & Berninger, V. W. (1998). The relationship between handwriting style and speed and legibility. *Journal of Educational Research*, *91* (5), 290-296.
- James, P. C. & Walker, J. D. (1998). Ballpoint ink flakes as indicators of added entries. *Sci-Justice*, *38* (2), 119-122.
- Maeshima, S., Yamaga. H., Masuo, O., Kuwata, T., Ozaki. F., & Moriwaki, H. (1998). A case of agraphia due to cerebral infarction in the left parietal lobe. *No Shinkei Geka (Neurological Surgery Tokyo)*, 26(5), 431-437.
- Odergren, T., Stone-Elander, S., & Ingvar, M. (1998). Cerebral and cerebellar activation in correlation to the action-induced dystonia in writer's cramp. *Movement Disorders*, *13* (3), 497-508.
- Pai, M. C., & Huang, I. J. (1998). Repetitive sentence writing after a left anterior cerebral artery infarct: Letter to the editor. *Journal of Neurology, Neurosurgery and Psychiatry*, 64 (3), 413-414.
- Parush, S., Levanon-Erez, N., & Weintraub, N. (1998). Ergonomic factors influencing handwriting performance. *Work, 11,* 295-305.
- Parush, S., Pindak, V., Hahn-Markowitz, J., Mazor-Karsenty, T. (1998). Does fatigue influence children's handwriting performance? *Work, 11,* 307-313.
- Solly, S. (1998). Clinical lectures on scriveners' palsy, or the paralysis of writers. *Clinical Orthopeadics and Related Research.*, *351*, 4-9.
- Schwid, B. L. (1998). Writing fake notes? Don't expect to get away with it. *Research of Dental Health*, *15* (11), 34-36.



- Wellingham-Jones, P., Fearn, W. (1998). Handwriting in assessing treatment for substance abuse. *Perceptual Motor Skills*, 86 (2), 577-578.
- Wilson, R. & Fulmer, T. (1998). Home health nurses' initial experiences with wireless, pen-based computing. *Public Health Nursing, 15 (3),* 225-232.
- Ziviani, J., Watson, W. A.(1998). Writing speed and legibility of 7-14 year-old school students using modern cursive script. *Australian Occupational Therapy Journal*, 45 (2), 59-64.

IGS Membership

New IGS Members

- Mr. R.R. **Berkel,** Scryption, Spoorlaan 343A, 5038 CH Tilburg, The Netherlands. Tel.: +31.13.5800.821, Fax: +31.13.5800.818; E-mail: scryption@tref.nl (Fields: cgs cos ed fs ld sp).
- Mr. B. **Heesbeen**, LCI Computer Group NV, P.O. Box 3409, 5203 DK Den Bosch, The Netherlands. Tel.: +31.73.6455.255, Fax: +31.73.6455.296. E-mail: Bheesbeen@nl.lcigroup.com (Fields: en).
- Mr. K.K. **Kobayashi,** National Research Institute of Police Science Questioned Document Section, 6, Sanban-cho, Chiyoda-ku, Tokyo 102-0075, Japan. el.: +81.3.3261.9986, Fax: +81.3.3221.1245; E-mail: koba@nrips.go.jp (Fields: ai cos fs sp).
- Mr. S. de **Schrijver**, LCI Computer Group NV, P.O. Box 3409, 5203 DK Den Bosch, The Netherlands. Tel.: +31.73.6455.255, Fax: +31.73.6455.296. E-mail: StafaanDS@ad.com (Fields: en).

IGS Membership Dues

The IGS office kindly reminds IGS members who have not already done so, to effectuate their membership dues for the current year (1998) by following the instructions specified on the colourful payment slip enclosed in this BIGS mailing. All members are reminded to effectuate the payment of their membership dues for next year, 1999. Please note that any reductions which the IGS may obtain with respect to, for example, publications following IGS conferences, will only apply to paying members.



Recent Conferences

Conferences which have already been announced in a previous BIGS issue are summarised by means of a brief, marked (*) entry

IWFHR '98: 6th International Workshop on Frontiers in Handwriting Recognition*

1-3 September, 1998. Conference recently held at KAIST in Teajon, Korea. Chair: J.H. Kim. Topics: handwriting recognition algorithms, pre-processing, linguistic post-processing, emerging techniques, segmentation techniques, handwriting acquisition, and innovative applications. Program Chair: Prof. Seong-Whan Lee, Department of Computer Science and Engineering, Anamdong, Songbok-ku, Seoul 136-701, Korea. Tel/Fax: +82.2.920.2168, E-mail: swlee@human. korea.ac.kr. More information can be found on the Internet at: http://ai.kaist.ac.kr/iwfhr98

