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The Foundation and Settlement of deep Guidelines
THE ACCOMPLISHMENT OF THIS FIRST KEY STAGE



Amsterdam
THE NETHERLANDS
14-26 July 2000
XIX ISPRS CONGRESS
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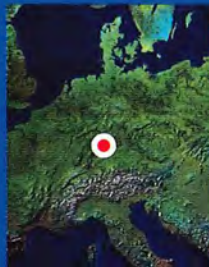
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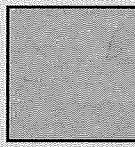
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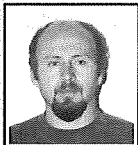
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EDITORIAL



This edition of ISPRS Highlights will include Part 2 of the 1997 Annual Report, a number of Conference Reports and Minutes of the ISPRS Council Meeting held in Bangalore, India. Due to circumstances beyond the Council's control, the 1997 Annual Report will be published in 3 parts, in the January, April and September editions of ISPRS Highlights. It is hoped that in the future, the Annual Report can be published in a single edition of ISPRS Highlights in March of each year. The Annual Report includes important information about the technical and scientific activities, and other developments in ISPRS, and hence I commend it to you.

The ISPRS program for conferences during a 4 year period between the Congresses, is based on workshops and tutorials to be held in the odd-numbered years, and Symposia of the seven Commissions to be held in the even-numbered year (1998). At the time of writing of this Editorial (July 1998), Symposia of Commissions I, II, III and V have been held. Symposia of Commissions VII and IV will be held in September, as previously announced, while the Commission VI Symposium has been postponed until 1999, due to the political and financial problems that have been experienced in Indonesia.

The topics of the papers presented at the Symposia are based on the Terms of Reference of the Commissions. While there are some overlaps between some aspects of the Symposia, the papers are generally presented with a difference in emphasis, reflecting the concentration of each Commission. All Symposia have been organised in an excellent manner, and significant developments in photogrammetry, remote sensing and spatial information sciences have been described and discussed at all Symposia. In addition, excellent social programs have been organised, to allow the participants to become better acquainted with other scientists in their field, thus providing for opportunities to "network", and hence collaborate in research activities. Reports of all Symposia will be published in ISPRS Highlights in due course.

A number of ISPRS sponsored workshops were held in 1997, reports of which are included in this edition. Further workshops will be held in 1999, as revealed in the calendar in this edition. Topics of a number of these

workshops will be based on themes, such as that to be held in Munich in September 1999, with the title of "Automatic Extraction of GIS Objects from Digital Imagery", which involve ISPRS Working Groups in Commissions II and III. Council is encouraging Working Groups and Commissions to work jointly in programming theme issue workshops in 1999. Theme issues workshops enable aspects of a topic to be covered, as they are treated by the participating Commissions. As will be revealed in the September edition of ISPRS Highlights, a number of technical sessions at the Amsterdam Congress in July 2000 will be also based on themes.

The Minutes of the ISPRS Council Meeting and the Joint Meeting of the Council and Technical Commissions are being published in ISPRS Highlights to ensure that members of ISPRS are fully acquainted with the management processes of the Society. Given that ISPRS is a democratically constituted Society, it is appropriate that the minutes are distributed as widely as possible to all interested persons. Council welcomes comments on either the method of publication of the minutes or their contents.

The ISPRS Highlights has been published in Chile since its inception 2 years ago, by Editor-in-Chief Mauricio Araya F. The contract for the publication of ISPRS Highlights in Chile terminates in August 1998. A call for proposals for a new contract was distributed in May 1998, and following negotiations with several prospective publishers, the new contract has been let to the company GITC in the Netherlands, a Sustaining Member of ISPRS. The advantage of the new contract is that ISPRS Highlights will be self supporting by mid 1999. We look forward to working with this new publisher over the next contract period.



John C. Trinder
Secretary General,
ISPRS



ANNUAL REPORT 1997

TECHNICAL COMMISSIONS 1996 - 2000



TECHNICAL COMMISSION II: SYSTEMS FOR DATA PROCESSING, ANALYSIS AND REPRESENTATION

President: Ian Dowman (UK), Secretary: Ray Harris

1. STATE OF SCIENCE AND TECHNOLOGY OF COMMISSION TOPICS

The reports from the working groups which follow indicate the wide range of activities which are covered by Commission II, how they are interconnected and how fast the subject is moving forward. The traditional core subjects of 'instruments', now read digital workstations, and the automation of the techniques which are implemented, are covered by WGs II/6 and II/8 and the progress in automating processes is developing quickly in some areas, for example aerial triangulation, but more slowly in areas of feature extraction. The move to Windows NT will undoubtedly have a big influence on equipment during the next few years, and also encourage integration of data from image processing and GIS.

Three working groups are working in the area of system design and data interchange. WGII/7 reports good progress on developing standards for data transfer and the involvement of the manufacturers in this activity is encouraging. WGII/3, which has strong links with CEOS, is looking at tools for search, retrieval and distribution of data and the workshop in Boulder 'From Producer to User' is a good example of how this topic is progressing. WG II/5 is concerned with the design of processing systems, particularly involving the integration of data, and has made good progress on tackling this problem.

The use of SAR in systems for data integration is particularly important and WGII/4 is working to inform people on the use of SAR and how it can be complementary to data from optical sensors. The Working Group has noted the increasing importance of interferometric SAR and stereo SAR; the latter being a topic which has been of interest to a dedicated few for many years but is only now becoming of wider interest.

Working group II/1 notes the spread of interest in using positioning devices, GPS and INS for example, in both land based systems and air and space systems. In this area very similar technology and processing techniques are used across the whole spectrum from close range to satellite imaging. The use of new sensors such as laser

profiling is increasing and is of interest to many of the working groups.

The output of the processing systems is frequently fed into digital mapping and GIS and the integration of data into a GIS is considered by WG II/2. Here again the use of a wide range of data to help in classifying features is important.

All of these activities will be brought together and discussed at the Symposium in July 1998 and the theme 'Data Integration: Systems and Techniques' will demonstrate new work in this area.

2. ACCOMPLISHMENTS OF COMMISSION DURING 1997

During 1997 most of the visible work of the Commission has been concentrated on the working groups and a wide range of meetings are reported in the following sections. Many of these have been held jointly with other working groups, within and without the Commission and good collaboration is reported with other organisations such as SPIE and CEOS, as well as with national groups. The involvement of manufacturers has also been significant.

Behind the scenes work has been going on to plan the prepare the Symposium and a meeting of working group officers was held during the Photogrammetric Week in Stuttgart. The Commission has also contributed to the general interaction between ISPRS and other international organisations such as COPUOS, especially in the area of data policy. Links have also been established with the Open GIS Consortium (OGC).

3. WORKING GROUP ACTIVITIES DURING 1997

WORKING GROUP II/1 REAL TIME MAPPING TECHNOLOGIES

Chair : Dr Rongxing Li
Co-chair : Holger Schade

**State of Science and Technology of
Working Group Topics**

Real-time mapping has had a steady progress since the Congress in Vienna in 1996, characterised by the following trends:

- The mobile mapping concept developed and implemented on land-based platforms has been expanded to airborne and satellite platforms. Typical examples are AIMS (Airborne Integrated Mapping System) developed at The Ohio State University Center for Mapping and the new generation of high-resolution satellite imagery. The former uses DGPS and INS to georeferenced airborne digital CCD images. Such a mapping system may greatly reduce or eventually eliminate ground control and aerial triangulation. The latter employs space GPS and star tracker to obtain the positions and attitudes of satellites. It will be of great interest of the WG to confirm the estimated mapping accuracies of the satellites in 1998.
- Intelligent processing of mobile mapping data becomes a research topic. Advanced techniques such as neural networks and snake models have been applied to automate measuring procedures and automatic object recognition from mobile mapping data. The unique advantages of the mobile mapping data, namely that the images have unknown exterior orientation parameters and the image sequences are along a known track, make the automation more efficient and robust. Multiple image based matching has found its application in the mobile mapping processing. Bayesian networks have been actively researched and promise great potential for feature extraction.
- More land-based systems are being developed. The accuracy and resolution of the sensors are increased. It is hoped that the costs of the system can be greatly reduced to a commercially acceptable level.

Accomplishments of the WG since Vienna Congress

Suggested and contributed to a mobile mapping session at GIS/LIS 97 including papers on land-based (TransMap), airborne (AIMS) and satellite (1m) topics.

A Mobile Mapping Workshop in Bangkok 1999 is being organised with the support from Prof. Shunji Murai.

A Web page of the WG is being constructed and will be completed by the end of the year.

Other news on WG activities or plans for the future.

Mobile mapping session(s) at Commission II Symposium in UK 1998

Although the WG is not officially sponsoring the Mobile Mapping Conference 1998 and Duane Brown Summer School in Geomatics 1998, both in Columbus, OH, mobile and real-time mapping are major issues of these two events. The WG will closely observe the scientific and technical trends discussed at the conferences.

WORKING GROUP II/2 SOFTWARE AND MODELLING ASPECTS FOR INTEGRATED GIS

Chair : Dr Manfred Ehlers

Co-chair : Mark Gahegan

Accomplishments of WG During the Report Period:

The International Workshop on 'Dynamic and Multi-Dimensional GIS' 25 - 26 August 1997 in Hong Kong was sponsored jointly by four ISPRS Working Groups, with a broad range of topics. An agreement has been made to publish a book containing expanded versions of the best papers given at the Workshop. It will appear as 'Advanced Geographic Data Modelling (II) - ISPRS Workshop on Dynamic and Multi-Dimensional GIS'. Reviewing of papers for the book will begin shortly.

During the Workshop, a business meeting of the WG was held, where interest was expressed in the ideas of bench marking classifiers and of improving accuracy and uncertainty reporting in Integrated GIS (IGIS). It was noted that there is a great deal of overlap between the various groups. This was a cause for concern so it was agreed to keep closely in touch and to look for further opportunities to organise joint events. One problem is that the WGs present at the Hong Kong Workshop represented three different Commissions, so they cannot meet at Symposium events.

Proceedings for the International ISPRS WG II/2 Workshop on 'New Developments on Geographic Information Systems'. The proceedings were published in August 1997 by Environmental Research Institute Michigan (ERIM) International Inc. (ISBN 0-9603590-9-5, 223 pages). Editors are James B. Johnston, Manfred Ehlers, David R. Steiner and Mario A. Gomasasca.

A first newsletter was sent out in April 1997, a second one will be submitted before the end of November 1998.

Working Group Plans

A Workshop is planned for January/February 1999 in Australia or September/October 1999 in Germany. Input is currently solicited from the WG members for their specific preferences of topics and location.

The WG will participate as a sponsor for the 10th International Geomatics Conference 'Spatial Data Infrastructures' (SDI'98), June 8 - 11, 1998 in Ottawa, Ontario. A business meeting of the WG will be held during this conference.

WORKING GROUP II/3 SPATIAL DATA HANDLING TECHNOLOGIES

Chair : Henrik Osterlund

Co-chair : Dr Wyn Cudlip

State of science and technology in the WG area

Rapid development is currently ongoing on web based services using the Internet, for distributed search and retrieval and distribution of spatial data. Many new tools, mostly based on Java are being developed. New, fully commercial end to end providers are entering the EO market, providing very high resolution data at high pro-

cessing levels via the Internet. They will meet the increasing demands of faster satellite data distribution. The lack of globally accepted standards and non-existing co-ordination in related fields leads to different metadata standards, protocols and incompatible services being developed. However, converging efforts are being undertaken.

Accomplishments of the WG in 1997

Participation in the RSS meeting "Systems and Techniques for Data Integration", 28/4, London, UK. Presentation "An integrated Approach to Agricultural Monitoring using Satellite Data and GIS" given.

Arranging the ISPRS Joint Workshop "From Producer to User", in co-operation with ISPRS WG I/2, 7-9/10, 1997, Boulder, CO., including WG business meeting 9/10 1997,

Future Plans

Participation and arranging sessions at the Midterm Symposium of ISPRS Commission II, Cambridge, UK, July 13-17, 1998.

Ad hoc WG business meetings in conjunction with other, international meetings.

Follow-up Joint Workshop with ISPRS WG I/2 in Stockholm Archipelago, Sweden, August 1999.

WORKING GROUP III/4 SYSTEMS FOR PROCESSING SAR DATA

Chair : Dr Douglas Corr
Co-chair : David Stanley

State of Science and Technology of Working Group Topics

Applications based on SAR interferometry (IFSAR) have grown at an astonishing rate over the past five years and are proving to be of outstanding benefit. These applications have been brought about using data from the ERS system. Recently however RADARSAT has also been shown to produce high quality interferometric data.

A key application of IFSAR is in the production of DEMs. The variable incidence angle capability of RADARSAT provides stereo data which can also be used for DEM production. There are now several commercial off-the-shelf software systems for IFSAR and Stereo SAR workstations: eg, VEXCEL, Atlantis Scientific, PCI. These systems allow ortho correction and automated DEM extraction by IFSAR (ERS & RADARSAT) and stereo correlation (RADARSAT). It has been found that under good conditions IFSAR derived DEM's from RADARSAT fine beam data may approach DTED 3 (10 m posting) accuracy.

There are still difficulties however in automatic DEM extraction from SAR:

- Ground control points (GCP) can be difficult to locate accurately due to speckle and layover. This results in poor stereo models. The use of many GCP's is often

not a practical solution, since the data is for areas with difficult access.

- Stereo correlation techniques are unable to resolve fine detail due to speckle, this means that DEM's of less than 100m postings (DTED 1) are difficult to achieve.
- The systems are very new and there is little expertise in understanding the quality of the DEM's produced, how different terrain types, ground cover types and atmospheric conditions effect the DEM's. Much work in evaluating the tools remains.

Commercial image processing software is now available for RADARSAT, ERS and JERS satellites. This allows researchers and production users to obtain lower cost signal data and then process it independently to enhance specific features. Reliance on the default parameters set by the Receiving Station/Data providers is no longer necessary. It is to be expected that this capability will stimulate further research into tuning parameters for specific applications, since the results can be immediately used by commercial applications, rather than being only a theoretical proposition. For example: tuning parameters to enhance target/point recognition, or processing products with a high number of looks to reduce speckle e.g. to improve stereo correlation for DEM extraction.

Finding widespread applications for SAR satellite imagery continues to be a problems. Applications such as DEM extraction, disaster monitoring low resolution mapping, and some geological work have been established, but these tend to use a relatively limited number of scenes. Ice monitoring is an exception, but it is only used at a limited number of sites. Applications, such as for agriculture, which require multiple scenes per year are not yet established. Further work needs to be done to establish such applications, probably by using SAR imagery as one of many sources of data being fused together.

High resolution and multiple polarisation are features of planned future SAR systems. Improved resolution is to be offered by RADARSAT 2 with 6m resolution (possible launch in 2001) and NASA's LightSAR with <3m resolution (target launch in 1999). Fully polarimetric operation is envisaged for LightSAR. ESA's ENVISAT (launch in 1999), which has resolution similar to ERS, can be operated with in a dual polarisation mode.

As well as the benefits of high resolution in terms of greater geometric definition, the fusion of electro-optical and SAR data of comparable high resolution is also likely to be beneficial to remote sensing applications. Optical data with up to 1 m resolution will be available from 1998 onwards, from IKONOS-1 (launch in March 1998) and QUICKBIRD (launch in late 1998),

Tools will be necessary to facilitate the analysis of multipolarimetric data and the combination of SAR and optical data.



CLOSE-RANGE TECHNIQUES
AND MACHINE VISION
COMMISSION V
1996 - 2000

HAKODATE
International Symposium on
**REAL - TIME IMAGING
AND DYNAMIC ANALYSIS**
Hakodate, Japan, June 2 - 5, 1998

函 浪
ROMANTIC
HAKODATE
館 漫



SYMPOSIUM TIMETABLE

Deadline for Abstracts:	January 15, 1998	Deadline for Full Papers:	April 30, 1998
Notification of Acceptance to Authors:	February 28, 1998	Full Papers Young Author's Award:	Feb. 28, 1998

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Accomplishments of Working Group During 1997

Introductory presentation of the working group were made at:

- Commission II 1 day meeting in London April 1997
- RSS97 SARSIG session in Reading September 1997

Future activities

Further activities are:

- Population of the WEB site with information on SAR. This is aimed at the new user. It will include information on SAR fundamentals and key issues; pointers to other useful sites, and information on working group activities.
- Working Group Meeting combined with WGII/5 in London on 28 April 1998.
- Participation in Commission II symposium in Cambridge in July 1998

WORKING GROUP II/5 SYSTEMS FOR INTEGRATED GEOINFORMATION PRODUCTION

Chair : Dr Charlotte Gurney

Co-chair : Dr Nick Veck

State of Science and Technology of Working Group Topics

The tasks for WGII/5 are:

- identification of the main processes involved in integrated geoinformation system production
- identification of the problems /issues involved
- formation of solutions - the WG will attempt to formulate guidelines for developers.

Current activities/discussions (prior to any workshops) have identified the following major issues/trends:

- Selection of flexible design methodologies

The problem is that traditional design methods (water-fall & even OO) assume well developed and stable user requirements. In reality, uncertain and evolving requirements have to be carefully developed in partnership with a user who may have no clear formulation of requirements. Use of OO methods can partially alleviate this, in that iterative prototyping is in-built, but it appears to be necessary to incorporate an even more flexible design approach which allows user requirements to remain ill-defined for longer periods. The use of structured methods for requirements capture, tracing and analysis is identified as very important in this respect.

- Incorporation of R&D

There are difficulties in moving academic research results into an operational environment in terms of adapting software to conform to more rigid industrial standards; this can often be more time-consuming than expected. Also, research results are often not sufficiently practical in terms of their operational requirements (too many unobtainable parameters; too much expert user knowledge required). Further, there may be uncertainty as to their effectiveness, so that a design is required in which there are operational alternatives to the more research-based components.

- Use of Commercial-off-the-shelf (COTS) vs customised software development

There is increasing use of COTS, bolting together tools with a minimum of customised code. This is a cheaper solution than developing a fully customised solution. However, it makes it difficult to add research (see above) and it can mean that tools can be wrongly applied in situations not intended by their original developers.

- Methods for testing and validation

There is a lack of time, data, and effective methodology. Often this aspect of a system will receive a low priority from developers. There is also an issue in separating the system (well understood by system engineers, but not necessarily by an end user) from the actual interpretation techniques (possibly well understood by the user, but less so by the systems engineers - see also the blind acceptance of COTS tools mentioned above).

- Delivery mechanisms

There is a recent surge in interest in Web based solutions which is likely to increase markedly with a corresponding focus on interactive visualisation and data retrieval.

Within Europe the stimulation provided by EC funding via the 4th Framework Pilot Projects and the Centre for Earth Observation (CEO) has led over the last few years to a focus on providing applications for specific customers using existing 'proven' technology. Many of the 'geoinformation systems' known to the Working Group have arisen from projects funded in this manner or by the equivalent national programmes.

News / plans

A Workshop is planned for April 28th in London in association with the IEE. A joint workshop is planned with WGII/4 (SAR Systems). The purpose of the workshop will be to expand and refine the identification of major issues and trends in integrated system development as discussed above. This theme will be further developed during the Cambridge conference in July. It is hoped that the final output will be a series of guidelines for systems developers which will assist them in avoiding the sort of problems encountered by previous developers.

A web page is being prepared on which details of planned events will be available. It is hoped to include a discussion forum so that views of a wider system development community can be obtained.

WORKING GROUP II/6 INTEGRATION OF IMAGE UNDERSTANDING INTO CARTOGRAPHIC SYSTEMS

Chair : Dr David McKeown

Co-Chair : Olivier Jamet

Accomplishments of Working Group During 1997

'Integrating Photogrammetric Techniques with Scene Analysis and Machine Vision III' at the SPIE Aerosense '97 Symposium, Orlando, Florida, April 21-25, 1997.

Future plans

Commission II Symposium, Cambridge UK, July 1997
European WG meeting, TBD (most likely France, Spring 1998)

Mail working group announcements to potential participants, and posting working group announcements to relevant news groups.

Working group homepage: <http://www.cs.cmu.edu/~MAPSLab/isprs.html>

Participate in Commission III Symposium, Ohio, 1998?

WORKING GROUP II/7 PRACTICAL AND IMPLEMENTATION ISSUES IN DIGITAL MAPPING

Chair : John Thorpe
Co-chair : José Colomer

State of Science and Technology of Working Group Topics

The use of digital aerial images has become a standard approach in mapping organisations. Today this occurs mainly with digital orthophotos that are used as background information for various vector-formatted geospatial data. In future it is very likely to happen that also central perspective images are increasingly used by the same group of users. A clear benefit over orthophotos is that also three dimensional data acquisition is possible.

A prerequisite for utilising central perspective images is that their orientation data can be transferred easily from manufacturer organisations and systems to the user organisations and systems. Today this is usually guaranteed only if the systems are used by a single vendor. Otherwise difficulties occur because there are no widely accepted standards for transferring orientation data, neither for the semantics or syntax of the relevant model and parameters.

To summarise: There is no commonly accepted standard for both the image raster data and the image meta data, i.e. orientation parameters.

Accomplishments of Working Group During 1997

The main objective of the WG in the year 1997 was to establish a forum for the exchange of ideas on practical and implementation issues in digital standard data transfer formats, especially image data transfer formats. Our goal was to bring manufacturers, researchers and users together, to determine and to discuss these issues. In order to establish this group we sent out an invitation letter, to which 39 people responded and agreed to be member of this WG. In addition to this a WWW-page has been established for means of information exchange. The WWW address is <http://anlt.com/isprs/main.html>

We had two WG meetings. The first one was held on April 9, 1997 in Seattle, USA during the annual ASPRS convention. The second was held on September 24, 1997 during the Photogrammetric Week in Stuttgart, Germany. In both meetings, most of the manufacturers and represen-

tatives from universities and users were present. The necessity and willingness to work on the standardisation of an image exchange format was clearly stated by the three big manufacturers Zeiss, Intergraph and LH Systems. As a first step Intergraph and Zeiss presented their ideas and developments regarding this topic. We also invited Mike Ruth, Manager Product Development with Spot Image Corp., who played a major role together with Niles Ritter (NASA) in developing GeoTiff. He gave a short presentation about GeoTiff and its future.