GFS'97: 3rd Internationaler Kongreß der Gesellschaft für Forensische Schriftuntersuching (3rd International Conference of the German Society of Forensic Document Examination)

10-13 September, 1998. This conference was held in Luzern, Switzerland, closely following IGS'97. A total 136 participants, representing 28 nationalities, were informed about recent developments in forensic science. The scientific programme was centered around four major conference themes: (1) Document examination, (2) Researching and securing documents, (3) Printed documents and typewriting, and (4) The dynamics of handwriting movements. For more information please contact: Dr. Peter E. Baier, Universität Mannheim, Institut für Schrift- und Urkundenuntersuchung (ISU), D-68131 Mannheim, Germany. Web site of the GFS: members.aol.com/InfoGFS/

AAAI '98: Artificial Intelligence and Link Analysis

23-25 October, 1998. This three-day symposium, held in Orlando, Florida, U.S.A. focused on computer-based link analysis for forensic purposes. Contact: David Jensen, Computer Science Department, University of Massachusetts (co-chair; email: *jensen@cs.umass.edu*). More information can be found on Internet at: *eksl-www.cs.umass.edu/aila/*



Forthcoming Conferences

Conferences which have already been announced in a previous BIGS issue are summarised by means of a brief, marked (*) entry.

IWTS'99: International Wireless and Telecommunications Symposium

17-21 May, 1999. The Centre for Telecommunications and Information Technology Malaysia is pleased to announce the 3rd International Wireless and Telecommunications Symposium, IWTS'99, to be held at the ITM Resort and Convention Centre, Shah Alam in Malaysia. Contributions describing original research, surveys, trials and applications including but not restricted to the following major topics are solicited:Transmission Technologies, Coding and Multiple Access Techniques, High Speed Networks, ATM and Optical Networks, Multimedia Networks and Systems, Information Technologies, Signal and Image Processing, Transportation Information and Control Systems. Advanced Telecommunications in Medicine, Telecommunication in Education. Please submit three copies of one-page abstract in English, with name, affiliation and mailing address of the author(s). Cover letter should include the complete mailing address, telephone, fax number and e-mail address, if available, of the corresponding author. Abstract due by December 15th 1998. Information at Faculty of Information Science and Technology (FTSM), National University of Malaysia (UKM), Bangi 43600, Selangor, Malaysia.

VI'99: Vision Interface

18-21 May, 1999. Hotel Delta, Trois-Rivieres, Quebec, Canada. VI'99 is a unique event with two international research conferences (see next entry) that present the latest results in computer vision and quality control by artificial vision. Each conference offers three concurrent days of invited and submitted papers. For a single registration fee, participants can attend presentations in either conference, promoting the exchange of knowledge among these important disciplines. Time has been set aside for workshops and other events. The two conferences are sponsored by the Canadian Image Processing and Pattern Recognition Society (CIPPRS). VI is also sponsored by the International Association for Pattern Recognition (IAPR). General Chair: Fathallah Nouboud, UQTR, Canada. Vision Interface'99 will have the theme: 'Computer Vision for Industrial Applications'. Contributions describing original and unpublished research results are solicited on this theme and in other areas of computer vision, image processing and pattern recognition. Topics of the conference include, but are not limited to, the following: 2D and 3D scene analysis; Active and real-time vision; Mathematical imaging; Document



analysis; Texture analysis; Biomedical image analysis; Image compression and coding; Stereo and motion analysis; Content-based image retrieval; Video retrieval and indexing; Image database; Image segmentation; Neural networks; Object recognition; Document compression and coding; OCR and Handwriting recognition; Remote Sensing; Visual Inspection; Multimedia; Internet. For further information please contact: Marc Parizeau, Universite Laval, Laboratoire de vision et systemes numeriques, Departement de Genie Electrique et de Genie Informatique, Universite Laval, Ste-Foy (PQ), Canada, G1K 7P4. Web site: www.dmi.usherb.ca/conferences/VI-99/. Deadline for abstract sub-mission: 20th November 1998.

QCAV'99: Quality Control by Artificial Vision

18-21 May, 1999. Hotel Delta, Trois-Rivieres, Quebec, Canada. Quality Control by Artificial Vision'99. Contributions describing original and unpublished research results are solicited on, but not limited to, the following themes: Defect detection and characterization; Classification; Control by infrared and near infrared thermography; 2D and 3D dimensional control; Aspect control; Real time control; Image sensors; Illumination modeling 2D and 3D image processing algorithms; Real-time image processing software development; Real-time implementation; Methods; Segmentation; Pattern recognition; Texture analysis; Wavelet transform; Genetic algorithm; Data fusion; Mathematical morphology; Stochastic modeling; 3D representation; Neural network. For further information please contact: Dr. S. Kohler, Laboratoire LE2I, IUT Le Creusot, 12, rue de la fonderie, 71200 Le Creusot, FRANCE, Phone: (+33) (-0) 385 73 10 96, Fax: (+33) (-0) 385 73 10 99, Email: s.kohler@iutlecreusot.u-bourgogne.fr. Web site: www.dmi. usherb.ca/conferences/QCAV-99/. Deadline for abstract submission: 20th November 1998.