In the Stuttgart meeting it was decided that one approach is to develop a PHOTO-TIFF standard, which would mean that the raster data will be represented by this image format, with additional meta data stored as standard photogrammetric tags. Dr. Tapani Sarjakoski of the Finnish Geodetic Institute offered his help to work on a more theoretical conceptual approach to define this PHOTO-TIFF standard.

Working Group News

The next meeting will be held during the ISPRS II Symposium in Cambridge, where the WG will have a panel session, where an attempt to establish an agreement on future efforts.

Set up WWW site

Host a seminar in Colorado Springs, USA, Summer 1999

WORKING GROUP II/8 DIGITAL SYSTEMS FOR IMAGE ANALYSIS

Chair : Dr Christian Heipke
Co-chair : Dr Tapani Sarjakoski

State of Science and Technology

A large number of Digital Photogrammetric Systems (DPS) including input and output devices with different degrees of functionality, user friendliness, and automation potential is commercially available. Vendors of DPS include traditional photogrammetric, but increasingly also remote sensing and GIS companies.

A major trend can be observed to use Windows NT as operating system. Modules for automatic interior and relative orientation are operational and are in daily use in practice.

Automatic aerial triangulation was introduced into the commercial arena during the last 12 months and is promising large cost savings, while retaining the needed accuracy. Investigations are under way to analyse the performance of AAT.

Automatic DEM generation was accepted in practice some time ago, but interactive verification and editing is there to stay, especially in difficult terrain, and in large scales.

Digital orthoimages are being produced routinely on a daily basis, and there is a trend especially for large scale applications to use true orthoimages, i.e. to correct the displacement of man-made objects like houses and similar.

As of today semi-automatic extraction of GIS and CAD data is still mostly restricted to research and devel-

opment. Implemented algorithms combine computer vision approaches with rigorous photogrammetric modeling. Some results indicate that future systems will be equipped with more powerful tools. The human computer interface is increasingly being seen as an important factor. In practice, GIS and CAD data are often still acquired from film imagery using analytical plotters. The term 'semi-automatic' is interpreted in at least two different ways: it is used to mean (1) post editing of automatically generated results, and (2) a close interrelationship between human operator and computer in the actual data acquisition phase. Clarification of the term is needed.

Photogrammetric and remote sensing imagery plays a significant role in spatial data base revision. As compared to map revision, there are many more attribute data to be acquired. The research arena is starting to develop integrated updating concepts including various data sources and automation. The workflow in practice is still highly manual and the GIS data capture often occurs from paper plots showing the actual GIS objects, even though digital imagery might be used for acquiring the object geometry.

Relatively little attention is being paid to data compression and its effects for photogrammetric and remote sensing processing. It is estimated that this topic will receive more attention once digital cameras will become available.

Accomplishments of the WG in 1997

Participation in the SPIE International AeroSense Symposium, Conference on "Integrating

Photogrammetric Techniques with Scene Analysis and Machine Vision III", in co-operation with ISPRS WG II/6, including a WG business meeting, Orlando, FL, USA, April 20-25, 1997.

Participation in the ISPRS Workshop "Theoretical and Practical Aspects of Surface Reconstruction and 3D Object Extraction", in co-operation with ISPRS WG III/2 and III/3, including WG business meeting, Haifa, Israel, September 9-11, 1997.

WG Business meeting during Photogrammetric Week, Stuttgart, Germany, September 24, 1997.

Publication of a theme issue "Automatic Image Orientation" in the ISPRS Journal for Photogrammetry and Remote Sensing, Vol. 52 No. 3, June 1997.

Test on "Performance of tie point extraction in automatic aerial triangulation" in co-operation with the OEEPE, progress report attached.

Establishment of a WWW site for the working group: <http://www.photo.verm.tumuenchen.de/isprs/wgII8.html>
Mailing of 3 WG newsletters, predominantly by email.

WG news

Processing of OEEPE/ISPRS test "Performance of tie point extraction in automatic aerial triangulation".

Workshop on "Performance of tie point extraction in automatic aerial triangulation" together with OEEPE, in conjunction with the Commission. II Symposium, Cambridge, UK, July 13, 1998

Conference on digital photogrammetry in co-operation with ISPRS WG III/3 and possibly ISPRS WG III/4, Munich, Germany Fall 1999.

TECHNICAL COMMISSION III: THEORY AND ALGORITHMS

President: Toni Schenk (USA), Secretary: Kim Boyer and Ayman Habib (USA)

Changes in Commission Organization

Heinrich Ebner resigned as WG III/3 chair. The Commission and the WG III/3 officers agreed that Helmut Mayer should be the new chair of the WG, which was approved by ISPRS Council.

Accomplishments of Commission during 1997

In a joint effort with NASA, NGS and OSU, a multisensor data set has been obtained from an area along the beach of Ocean City, Maryland, USA, including the city. NASA's laser altimeter system and NGS's Daedalus multispectral scanner (11 channels) was used on the same platform. Nearly at the same time, NGS flew a normal photo mission with the RC30 camera. After processing, the data will be made available to the working groups for experimental studies in sensor integration, data fusion, surface reconstruction with stereo and laser data, and multispectral classification and object recognition.

The first announcement and call for papers for the Commission Symposium has been distributed at various conferences.

A proposal was submitted to the editor of PAMI concerning a special journal issue with the best symposium papers. Although the request was finally declined it helped intensifying the contacts with vision community.

Contacts with Technical Commission VII have been intensified. Intercommission activities concerning theoretical aspects of integrating methods in remote sensing (classification) and in vision (object recognition) are under way. A formal proposal for fostering such activities is pending.

State of Science and Technology of Commission Topics

Automatic sensor orientation is an important subject. While GPS kinematic positioning renders cm precision, INS is still not reliable and precise enough to render attitude data that would result in exterior orientation data for sensors that are comparable to those achieved in aerial triangulation.



RESOURCE AND
ENVIRONMENTAL MONITORING
COMMISSION VII
1996-2000

ECO BP'98

INTERNATIONAL SYMPOSIUM ON
RESOURCE AND ENVIRONMENTAL MONITORING
LOCAL, REGIONAL, GLOBAL

Budapest, 1-4 September 1998



Colour aerial photo of Budapest (fragment) - @ EUROSENSE

SYMPOSIUM TIMETABLE

Deadline for Abstracts	October 15, 1997	Deadline for Originals	April 15, 1998
Notification of Acceptance to Authors	January 15, 1998	Preliminary Program	July 15, 1998

For More Information Please Visit the ISPRS COMMISSION VII Website at <http://www.hegyi.com/isprs>
or Please Contact the Hungarian Secretariat at

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Theoretical models and approaches of multi-sensor integration are still missing. Current approaches have a strong ad hoc character.

Surface reconstruction of more complex scenes, such as, urban areas at large scale, is still a research topic. As additional sensors become more readily available (e.g. laser), solid concepts of integrating this information must be developed.

Feature extraction enjoys much attention, not least by the availability of multispectral information. The vision community is beginning to explore the potential of multi-spectral data.

Although a great deal of research focuses on object recognition and image understanding there is still a remarkable lack of theories and concepts. For one, no adequate models of real world objects, as they appear on aerial scenes, are available.

As the user community of softcopy workstations increases, pressure for automating photogrammetric procedures is mounting. Interior and relative orientation of standard photogrammetric models works well within an interactive workstation environment. Automatic aerial triangulation has not yet achieved that same level, however. Automatic DEM generation of rural areas for the purpose of orthophoto generation works satisfactorily. A major issue is the quality control and the reduction of human editing.

Not surprisingly, the automatic generation of maps has not progressed significantly. Research concentrates on extracting and grouping features, such as buildings and roads.

A lot of synergism can be expected from merging remote sensing techniques (classification) with approaches from vision (object recognition). The efforts of bringing together specialists from different disciplines are beneficial (see also activity report WG III/5).

The integration of SAR data with other sensory information—if carried out at all—is still of ad hoc nature.

Commission News

The Commission will actively participate in symposia of Commissions IV and VII.

An organizational and work plan will be put together with Commission VII related to the integration of multisensor information

The Commission will organize the symposium entitled 'Object Recognition and Scene Classification from Multispectral and Multisensor Pixels' July 6 to 10, in Columbus, OH. Up to date information on this event is available from <http://wwwphoto.eng.ohio-state.edu>

Working Group Activities during 1997

WG III/1

INTEGRATED SENSOR

CALIBRATION AND ORIENTATION

Chair : Peggy Agouris
Co-chair : Ismael Colomina
Secretary : Anthony Stefanidis

Accomplishments

1. Established the WG Web page: <http://www.spatial.maine.edu/~peggy/ISPRSWGIII.html>
2. Distributed a WG newsletter and call for participation.
3. Created a Web-accessible questionnaire, which allows interested researchers to provide information on their activities and communicating details of advancements, opinions, and news.

State of Science and Technology of WG Topics:

There is a need to bring together research on sensor orientation performed within the computer vision (CV) and photogrammetric communities. This will permit the substantial advancements made on this subject within the softcopy photogrammetric community (e.g. automated orientations and triangulations) to make the transition to CV applications, with all their particularities (e.g. different types of sensors and set-ups). Hence, an impromptu meeting with members from the CV community was held during the CVPR Conference in Puerto Rico (June, 1997). The objective was to gain some exposure for ISPRS activities within a community, to which traditionally ISPRS has had rather limited access. Information on the Commission's activities was distributed to interested researchers at the meeting. A larger participation of researchers from the CV community is expected in future activities of the Commission.

Specific WG News:

Following the Commission Symposium in 1998, future plans include the co-organization of a workshop with WG III/3 in 1999 in Europe, and a Workshop in the US in 1999, which involving the participation of the CV community.

WG III/2

ALGORITHMS FOR SURFACE RECONSTRUCTION

Chair : Amnon Krupnik
Co-chair : Charles Toth
Secretary : Maxim Fradkin

Accomplishments

1. Working Group home page at <http://www.technion.ac.il/people/krupnik/wg.html>, which includes information about the Working Group objectives and activities, and the latest news and updates.
2. A second circular letter issued
3. Organization of the Workshop on Theoretical and Practical Aspects of Surface Reconstruction and 3-D Object Extraction in Haifa, Israel, on September 9-11, 1997, jointly with ISPRS Working Groups III/2, III/3 and II/8. A total of 23 papers were presented in 8 technical sessions, which concentrated on the following topics:
 - automatic aerotriangulation
 - data acquisition systems
 - feature extraction
 - 2-D and 3-D point location

- surface interpolation and generalization
- object extraction
- multi-source surface reconstruction

The Workshop was attended by 58 participants from 9 countries. Most of the presentations were followed by interesting, broad and informal discussions. A social program that included a banquet, a half day tour and a dinner contributed to the informal discussions as well. The workshop was preceded by a technical tour at the Survey of Israel and A.D.M. (a private mapping organization). All the participants characterized the Workshop as very useful and successful, and mentioned its high organization level.

Workshop proceedings are available as part 3-2W3, Vol. 32 of the International Archives of Photogrammetry and Remote Sensing.

In a following discussion, it was suggested to create and distribute a "benchmark" set of images for testing different algorithms for surface reconstruction and verification. This test will include not only the image models with known camera and orientation parameters, but also an accurately measured DEMs for these areas. Obviously, it is desirable that the set will cover different types of areas (open, suburban, urban, etc.) in order to enable a comprehensive examination of the surface reconstruction algorithms. This work is being currently undertaken, and we hope to have the data on our Internet site by the Commission III meeting in summer 1998. External contribution of data sets is expected.

Specific WG News

The next business meeting of the working group is expected to take place at the Commission III meeting in Columbus. In addition, the working group will take part in the organization of a conference on digital photogrammetry, which will be held in Munich on September 1999.

WG III/3

FEATURE EXTRACTION AND GROUPING

Chair : Helmut Mayer
Co-chair : Ram Nevatia
Secretary : Albert Baumgartner

Accomplishments

1. May 5-9 1997: WG business meeting during Ascona Workshop, Ascona, Switzerland
2. September 9-11 1997: Participation in Workshop at Technion, Haifa, Israel in cooperation with WGs III/2 and II/8, including a business meeting
3. Establishment of a WWW site for the working group: <http://www.photo.verm.tu-muenchen.de/isprs/wgIII3/wgIII3.html>
4. Mailing of two WG newsletters by email only

State of Science and Technology

Though feature extraction is a rather old topic, the importance of some concepts on how to deal with it have only recently become clear. This is notably true for

differential geometry and scale-space theory. The former enables one to define the features rather formally while the latter allows for handling the dependence of features on scale. Especially the combination of both ideas seems to be highly promising for an improved feature extraction.

Grouping is essential for many applications because feature extraction alone cannot be expected to derive parts of objects, due to disturbances such as shadows. Recently, two particular trends can be noticed:

- Grouping uses more and more attributes of the features themselves as well as of adjacent features. This allows in many cases for ruling out unwanted groups.
- Grouping is done in three-dimensional object space using photogrammetric camera models. This further reduces the number of groupings especially when object knowledge is introduced.

Optimization techniques like snakes, which were used mainly in a semi-automatic manner until recently, show a high potential for the verification of automatically extracted hypotheses for objects.

WG News

Plans for Meetings

July 6-10 - 1998: WG Sessions during Symposium of Commission III, Columbus, Ohio, USA

Fall 1999: Conference in Munich, Germany possibly in cooperation with WGs III/1, III/2, III/4 and II/8

Spring 2000: Workshop in Los Angeles, USA

July 2000: WG Sessions during Congress of ISPRS, Amsterdam, The Netherlands

Plan for a Test

The working group plans a test assessing the results of different approaches for automatic road extraction from aerial imagery based on experiences of TU Munich in cooperation with IGN, Paris. The test is scheduled to start by fall '98, and results will be presented at the conference in Munich in September 1999.

WG III/4

IMAGE UNDERSTANDING/OBJECT RECOGNITION

Chair : Wolfgang Eckstein
Co-chair : Eberhard Gulch
Secretary : Carsten Steger

Accomplishments

1. Establishment of WWW site at: <http://www.radig.informatik.tu-muenchen.de/ISPRS/wgIII4.html>
2. Mailing of 2 WG newsletters
3. Participation in the joint ISPRS CIII/IV workshop on

COMMISSION II



Data Integration: Systems and Techniques

Organised by
The Photogrammetric Society
The Remote Sensing Society

Sponsored by
**UK National Committee for
Photogrammetry and Remote Sensing**
ERDAS (UK) Ltd

13 - 17 July 1998, Cambridge, England



Commission President
Prof. Ian Dowman

Commission Secretary
Prof. Ray Harris

ISPRS TECHNICAL COMMISSION II WORKING GROUPS

- **II/1:** Real time mapping technologies
- **II/2:** Software and modelling aspects for integrated GIS
- **II/3:** Spatial data handling technologies
- **II/4:** Systems for processing SAR data
- **II/5:** Systems for integrated geoinformation production
- **II/6:** Integration of image understanding into cartographic systems
- **II/7:** Practical and implementation issues in digital mapping
- **II/8:** Digital systems for image analysis

For further information contact: ISPRS Commission II Symposium, Department of Photogrammetry and Surveying, University College London, Gower Street, London, WC1 E 6BT, United Kingdom • Phone +44 171 380 7226 • Fax +44 171 380 0453
• Email: idowman@ge.ucl.ac.uk • WWW <http://cesgi1.city.ac.uk/isprs2/index.html>

'3D reconstruction and modeling of topographic objects integration of multiple information sources and image understanding', Stuttgart, Sept 17-19, 1997, organized by WGIII/4, WGIV/2, and WGIV/III.2

4. Collection of WG related www pages (on WGIII/4-WWW site)
5. Collection of publications on WG topics
6. Establishment of A Calendar of events (on WGIII/4-WWW site)

State of Science and Technology

1. Fusion of multiple data sources is applied in research, but so far it is mostly limited to two sources, multiple images and map (GIS) data, digital surface models (DSM) and map (GIS) data, or DSM and image data. No general trend can be observed, nor comparative evaluation of the suitability of either combination on various tasks.
2. Existing cartographic information is regarded as use for object recognition and reconstruction tasks, despite unsolved problems of handling generalization or outdated information. Little research concerns the automation of change detection and almost none on the updating process.
3. Building extraction from images and/or laser scan data attracts numerous researchers, as well as road/road network extraction from aerial and satellite imagery. Multiple views are a prerequisite for many algorithms, with color information being of increasing interest. Several commercial systems offer laser scan data of high quality, suitable for detection and coarse reconstruction of buildings, including detection of vegetation. However, the automatic extraction of building ground plans and heights in urban areas are still unsolved.
4. In building and road reconstruction more complex models are used, e.g., buildings are reconstructed in parts, or road detection algorithms are able to handle crossings or partially occluded areas. Newest developments concern the learning of models to reduce the search space. The problem of correctness, accuracy, and optimal choice of level of detail of the models are still unsolved.
5. Object recognition tasks are more and more modeled in an object-oriented manner. This trend may be inspired by the work done within IUE project.
6. Almost all object recognition systems developed so far contain a problem-specific control structure. Therefore, the adaptation of these systems to, even slightly, changed conditions or new applications remains very difficult.
7. There is definite trend to real incorporation of interaction, due to so far limited success rates of so called 'fully automatic' methods. Both types of interaction, post-editing of automatically derived results or accompanying the extraction process, are applied. However there are no comparative studies on the advantages of either method.
8. Few investigations concern the quality and efficiency of image understanding algorithms, despite some ISPRS and OEEPE test material. There is a definitive

lack of development of methodologies and of more comparative studies on more than the usual examples. However, there is an increasing interest in the performance characteristics of algorithms from the computer vision community documented by various workshops and ECVNet benchmarking and performance evaluation activities.

WG News

Participation in the midterm symposium of CIII in Columbus, July 6-10

Conference on digital photogrammetry in cooperation with ISPRS WGIII/3 and WGII/8, Munich, September 1999.

WG III/5

REMOTE SENSING AND VISION THEORIES FOR AUTOMATIC SCENE INTERPRETATION

Chair : DeLiang Wang
Co-chair : Beata Csatho
Secretary : Erzsebet Merenyi

Accomplishments

Since WGIII/5 is a brand new working group, the initial steps were to identify a focus for the first year's activities and establish administrative tools for communication and collaboration.

1. A web page has been set up and connected to the ISPRS main web site at: <http://polestar.mps.ohio-state.edu/~csatho/wg35.html>.
2. Working group members have been recruited and listed on the web page. Working ties have been established with Commission/WG III/3, IV/2, and VII/4.
3. The two main professional areas our activities in 1997 are the analysis and interpretation of multi- and hyperspectral imagery; and the analysis of multi-sensor imagery. Hyperspectral imagery in particular receives an emphasis because of its relative novelty, and its special challenges associated with the analysis (classification) of hyperspectral images. A web page has been set up by E. Merenyi (the Secretary) with information related to hyperspectral imagery. This page will develop over the next year with the intent of providing central links to knowledge on the subject.
4. Three circular letters have been sent out. The first dealt with membership recruiting; and the second advertised upcoming meetings. The third commenced a longer term professional work that our group will pursue: the establishment of standard remote sensing data sets (both single and multiple sensors) for algorithm development and testing. These will be real data sets with great complexity (such as in real situations), and with adequate ground truth according to leading sampling theories. A "standard" problem (e.g., classification challenge) will be assigned to each so algorithms under development can be gauged against others. The success of these plans hinges on membership

contributions of data and willingness to adhere to guidelines. WGIII/5 will provide the guidelines and organization. The third circular solicited responses to concrete suggestions.

5. The joint Workshop of III/2, III/3 and II/8, "Theoretical and Practical Aspects of Surface Reconstruction and 3-D Object Extraction" in Haifa, Israel, Sep 9-11, 1997, was attended by Beata Csatho (the Co-Chair), who gave a presentation on Surface Reconstruction of Urban Scenes from Laser Altimeter and Stereo (with co-author Toni Schenk).

WG News

- Beata Csatho and Erzsebet Merenyi attended a workshop in Budapest, Hungary, February 19-20, 1998.
- DeLiang Wang is currently organizing a special issue on 'Target Detection' for the journal of the American Society for Photogrammetry and Remote Sensing, with an expected publication date in 1998 or early 1999.
- The fourth circular will be distributed in 1998.
- The Pan American Center for Earth and Environmental Studies, University of Texas at El Paso, volunteered to provide the resources for maintaining a data base that will house the standard data sets. Two members volunteered to contribute professional work on a regular basis.

WG III/6

THEORY AND ALGORITHMS FOR SAR

Chair : Laurent Polidori

Co-chair : Soren Madsen

Accomplishments:

Issued circular letters

WG has recruited 29 members

Refined the scientific agenda at a meeting between chair and co-chair in Lyngby, Denmark

State of Science and Technology

In the theory of SAR interferometry processing topics of interest in the WG include:

- State-of-the-art phase unwrapping
- Spatial resampling issues
- Algorithms for using correlation images (DEM quality assessment, thematic mapping)
- Slope map generation
- Evaluation and potential synergy of complimentary techniques, for example interferometry, stereoradargrammetry, shape from shading.
- Impact of SAR image quality on interferometric performance
- Non-conventional SAR algorithms as applied to interferometry (e.g. scan-SAR)
- Generation of map products based on SAR data, such as orthoimages, mosaics, DEMs
- Quality assessment of images and map products
- Feature extraction from SAR images
- Review state-of-the-art technologies
- Evaluate algorithms from other fields (AI, photogrammetry, CV) for their suitability to extract features from SAR imagery
- Automatic identification of image tie points and ground control points
- Automatic mapping, such as extracting roads, land cover, buildings, streams/rivers.

WG News

A workshop was held in January 28-30, 1998, in Cannes, France, on the topic, 'Advances and limitations of SAR image processing techniques.'