IIA'99 and SOCO'99: Third International ICSC Symposia

1-4 June, 1999. Third international symposium on Intelligent Industrial Automomation, IIA'99, and Soft Computing, SOCO'99 at the Palazzo Ducale di Genova, Italy. Announcements and Call for Papers have been mailed in May 1998. Further details on web sites: www.icsc.ab.ca/iia99.htm and www.icsc.ab.ca/soco99.htm. Information can also be obtained from: ICSC International Computer Science Conventions, P.O. Box 279 - Millet, AB TOC 1Z0 - Canada. Tel: +1.403.387.3546 (after January 25, 1999: +1.780.387.3546); Fax: +1.403.387.4329 (after January 25, 1999: +1.780.387.4329); E-mail: operating@icsc. ab.ca; Website: www.icsc.ab.ca.



CIMA'99: International ICSC Congress on Computational Intelligence

22-25 June, 1999. CIMA'99, International Congress on Computational Intelligence, will take place at the Rochester Institute of Technology, NY, USA. CIMA'99 will feature the following symposia: Fuzzy logic and applications (ISFL'99), Advances in Intelligent Data Analysis (AIDA'99), Soft Computing in Biomedicine (SCB'99), and Soft Computing in Financial Markets (SCFN'99). Announcements/Call for Papers have been mailed in June 1998. Please consult the following web site for details: www.icsc.ab.ca/cima99.htm. Further information can be obtained from: ICSC International Computer Science Conventions, P.O. Box 279 - Millet, AB TOC 1Z0 - Canada. Tel: +1.403.387. 3546 (after January 25, 1999: +1.780.387.3546); Fax: +1.403.387.4329 (after January 25, 1999: +1.780.387.4329); E-mail: operating@icsc. ab.ca; Website: www.icsc.ab.ca.

Performance Evaluation Issues in Multilingual OCR

19 September, 1999. Just before ICDAR'99 (see next entry), an International Workshop on performance evaluation Issues in multilingual Optical Character Recognition (OCR) will be held in Bangalore, India. The Workshop's chair will be Tapas Kanungo, University of Maryland, College Park, MD USA and Henry S. Baird, Xerox PARC, Palo Alto, CA USA. The workshop will explore evaluation methodologies for multilingual OCR systems. By 'multilingual' is meant to include systems that are capable of reading more than one language in the same document, as well as one-language-per-document systems that can be easily retargeted to new languages. It is hoped to bring together researchers from many countries to discuss the following and related questions: (1) What methodologies should be used to evaluate multilingual OCR systems? (2) How should accuracies across languages be compared? (3) What ground-truthed data sets are now available in various languages? (4) What kind of datasets need to be collected? How is this to be (5) Which organizations might be willing to support such an effort? (6) What multilingual OCR evaluation tools and error visualization tools are available or should be developed? (7) What OCR evaluation methods and metrics will be useful for OCR-based machine translation and cross-language information retrieval? The workshop will be a one-day meeting for a maximum of 70 participants. Each participant will submit an extended abstract which will be distributed at the Workshop. Each potential should submit an extended abstract, electronically via E-mail (in plain ASCII), no later than March 30, 1999 to: Tapas Kanungo, Center for Automation Research, University of Maryland, College Park, MD 20742, E-mail: mlocr@cfar.umd.edu. The abstract should include the name, address, telephone, fax, and email address of the author(s). It should ordinarily be limited to six printed pages including references (no figures, please). Longer submissions may be admitted in special cases, e.g. for catalogues of resources. More information can be found on the Internet at: www.cfar.umd.edu/~kanungo/workshop/mlocr.html.