MINUTES OF COUNCIL MEETING

BANGALORE, INDIA
28 February - 1 March 1998



COUNCIL ATTENDEES

President : Lawrence Fritz (LF)
Secretary General : John Trinder (JT)
First Vice President : Shunji Murai (SM)
Second Vice President : Marcio Barbosa (MB)
Congress Director : Klaas Beek (KB)
Treasurer : Heinz R  ther (HR)

Thelma Krug (TK)
 (Item 10.1) Assistant to MB
 Tania Sausen (TS)
 (Item 10.1) Chair of WG VI/1

IN ATTENDANCE

President of Commission VI: Lukman Aziz (LA)
Journal Editor: Emmanuel Baltsavias (EB) (Item 5.1, 7.2)
Honorary Member: Gottfried Konecny (GK)
Education Task Force representatives:

AGENDA

1. Opening (LF)
2. Approval of Agenda (LF)
3. Review of previous Council meetings in Brazil (JT)
4. Actions of Council (JT)
5. ISPRS Publications
 - 5.1 Journal (LF/EB)
 - 5.2 Editorial Board Approval (EB)
 - 5.3 Bulletin (JT)

- 5.4 Home Page (JT)
- 5.5 Archives
6. Amsterdam Congress (KB)
 - 6.1 Plans
 - 6.2 ISPRS display
7. Awards
 - 7.1 Policy
 - 7.2 Helava Award
 - 7.3 Cassinis Award
 - 7.4 Fagundes Award
8. Review of Technical Commissions (LF/JT)
 - 8.1 Annual Report
 - 8.2 Working Groups
 - 8.3 Symposia, tutorials and other meetings
9. ISPRS Membership (JT)
 - 9.1 Ordinary Members
 - 9.2 Associate Members
 - 9.3 Sustaining Members
 - 9.4 Regional Members
10. Policy Discussions
 - 10.1 Educational Opportunities Program (MB)
 - 10.2 Communications Task Force
 - 10.3 Other
11. Financial Commission report
12. Financial Affairs (HR)
 - 12.1 Treasurer's report
13. Council Activities Reports (Council)
(Council to provide reports in writing at the meeting)
14. Inter-Organizational Activities (LF/JT)
 - 14.1 COPUOS - UNISPACE III
 - 14.2 CIPA
 - 14.3 CEOS
 - 14.4 ICSU
 - 14.5 ICET/UATI
 - 14.6 Standards
 - 14.7 Others
15. Plans for Strategic Planning Meeting
16. Other Business
17. Next Meeting (JT)
18. Adjournment

MINUTES

1. OPENING

President Fritz welcomed all Council to the Meeting and thanked them for attending. He also thanked the Indian Space Research Organisation (ISRO) for hosting the meeting and providing the excellent facilities.

2. APPROVAL OF AGENDA

The agenda was approved.

3. REVIEW OF PREVIOUS COUNCIL MEETINGS IN BRAZIL

Several items of information were added to the agenda books following completion of the following actions:

- Response from Professor Ray Harris to the letter from ICSU on the policies on access to data (Action 97/107)
- New Terms of Reference for Sustaining Members (Action: 97/96) - now added to the Home Page.
- New brochure on Benefits of ISPRS Membership (Action: 97/28)

4. ACTIONS OF COUNCIL

29 actions items were completed, 4 were overcome by events (OBE).

Results of discussions on action items:

Action 98/120:

LA to contact UN ESCAP in Bangkok to propose a UN related meeting at the Commission VI Symposium.

Young authors awards and CATCOM:

SM has guaranteed to provide funds for 5 Young Authors Awards and also for CATCOM, while KB will provide free registration for these award winners. ISPRS will also guarantee funds for an additional 5 Young Authors Awards if additional donors are not forthcoming.

Action 98/121:

SM to write letter to TCPs requesting contributions for funding Young Authors awards from proceeds of Symposia or similar events.

5. ISPRS PUBLICATIONS

5.1 Journal

Council met for several hours with the Editor-in-Chief during 26-27 February. Discussions indicated that the Journal is operating well. Proposed topics for special Journal issues were discussed and it was decided by Council that ISPRS Highlights and not the Journal is the appropriate forum for papers about social issues. Theme issues have been identified by five Commissions. Commissions I and IV have yet to submit their proposals. The gratis exchange of advertisements between the Journal and ISPRS Highlights is a problem. The search for a new Journal cover is being assigned by the Editor to an Editorial Board member. A new brochure has been prepared for publicising the Journal. A report has been prepared for the Annual Report and will be printed in ISPRS Highlights.

5.2 Editorial Board Approval

All except one member of the Editorial Board have been confirmed. Council approved these appointments.

Action 98/122:

JT to contact EB on the outstanding member of the Editorial Board

5.3 Bulletin

A report on the progress of publication of ISPRS Highlights was given by JT.

An editor should be appointed to collect timely news items and edit the information to be published in ISPRS Highlights.

Action 98/123:

HR to draft advertisement for an 'International News Editor' for ISPRS Highlights

5.4 Home Page

A report on the Home Page was included in the agenda books and will be published in ISPRS Highlights as part of the Annual Report. It was agreed that a job exchange should be incorporated into the Home Page for advertising international job opportunities.

New Guidelines for ISPRS Home Pages have been prepared by WG VI/4, following comments from several persons. Comments by Council are requested by the end of March before the Guidelines are finalised.

Action 98/124:

Council to send comments on Home Page Guidelines to JT.

Action 98/125:

JT to set up an ISPRS Job Exchange on Home Page at UNSW.

5.5 Archives

Action 98/126:

JT to remind TCPs to follow Guidelines for Printing of Archives

It was agreed that only 10 copies of proceedings of Workshops, Seminars and Tutorials which are published as a volume of ISPRS Archives, should be sent to RICS in future.

Action 98/127:

JT to change guidelines for Workshop, Seminars and Tutorials proceedings and notify WG chairs.

Council approves the publication of proceedings of ISPRS sponsored Workshops on CDROMs only.

Action 98/128:

JT to negotiate contract with RICS Books for the sale of Archives on CDROMs.

Action 98/129:

JT and KB to liaise on the design of a cover for Archives on CDROMs.

The previous decision of Council that hardcopy editions of the Archives should be printed for the Amsterdam Congress was endorsed. It was agreed that a common cover design and software access package should be established.

6. AMSTERDAM CONGRESS (KB)

6.1 Plans

The first announcement for the Congress has been printed in 40,000 copies and will be distributed widely to Members, and a large mailing list of interested persons. The Exhibition brochure will be produced after the Sustaining Members' meeting. Professional organisers have been appointed to manage the Congress.

Sponsors are being sought to bring participants from developing countries to the Congress. The structure of the Congress will be based on general themes with participation from cooperating organisations, policy and decision makers, and industry representatives. Some suggestions for theme topics were presented at the meeting. Specific topics for the WGs will also be planned. The willingness of TCPs to cooperate with this scheme will be required. A list of proposals for topics of theme sessions will be distributed to TCPs prior to the JM in September and discussed with them at the meeting. Suggested topics of the theme sessions will be circulated to Council by June for comment. Oral sessions will be selective, while poster sessions will concentrate on WG activities.

Action 98/130:

KB to solicit themes from TCPs and Council before June 1998

Plans for the sessions at the Congress will be determined in consultation with TCPs at the JM in Stuttgart, under the direction of KB.

6.2 ISPRS display

KB will investigate the preparation of a permanent poster for ISPRS and the Congress, for display at other meetings, with the cost shared between the Congress and ISPRS.

7. AWARDS

7.1 Policy

The new policy on ISPRS Awards was approved with minor additions as given in Attachment A. 'Intrinsic value' of the award was set at Swf 2,500. 'Long term commitment' was defined to be 12 years.

Action 98/131:

JT to write to donors asking for help in obtaining nominees for awards

The new Awards brochure should include the name of the most recent winner of each award. The history of the awards is on the Web. New awards will be added to the brochure as soon as they are approved.

7.2 Helava Award

The conditions of the Helava award were approved. The Editor will act as secretary for the jury, without voting rights.

7.3 Cassinis Award

The draft conditions of the proposed Cassinis Award were discussed and modified as appropriate so that they do

not overlap with other awards. The donor of the award, Italian Society for Surveying and Photogrammetry (SIFET), will be informed of the new guidelines of ISPRS Awards, Council's suggested amendments to the award conditions and requested to resubmit.

Action 98/132:

JT to inform SIFET of Council's decision on the proposed Cassinis Award

7.4 Fagundes Award

The donor of the proposed Fagundes Award, INPE, will be informed of the new guidelines of ISPRS Awards and requested to resubmit. There will be no further developments to the conditions of the award until 1999. New conditions will be submitted in accordance with ISPRS Policy by MB, with a short lead time for the determination of award winners.

Action 98/133:

MB to resubmit revised ToR for the Fagundes Award

8. REVIEW OF TECHNICAL COMMISSIONS**8.1 Annual Report**

Annual Report submissions have been received from Commissions I, V and VI. These reports will be published in the Annual Report Part I in the January edition of ISPRS Highlights, and distributed in March/April. Reports of Commissions II, III, IV and VII will appear in the April edition of ISPRS Highlights.

8.2 Working Groups

A list of recent communications on WG activities which has been received by JT was presented. It will be included in ISPRS Highlights.

8.3 Symposia, tutorials and other meetings

(i) The brochure and details of the Commission VI Symposium were presented at the meeting by Technical Commission VI President, Dr Lukman Aziz. Brochures for the call for papers are being distributed at present. Comments were made by Council on the proposed program. Overall, Council were very satisfied with the proposals for tutorials and technical sessions of the Symposium. An estimated 60 participants from Indonesia and 40 from overseas are expected to attend. The President of Commission VI was requested to link information on the Symposium to ISPRS Home Page.

(ii) Commission V President (HC) has asked whether the Commission V Symposium should include submitted papers which are outside the terms of reference of Commission V, for presentation at the Symposium and inclusion in the Archives. Council agreed that such papers should only be allowed to be included in Symposia organised by developing countries. This decision will be covered by the addition of a statement in the guidelines for TCPs.

Action 98/134:

JT to prepare new statement in Guidelines for Symposia in developing countries

LF will request WGs IV/4 and VII/3 to organise an ISPRS sponsored conference for decision makers in Latin America on 'benefits of new sensor systems', to be held in 1999. Gottfried Konecny has offered to lead the organisation of the meeting with co-sponsorship proposed from OOSA, UNDP, CEOS, PAIGH and SELPER. A proposal for this conference will be presented at a special UN WG meeting in Mexico in March 1998.

(iii) It was noted that the Commission I Symposium was successful and noteworthy as the first ISPRS Symposium to be held in India. Over 200 attendees including 80 from overseas participated. Also, noteworthy was the very impressive session on CEOS activities.

9. ISPRS MEMBERSHIP**9.1 Ordinary Members**

Discussion was held on appropriate actions on Ordinary Members that are non-responsive and are financially in arrears. It was agreed that 6 Ordinary Members should no longer receive ISPRS Highlights. MB will investigate members in arrears in Latin America; HR will investigate those in Africa. SM will also attempt to attract a new member organisation from Vietnam and assess the status in one year.

Action 98/135:

JT to inform Council of attendance at the Vienna Congress of representatives from Ordinary Members in arrears

Council are unable to attend the 100 year conference celebration of surveying and photogrammetry in Croatia, but will seek an official representative.

Action 98/136 :

JT to ask Karl Kraus to represent ISPRS and send information to him on ISPRS for distribution at the meeting

Council approved with appreciation, the request from China Taipei to upgrade their category of membership from 3 to 4. Council also approved the change of membership of Slovenia from the Ministry of Environment Protection and Regional Planning (MEPP) to the Section of Photogrammetry and Remote Sensing, the Association of Slovenia Surveyors.

9.2 Associate Members

No matters discussed

9.3 Sustaining Members

Council approved the new Sustaining Membership of LH Systems LLC.

9.4 Regional Members

No matters discussed

10. POLICY DISCUSSIONS

10.1 Educational Opportunities Program

MB and TK presented the current status of the pilot Educational Opportunities program. The timetable for the introduction of the educational opportunities program was given.

Council agreed on proposed members for permanent seats on the Education Opportunities Task Force.

Action 98/137:

MB to draft letter of invitation to the recommended Task Force Members for transmission by President Fritz.

A lengthy discussion was held on the suitability of training centres and the manner in which they will be selected. MB will proceed with the inventory of appropriate training centres according to the timetable.

Draft sets of charts were provided by MB to LF and JT for presentations on ISPRS Educational Opportunities at the 1998 Commission Symposia.

Action 98/138:

LF and JT to comment charts before they are finalised.

Chair of WG VI/1 Tania Sausen described the distance education program on the SELPER Home page, which is in Spanish and Portuguese. An English version will also be developed. Links should be established between the SELPER and ISPRS Home Pages.

Action 98/139:

JT and TS to ensure links between SELPER and ISPRS Home Pages

Council agreed to support the Remote Sensing Core Curriculum (RSCC), being developed in USA and sponsored by ASPRS. It was recommended that Commission VI (WG VI/1) should cooperate with ASPRS in this program.

Action 98/140:

LA to liaise with WG members to cooperate with RSCC program

10.2 Communications Task Force

Correspondence from Task Force Chair Keith Atkinson was tabled. Council is seeking persons to act as section editors for ISPRS Highlights to assist JT in its production. It was agreed to place an advertisement in ISPRS Highlights to attract editors.

10.3 Other

The US Department of Commerce has expressed an interest in establishing a formal relationship with ISPRS. Such a relationship could assist ISPRS in its aim to take a stronger role in the advocacy of issues in its areas of interest. The cooperation could enable ISPRS to provide forums for debates on such items as long term solutions of commercialisation, or the preparation of White Papers on issues related to space remote sensing.

Action 98/141:

LF to arrange a meeting with Mr Keith Calhoun-Senghor of the US Department of Commerce in Washington in May 1998

Action 98/142:

LF to prepare a draft MoU between ISPRS and the US Department of Commerce

11. FINANCIAL COMMISSION REPORT

The Financial Commission report on the Treasurer's report for FY 1996 has been received and reviewed by Council.

It was agreed that the Commission's report in future should be submitted within a month of receiving the financial report from the Treasurer.

Action 98/143:

JT to thank Financial Commission for its report

Action 98/144:

HR to arrange signatures to finalise the financial report for FY 1996.

12. FINANCIAL AFFAIRS

12.1 Treasurer's report

HR presented his report on the current status of ISPRS accounts and membership payments. Following discussion on the method of presentation of reports, it was resolved that a professional accountant should be sought for advice.

Action 98/145:

HR to review the method of presentation of accounts to Council

In order that the budget can be formulated before the start of the FY on 1 April, it was agreed that:

Action 98/146:

Budget details should be presented by Council to HR by 31 January of each year.

13. COUNCIL ACTIVITIES REPORTS (COUNCIL)

Council reports were presented.

14. INTER-ORGANIZATIONAL ACTIVITIES

14.1 COPUOS - UNISPACE III

ISPRS submitted three UNISPACE III Background papers to OOSA, viz: Background Paper No 2 - Photogrammetry and Remote Sensing in Monitoring, Prediction and Prevention of Environmental Disasters; Background Paper No 3 - Management of Earth Resources; and Background Paper No 7 - Commercial Aspects of Space Remote Sensing Including Spin-off Benefits.

Details received from UN OOSA of the UNISPACE III conference were presented. ISPRS has indicated that it wishes to participate in the workshop entitled Environment (and remote sensing). The timetable indicates that ISPRS must submit requests to make presentations and present posters at workshops and technical sessions by April/May 1999.

Regional meetings will be held in Asia in Malaysia in May 1998, and in Latin America in Chile in October 1998.

Action 98/147:

MB to provide information on the Chile meeting to Council

14.2 CIPA

The ISPRS representatives on the CIPA Committee were selected as follows:

- Peter Waldhauesl (Austria)
- Jozef Jachimski (Poland)
- Antonio Cheli (Argentina)
- Petros Patias (Greece)
- Edel Lundemo (Norway)
- Hiro Chikatsu (Japan) or his nominee (ex-officio member)

Action 98/148:

HR to inform the CIPA Secretary General of ISPRS recommendations

14.3 CEOS

ISPRS has been admitted to CEOS as an Affiliate. Council considers this to be an excellent development for ISPRS. LF and JT are to serve as Principal and Contact Points.

Action 98/149:

JT to request Alan Belward and Takashi

Moriyama to provide details of WGs of CEOS

CEOS WGs will be asked to participate in ISPRS activities and sessions at ISPRS Symposia and Congresses, as was the case at the Commission I Symposium. The ISPRS Congress should be announced in the CEOS newsletter. Relevant ISPRS WGs will be asked to participate in CAL/VAL and LISS WGs of CEOS.

Action 98/150:

JT to provide CEOS with details for ISPRS Annual Report.

Action 98/151:

KB to place information on the Congress in CEOS Newsletter

14.4 ICSU

ISPRS membership status of ICSU was discussed. JT has a submitted documentation on ISPRS activities.

14.5 ICET/UATI

Legal issues on which ISPRS could seek advice from UATI, should be sent when appropriate to the legal officer of UATI.

Action 98/152:

Council to recommend legal matters on which advice can be sought from UATI

14.6 Standards

Council did not support the proposal, in its present form, submitted to ISO/TC 211 for a work item (ISO/TC 211 N477) on Qualification and Certification of Personnel. More information regarding its intent and effectiveness of its applicability is sought.

It was suggested that a paper on Competency Standards could be presented at the Commission VI Symposium in August 1998.

14.7 Others

An invitation has been received for ISPRS to attend the EUROGI meeting in March 1998. DF and GR will be asked to represent ISPRS.

Action 98/153:

JT to request DF and GR to represent ISPRS at EUROGI meeting

15. PLANS FOR STRATEGIC PLANNING MEETING

The proposed date for the postponed Strategy Meeting is 1 to 3 May 1998 in Washington.

Action 98/154:

Council to inform LF immediately of availability

Action 98/155:

Council to provide a list of issues, problems and their solutions that require consideration at the Strategy Meeting

16. Other Business

Action 98/156:

Council to update contact address, phone and fax numbers and E-mail address to JT

17. NEXT MEETING

The next CM will be held in Budapest from 5 to 6 September 1998, following the Commission VII Symposium. The JM will be held in Hotel Kloster Hirsau in Germany from 11-12 September 1998.

18. ADJOURNMENT

The meeting was adjourned at 4.30 pm on 1 March 1998.

John C. Trinder
ISPRS Secretary General



ISPRS MEMBERSHIP AND STATE OF AFFAIRS

Submitted by: Prof. Heinz Rüther, ISPRS Treasurer



The current membership of ISPRS is:

Ordinary Members	:	99
Sustaining Members	:	40
Regional Members	:	7
Associate Members	:	8

Two new Ordinary Members joined the Society in 1997, these are Botswana and Eritrea. It is encouraging to see the increased African interest in ISPRS and further efforts will be made to attract new Ordinary Members. Unfortunately Mexico discontinued its membership, but it is hoped that a new Mexican society will be formed in the near future resulting in a re-establishment of Mexican membership. The membership of Slovenia has changed to the Section of Photogrammetry and Remote Sensing, the Association of Slovenia Surveyors. China-Taipei upgraded their category from 3 to 4.

There are 40 Sustaining Members including five new members, ERIM, the Paul Getty Trust, Survey and Development Ltd, CORE and LH Systems. The Indian National Remote Sensing Agency has changed its category from A to D and Carl Zeiss has changed its category of membership from A to C.

No new Regional Members have joined the Society.

The category of Associate Members, which was established during the Vienna Congress, has now 8 members including the new members Suparco and the Agustín Codazzi Geographic Institute of Colombia.

ISPRS welcomes the new members and looks forward to a long-lasting and fruitful association with them.

Invoices for the payment of the 1997 subscriptions were sent out in February/March 1997, followed up by reminders in July. By the date of this report 44 Ordinary

Members (44%), 29 Sustaining Members (74%), 6 Regional Members (85%) and 2 Associate Members (25%) have paid their dues. These percentages do not translate directly into percentages of the annual subscription amounts due to the different categories with their different subscription rates. The percentages of sums paid in relation to the amounts due for each of the four groups including arrears are: 61% for Ordinary Members, 78% for Sustaining Members, 85% for Regional members and 76% for Associate Members.

The total amount of dues outstanding is SFr 51,359. This sum includes an amount SFr 24,766 of arrears for previous years. The 1997 budget anticipated an amount of SFr 10,000 for unpaid subscriptions. Unfortunately the figures given above show that this was an overoptimistic assumption.

The following table gives a further breakdown of the state of subscription payments:

The Society's investments have earned SFr 15,957 in 1997.

Expenditures of the Society during 1997 covered Council activities, subscription to international societies and the introduction of Highlights, the Society's newsletter.

Despite the shortfall in income from subscriptions, the Society remains in a very sound financial position. The Society's accounts were presented to Financial Commission for auditing.

The treasurer represented ISPRS at the CIPA International Symposium in October in Göteborg, Sweden and at two advisory Committee meetings of the 'Program on Environment Information Systems in Sub-Saharan Africa' in March in Antananarivo, Madagascar and in June in Gaborone, Botswana.

State of affairs December 1997	Subscriptions due for 1997 previous years	Arrears from including arrears	Subscriptions paid in 1997 including arrears	Remaining total dues Memberships	Number of paid
Ordinary Members	70,000	19,332	54,540	34,792	44 or 44%
Sustaining Members	39,200	10,809	38,808	11,201	29 or 74%
Regional Members	700	432	966	166	6 or 85%
Associate Members	1,700	0	1,300	400	2 or 24%
Totals	111,600	30,573	65,041	46,559	81 or 53%



NEW SUSTAINING MEMBERS

Submitted by: Prof. Heinz Rüther, ISPRS Treasurer



ISPRS is pleased to welcome the following new Sustaining Members

LH SYSTEMS, LLC

LH Systems, LLC, is a joint venture company of Leica Geosystems AG (Heerbrugg, Switzerland) and GDE Systems, Inc. (San Diego, California, USA). It was founded on 1 June 1997 to take over the Leica photogrammetry and aerial camera systems business on a world-wide basis and the commercial photogrammetry systems business of the Helava Associates, Inc., subsidiary of GDE Systems. Product lines include the Leica brand aerial camera systems (RC30, PAV30), flight management system (ASCOT), photo interpretation equipment (APT2, ST4, TSP1) and analytical plotters (SD2000/3000), and the Helava photogrammetric scanner (DSW300) and digital photogrammetric software suite (SOCET SET®). LH Systems operates with a distribution network consisting of direct outlets, Leica selling units and appointed representatives. LH Systems is designed to compete effectively in the systems business, stressing flexibility, fast response, technically and commercially imaginative solutions, and the recognition that in today's rapidly changing photogrammetric world, every customer is different from every other.