ICDAR'99: Fifth International Conference on Document Analysis and Recognition

20-22 September, 1999. ICDAR'99 will be held at the new technology center of Bangalore, India. General Chair: Sargur N. Shrihari. The conference is sponsored by the International Association for Pattern Recognition (IAPR) [Technical Committees 10 and 11], Indian Institute of Science and the Computer Society of India. This conference is a unique international forum for identifying, encouraging and exchanging ideas on research, development and novel applications dealing with documents--in any language--and how to make the contents of document computer-accessible. The topics will include, but are not limited to: Document Image Processing, Segmentation, Feature Extraction, Distortion and Skew Detection, Text/Graphics Separation, Document Duplicate Detection, Document Image Analysis, Layout Analysis, Logical Structure Analysis, Character Recognition and Segmentation, Segmentation-Free Approaches, Broken and Touching Characters, Isolated Unconstrained Characters, Large Vocabularies, Handwriting Recognition, Drawings & Gestures, Pen-based Interface, Signature Verification, Graphics Recognition, Vectorization, Analysis of Maps, Engineering Drawings Interpretation, Diagrams, Symbol Recognition, Electronic Books and Hypertext, Multimedia, Hypermedia. Applications. Forms and Bank-Check Reading, Automation, Geographical Information Systems, Electronic Publishing Large Information Systems, Musical Score Recognition, World Wide Web Applications, Document Analysis Systems, Document-Based Infor-mation, Retrieval, Document Image Filing, Text-and Graphics-Based Indexing, Information Extraction, Retrieval of Text, Graphics and Pictures, Text and Document Understanding, Text Analysis and Recognition, Use of Linguistic Use Knowledge, of Domain-Specific Knowledge. Multilingual Understanding, Performance Characterization and Evaluation, Image Degradation Models, Performance Characterization, Benchmarking, Research Databases, Standardization. Paper Submission: January 15, 1999; Notification of Acceptance: April 15, 1999; Camera Ready Paper: May 31, 1999. For more information, please contact: Center of Excellence for Document Analysis and Recognition (CEDAR), State University of New York at Buffalo, UB Commons, 520 Lee Entrance, Suite 202, Amherst, NY 14228-2567 (USA), Voice: +1 (716) 645-6162, Fax: +1 (716) 645-6176, E-Mail: icdar99@cedar.buffalo.edu, Web: www.cedar. buffalo.edu/icdar99.

WMC'99: Second World Manufacturing Congress

27-30 September, 1999. WMC'99 is organized by the University of Durham, United Kingdom. For more information please visit: www.icsc.ab.ca/wmc99.htm. Contact: Jeanny S. Ryffel - Planning Division, ICSC International Computer Science Conventions, P.O. Box 279 - Millet, AB TOC 1Z0 – Canada. Email: planning@icsc.ab.ca Phone: +1.403.387.3546 (after January 25, 1999: +1.780.387.3546); Fax: +1.403.387.4329 (after January 25, 1999: +1.780.387.4329).



IJCN99: International Joint Conference on Neural Networks

10-16 July, 1999. Washington, D.C. The IJCNN'99 is organizing many special sessions on subjects related to the application of Neural Networks to solving technological problems. Among the sessions is Handwritten/Printed Text Recognition with Neural Networks, in both on-line and off-line scheme. The goal is to encourage the use of Neural Networks in this challenging area of research, and to provide scientific interaction between researchers and practitioners in industry and government. Theoretical and practical advances will be the focus of this session. The topics of the special session are, but not limited to: Pattern Recognition; Cognitive models for handwritten/printed text recognition; Word segmentation; Word shape extraction; Hardware Implementation; Comparative performance of various NNs architectures for OCR; Novel architectures for feature extraction and classification; Constructing knowledge base from training samples. Instructions for authors and other information can be found in the following web site: http://www.cas.american.edu/~medsker/ijcnn99/cfp.html.

From Basic Motor Control To Function Recovery

22-26 September 1999. This conference will be held at the Black Sea, near Varna (Albena or Golden sands) in Bulgaria. The conference having the subtitle 'Concepts, Theories and Models - Present State and Perspectives', tries to link clinical and theoretical point of views in Motor Control by bringing together leading scientists, leading clinicians as well as young scientists and clinicians who work in the same field but adopt different approaches in their research, particularly by focusing on different levels of the nervous system and by using different techniques of movement analysis. The conference will contain training sessions on the use of various techniques that are planned to be organised and sponsored by the leading Firms working in the field of Movement analysis. An additional objective of the proposed conference, is to offer an opportunity for young scientists from Central and Eastern European countries to update their knowledge and establish new professional contacts which hopefully lead to collaborative arrangements. How the brain can cope with existing internal and external constraints of the body itself to produce a skilful movement was and remains a challenging problem for the scientists in the field of Motor Control. Plasticity, adaptation and motor learning and the fascinating features of the Higher Nervous System, will also be addressed during the meeting. Co-chairs: Gantcho Gantchev and Nikolai Gantchev. Organising Committee: Volker Diets, Mark Latash, Jean Massion, Shigemi Mori, Dejan Popovic, and George Stelmach. Deadline abstract submission: May 1st, 1999. Further information can obtained by contacing Nikolai Gantchev, UPR Neurobiologie et Movements, CNRS, 31 Chemin Joseph-Aiguier, 13402 Marseille cedex 20 FRANCE, Tel: +33.4.91.16.41.00, Fax: +33.4.91.77.50.84; Email: gantchev@lnf.cnrs-mrs.fr.