ERIM CONFERENCES

ERIM Conferences contributes significantly to high technology information transfer in civilian remote sensing by administering several series of technical conferences including:

- International Conferences on Geologic Remote Sensing
- International Conferences on Remote Sensing for Marine and Coastal Environments
- International Airborne Remote Sensing Conference and Exhibition
- International Conference on Geospatial Information in Agriculture and Forestry

All conferences are international with respect to programs, program committees, and often location. Proceedings are published and made available to the public. These conferences help to advance the parent organisation's mission of promoting a safe, clean and stable world environment.

CORE SOFTWARE TECHNOLOGY

CORE Software Technology (CST) is the developer of the world's only commercial on-line geospatial (image, cartographic, & demographic) indexing and distribution system, known as ImageNet(SM). CST develops and distributes client-server and application software and primarily uses its software products as a delivery vehicle for ImageNet services. Through the global implementation of ImageNet CST has become a leader in the distribution of geospatial information products worldwide and allows other commercial software to access its services.

CST is building a global, on-line database and distribution infrastructure consisting of commercial and public data providers. ImageNet addresses the information access requirements of a public policy movement to maximize the benefits of existing scientific and geographic information and analysis tools in Earth Observation/Global Change and Geographic Information Systems (GIS).

CST products range from sophisticated image processing software to archive management and distribution software. ImageNet is currently CST's highest selling package and is focused on facilitating access to information, and ultimately the ability to provide shared access to various geospatial databases in both the public and commercial domains. ImageNet has approximately five million data records on line and has strategic partnerships with EOSAT, SPOT, Eurimage, and Sovinformspunik to facilitate the population of the archive and its international distribution.

SURVEY AND DEVELOPMENT SERVICES LTD (SDS)

During the mid 1970s the company entered the aerial survey market with the purchase of an aerial camera and by forming an association with Photarc Surveys Ltd of Leeds, a specialist Photogrammetric company. This working partnership continues to operate successfully today. In 1991, Survey & Development Services Ltd purchased a Zeiss P3 analytical photogrammetric system to be operated by Photarc.

One example of this commitment is the company's research and development effort, in conjunction with a group of companies throughout Europe, to bring to the market a revolutionary new field survey system based on Real Time Kinematic GPS linked to rugged field computers with powerful data collection software. Another is the company's purchase of the PHODIS digital photogrammetric system, the first in the UK, which puts SDS at the forefront of mapping technology and opens up exciting possibilities for developing the use of digital orthophotomaps. In order to expand into the digital photogrammetric market three VirtuoZo softcopy systems were purchased towards the end of 1996.

The Directors of Survey & Development Services Ltd have now formed a Joint Venture company with VirtuoZo Systems Pty Ltd, which will market VirtuoZo software throughout Europe, Africa and the Middle East.

GETTY CONSERVATION INSTITUTE

Getty Conservation Institute is involved in all aspects of conservation of architectural and archaeological monuments by digital survey, including photogrammetry, GIS and remote sensing. They seek collaboration with professional organisations and individuals involved in these activities.



THE PUBLICATIONS OF ISPRS
Prof. John C. Trinder, ISPRS Secretary General



The publications of ISPRS in 1997 were in five categories:

1. The ISPRS Journal of Photogrammetry and Remote Sensing is the official publication of the Society, was published in 6 editions in 1996, comprising approximately 300 pages. It contains scientific and technical articles and reviews in the field of photogrammetry and remote sensing, and as such, endeavours to be a primary channel of communication on the scientific activities of ISPRS, for specialists in all countries working in the many disciplines applying photogrammetry and remote sensing. A fuller report of the Journal is given below.

2. The publication of ISPRS Highlights was a new venture for ISPRS in 1996. It is the Official Bulletin of the Society, and will be published 4 times per year. It contains such items as the ISPRS Annual Reports, general news of ISPRS activities, event reports of ISPRS sponsored conferences, officers lists, keynote speeches, book, project and technology reviews, minutes of Council and Technical Commission meetings, and calls for papers etc. It was published for the first time in October 1996.

3. Volume 31 of the International Archives of Photogrammetry and Remote Sensing was published in 1996. It comprises 980 papers totalling approximately 5000 pages, being the proceedings and the scientific and technical presentations of the 1996 Congress, edited and distributed by the representatives from the Austrian Society for Surveying and Geoinformation, the Member organization responsible for organising the 1996 Congress. Proceedings of ISPRS sponsored Workshops have been published in 1997.

4. The ISPRS Organization and Programs 1996-2000 (Silver Book) and the annual publication ISPRS Member List (Blue Book) were published to provide Members and interested groups a brief description of the current activities and addresses, and the underlying precepts of the Society. A new edition of the Blue Book will be published in 1998. Updates to the Silver Book can be found on the ISPRS Web Page, described below.

5. Special circulars and announcements were used to provide information on the Congress and other activities of ISPRS.

**REPORT OF ISPRS HIGHLIGHTS -
THE ISPRS BULLETIN**

ISPRS Highlights is a quarterly publication of ISPRS which reports on ISPRS activities. It includes the Annual Report, minutes of Meetings of Council and Joint Meetings of Council and Technical Commission Presidents, reports of ISPRS sponsored technical meetings, workshops, Symposia and the Congress, book reviews, details of members, and a calendar of forthcoming meetings. It commenced in October 1996, with reports of the XVIII ISPRS Congress in July 1996. Subsequently a further 5 editions have been published, including this edition.

Council has agreed to the following schedule of publication.

Issue Date	Submission of material	Compilation	Approval of content	Sent to Printer	In Mail
Jan	1/12	15/12	22/12	3/1	31/1
April	1/3	15/3	22/3	1/4	30/4
July	1/6	15/6	22/6	1/7	31/7
October	1/9	15/9	22/9	1/10	31/10

A Content Plan, advertisement policy and space allotments for ISPRS officers and Members have been adopted and published in ISPRS Highlight Vol 2 No 2 in April 1997.

The cost of publication will be partly supported by advertisement revenue and partly by ISPRS. Additional advertisers are currently being sought.

Summary of Contents ISPRS Highlights in 1997.

- Summary reports of Technical Commissions from 1992-

- 1996 by the then Technical Commission Presidents
- Technical Papers - 2
- Technical Commission Presidents for 1996-2000, Terms of Reference of Commissions and Working Groups, Chairs and Co-Chairs of Working Groups
- 1996 Annual Report including:
 - Technical Commission Reports
 - Interorganisational activities
 - Regional Member Activities
- Minutes of Council Meetings:
 - Oigami/Tokyo Japan, October 1996
 - Seattle USA, April 1997
 - Rio/Natal, Brazil, September 1997
- Minutes of Council and Technical Commission Presidents
 - Oigami Japan, October 1996
 - Rio, Brazil, September 1997
- Announcements of the Congress in Amsterdam The Netherlands, July 2000
- Announcements of Technical Commission Symposia and Workshops - 10
- Reports on ISPRS sponsored technical meetings - 10
- News from ISPRS Working Groups - 4
- Book reviews - 3
- Special topics
 - Policy on publications in ISPRS Highlights
 - Education Opportunities
- ISPRS Sustaining Members - addresses and profiles
- Events Calendar - updated each issue

THE INTERNATIONAL ARCHIVES OF PHOTOGRAMMETRY AND REMOTE SENSING

Until 1994, the publication and distribution of the official Archives produced from the quadrennial Congresses and Symposia of the International Society for Photogrammetry and Remote Sensing was the responsibility of the hosting ISPRS Member organization. In 1993 the ISPRS signed a contract with RICS Books to serve as the official repository for post-Congress and post-Symposia sales of all Archives produced after 1993. This arrangement was designed to make the Archives more accessible from a single source without diverting revenues from the producing organizations.

In the early years of the Society, Archive Volumes were published independent of Congress or Technical Commission Symposia. Some of these Archives are still available from the ISPRS Member listed under "Repository" below. A copy of all Archives resides in the International Training Center (ITC) in The Netherlands.

Addresses:

RICS Books
Surveyor Court
Westwood Way
Coventry CV4 8JE
United Kingdom
Fax: +44-171-334-3800

ITC Librarian
350 Boulevard 1945
P.O. Box 6
7500 AA Enschede
The Netherlands
Fax: +31-53-874400

John C. Trinder
ISPRS Secretary General
School of Geomatic Engineering
The University of New South Wales
Sydney NSW 2052, Australia
Fax: +612 9313 7493

The Archives are numbered odd for Congress Volumes and even for Commission Symposia. Volume Parts are given the Commission number and are separate books. When a Volume or Part is composed of multiple books, the number of total books of the Volume or Part is given in parentheses below. The Part for other ISPRS Conferences, Workshops or Tutorials is the Commission number followed by a C, W or T respectively and a sequence number.

Recent additions to the Archives are as follows:

YEARS	ARCHIVE EVENT & VENUE	VOL-PART	REPOSITORY
1994	Comm I Symposium - Como, Italy	XXX-1	RICS Books
"	Comm II Symposium - Ottawa, Canada	XXX-2	RICS Books
"	Comm III Symposium - Munich, Germany	XXX-3	RICS Books
"	Comm IV Symposium - Athens, USA	XXX-4	RICS Books
"	Comm V Symposium - Melbourne, Australia	XXX-5	RICS Books
"	Comm VI Symposium - Beijing, China	XXX-6	RICS Books
"	Comm VII Symposium - Rio de Janeiro, Brazil	XXX-7	RICS Books
1995	Intercomm Workshop - Zurich, Switzerland	XXX-5W1	RICS Books
"	WG IV/6 Workshop - Boulder, USA	XXX-4W1	RICS Books
"	WG IV/1 Workshop - Madison, USA	XXX-4W2	RICS Books
1992-1996	XVIII Congress - Vienna, Austria	XXXI-A,B(7)	RICS Books
1997	Comm VI Workshop - Padua, Italy	XXXII-6W1	RICS Books
"	Comm III/IV Workshop - Stuttgart, Germany	XXXII-3-4W2	RICS Books
"	Comm II/III Workshop - Haifa, Israel	XXXII-2-3W3	RICS Books
"	CIPA Conference - Göttenborg Sweden	XXXII-5C1B	RICS Books
"	Comm VI Workshop - Bahia Blanca, Argentina	XXXII-6W4	RICS Books

REPORT ON THE ISPRS HOME PAGE

By: Andre Streilein (ISPRS Webmaster)

The Internet (http - Hyper Text Transfer Protocol) address of the ISPRS web server is www.geod.ethz.ch/isprs. This web server was established at ETH Zurich in 1994 and acts as the official ISPRS web server since January 1996. In January 1998 there were 205 different HTML (Hyper Text Markup Language) documents with about 52,000 lines of information available on the ISPRS server. These documents are assigned to the following major topics and on the server side to the directories:

- The society (including objectives and activities, historical background);
- Management structure (including organization, officers, finances);
- Legislative documents (including statutes, bylaws, manual of operation of ISPRS Technical Commission and Working Groups (Orange Book), guidelines, awards, minutes of council meetings);
- Members (including ordinary members, associate members, regional members, sustaining members, honorary members and application forms for the different types of members);
- Technical Commissions and Working Groups;
- Publications (including International Archives of Photogrammetry and Remote Sensing, ISPRS Journal of Photogrammetry and Remote Sensing, ISPRS Highlights, ISPRS Annual Reports, ISPRS Organization and Programs (Silver Book), ISPRS Member List (Blue Book));
- Interorganizational activities;
- Congress (including preliminary announcement for the ISPRS Congress 2000 in Amsterdam);
- ISPRS events calendar;
- More pointers to ISPRS activities and organizations related to ISPRS.

The update of these documents is organized on four different levels:

- Documents that need only an update when the information changes (eg. addresses of members),

- Documents that are replaced in long term periods (eg. statutes, information on technical commissions),
- Documents that are added to the server (eg. highlights, annual report, minutes of council meetings), and
- Documents that need an update in short term periods (eg. ISPRS events calendar).

Beside these documents with information about ISPRS and its activities, there are three additional documents for the convenience of the user:

- A section with a chronological list of the most recent changes on the ISPRS server;
- A search tool for the ISPRS web site, which enables the user to search for topics and/or words in all documents on the ISPRS web server;
- A feedback form for comments or requests.

In the year 1997 (January to December) a total number of 48,778 requests of HTML documents from 9,133 unique hosts (~users) were registered on the ISPRS web server. This is an average of about 4,060 requests per month, 134 requests per day or one request every 10 minutes.

This statistic gives a reasonable estimate for the use of the ISPRS web server, as it counts only requests for single HTML documents and not all requests answered by the HTTP protocol. Thus the requests for inlined images, graphics, icons etc. are not taken into account, which makes it most likely to estimate the "real" amount of requests on the ISPRS server. In addition, the statistic refers only to the requests made from outside the ethz.ch domain, which excludes all the local traffic on the ISPRS server, eg. during maintenance of the documents.

A monthly statistic for the use of the ISPRS server has been available since January 1995, during which time, there has been an increase in the use of HTML documents on the ISPRS server. A peak in 1996 coincided with the ISPRS congress in Vienna. At the present time the ISPRS server has about 5,000 visitors per month, and every week there are about 200 new hosts (~ new users) requesting information.

ISPRS JOURNAL OF PHOTOGRAMMETRY AND REMOTE SENSING (PRS)

By: Emmanuel P. Baltsavias (Editor-in-Chief)

1997 was a year of many changes for the Journal. Apart from transferring the News, Calendar, Book Reviews and Event Report Sections to the ISPRS Highlights as from 1 January 1997, a new Editor-in-Chief (EIC) as from 1 July,

1997, and an almost completely new Editorial Advisory Board (EAB) as from 1 January 1998 were elected, a new contract (valid until end of 2000) was signed between ISPRS and Elsevier, and many actions and changes have taken place

or are planned. These changes, initiated by the new EIC in close cooperation with ISPRS and Elsevier, aim at improving PRS, and especially its impact, which depends on its quality, timeliness, affordability, wide distribution and easy access. The major points are listed below.

Publication, Statistics

In 1997 PRS was published according to schedule with no delays in delivery. The number of paper pages was as planned (ca. 300), with a small variation between issues (43-56 pages). Altogether 28 papers (out of which two invited ones) and two prefaces to Theme Issues were published, with an average of ca. 5 papers/issue and 10 pages/paper. 49 authors from 16 countries contributed a paper, with ca. 37% of them coming from countries outside Europe and N. America, and Germany, India and USA contributing most of the papers. 51% of the authors were active in Photogrammetry, 31% in Remote Sensing/Geography and the rest in other disciplines (primarily Computer Science). 67% of the authors are active in academia, 16% in research and other public organisations, and 16% in private companies, while ca. 40% are currently active in ISPRS. Topics covered in 1997 focused on aerial photogrammetry (39%), general topics (29%, algorithms, education etc.), remote sensing (21%), while only few papers dealt with Close-Range Photogrammetry, and none with GIS. The major data dealt with were digital aerial images and optical Remote Sensing data, and the major topics were automation in image orientation, DTM/DSM generation, classification, and 3-D positioning/sensor modelling/calibration. The average times T1 and T2 from receipt to acceptance of a paper and from acceptance to publication respectively, were for the three groups: Special Issue and invited papers remaining papers; and all papers (T1/T2) were respectively: 1.1/5 months, 6.6/5.4 months, 4/5.2 months. While time T2 cannot be reduced significantly due to already fast response from Elsevier and short paper waiting list, time T1 could be shortened by speeding up the review process.

Aims and Scope

New, better defined aims and scope were formulated. The PRS objective is to publish high quality, peer-reviewed, preferably previously unpublished papers of a scientific/research, technological development or application/practical nature. PRS will publish papers, including those based on ISPRS meeting presentations, which are regarded as significant contributions in the above mentioned fields. Especially encouraged are papers: of broad scientific interest; on innovative applications, particularly in new fields; of an interdisciplinary nature; on topics that have not been dealt with (or to a small degree) by PRS or related journals; and on topics related to new possible scientific/professional directions. PRS should focus, as explained above, on a high impact on the readers and should not be treated as a means of increasing the publication list of the authors.

To make the appearance and form of the Journal more attractive various forms of contributions will be allowed:

1. Papers (detailed discussions involving new research, technological developments or applications)
2. Brief Papers (as Papers but shorter, mainly technical, focusing on significant or unique concepts, sensors, systems, developments or applications)
3. Review Papers (extensive state-of-the-art surveys of established or emerging topics or application areas)
4. Interactive articles like Panel Discussions and Interviews (on important, new, or contradictory topics; mainly initiated by the Editorial Advisory Board)
5. Tutorial Papers (on new topics, sufficiently broad themes, at an introductory to intermediate level and easy to understand, with main aims education and training)
6. Contributions for special Journal columns (letters to the Editor about the Journal or to authors commenting on previously published papers; new useful ideas and brief pertinent comments of a technical nature; editorials, mainly after an invitation by the Editorial Advisory Board)

Papers in categories 3 - 5 are very important to make the journal more attractive and introduce new topics to non-experts. The maximum length of the papers has been reduced to 15 printed pages, to avoid lengthy, difficult-to-read papers, and allow more papers/topics to be presented in each issue.

PRS issues may be devoted to specific scientific topics of high or increasing importance (Theme Issues), especially in relation to one or more ISPRS Working Groups (WGs) or Technical Commissions (TCs), as well as to special events, geographic regions, professional activities etc. (Special Issues). The number and topics of Theme and Special Issues (limited to 2 - 3 per year) will be such, that the PRS still remains of interest to the majority of its subscribers. TCs are obliged to contribute at least one Theme/Special Issue within their 4 year period. In 1997 two Theme Issues were published on "Automatic Image Orientation" and "Computed Assisted Teaching and Learning", both related to activities of respective ISPRS WGs. For 1998 apart from the Theme Issue "Extraction of Man-Made Objects from Aerial and Satellite Images" due to be published next April, four other Theme/Special Issues have been organised by the EIC and proposals from TCs II and VII have been received. Guidelines for Guest Editors have been prepared by the EIC, while Calls for Papers for such Issues have been published in the Journal and on the WEB.

Editorial Advisory Board (EAB)

Out of the 41 old EAB members six were kept and 20 new members were added, as from January 1, 1998. A reduction of EAB members was felt necessary in order to have a smaller, more flexible body, that could fulfil new responsibilities. While the previous EAB was mainly concerned with reviewing, the new one, although still contributing to reviews, will also advise the EIC on the definition of aims and scope, editorial policy, content of the PRS, especially content of Special and Theme Issues,

and any topics related to major PRS issues and future changes. They may act as Guest Editors, be responsible for specific PRS columns, or provide articles for them. Additional colleagues, particularly those recommended by TCs and WGs, will further contribute to reviewing. The new EAB members have a very good geographic (19 countries) and thematic distribution, and one third of them work at big research organisations or private companies, bringing thus valuable input and experience from non-academic institutions. The average age of EAB members has been decreased. The percentage of women members, although it more than tripled, is a mere 2 out of 26, but I am hoping of an improvement for the next EAB in 2001.

Quality of Papers and Review Process

Some of the papers are of rather low standards (hastily written, not enough new material, bad English and structure). Corrections to the submitted papers occasionally do not follow the remarks and proposals of the reviewers. On the other hand, some of the reviews are very short, general, not critical enough, and do not provide the authors with helpful advice. These critical remarks are not meant to decrease the excellent contribution of several authors and EAB members, but to point out topics where improvement is needed. To improve paper quality a more pro-active soliciting of good papers has started to be established by the EIC. This process will be strengthened with the help of the new EAB. Concrete measures have been decided in the Joint Council/Technical Commission (TCP) meeting last September, such as appointing for each event, persons responsible for selecting and proposing good papers to the EIC, sending the proceedings to the EIC etc. Efforts will be made in cooperation with the new EAB to increase the quality and speed of the reviewing process.

Regarding speed we will encourage use of electronic means in the exchange of papers and information. In cooperation with Elsevier so called "fast track" papers will be established. These are good papers whose publication should be sped up by using electronic means in the submission and reviewing process.

Subscriptions

There is a trend in reduction of journal subscriptions. This trend, called 'erosion' by publishers, amounts on the average to a 5% yearly decline over the last few years. PRS had a slightly larger decline in 1997 (data as of June 97) as compared to 1996, mainly in personal subscriptions. The majority of the subscriptions are institutional, while only 4%-6% are personal, with a clear decreasing tendency. USA, Canada, fourteen Western European countries, Australia, Brazil and Japan, ie. 19 countries, account for 82% of the 1997 subscriptions.

The action of ISPRS Council to finance free subscriptions for all National Members in 1994-95 did not bring any result. Today many National and Sustaining Members do not subscribe to the Journal. PRS subscriptions are currently limited to 53 countries, although ISPRS has 99 National Members. These numbers show that the Journal

does not reach all people it should, but also a potential for increasing subscriptions, particularly in Eastern Europe, India, China, Japan, as well as middle and large companies, and public organisations. The National Members and the ISPRS Council should seriously consider measures to stop this negative development.

To help increase personal subscriptions the 70% reduction offered to all individual members of national societies was also extended to all employees of ISPRS Sustaining Members. New promotional material is under preparation and will be distributed particularly at ISPRS events, while national societies will be asked to provide free advertising for PRS in their journals. Free copies of Theme/Special Issues will be distributed to selected persons mainly for promotion, as it has been already implemented for the Theme Issue on Automatic Image Orientation. New abstracting/indexing services have been added to increase distribution of information on the PRS contents. Our aim is to stop the erosion and possibly gain new subscriptions. However, drastic changes in subscriptions should realistically not be expected. I believe that the great step towards a significantly wider distribution of the Journal will be its availability in electronic form (see below) through distribution by libraries or personal subscriptions at a reduced rate.

Journal Form

As from 1998 the Journal pages have increased from 300 to 360 (20%) without a price increase. A proposal to change the format to A4 was not adopted due to technical problems. The cost of colour figures starting from 1998 has been reduced by more than 50%, thus easing the use of colour which is necessary in certain cases, and giving PRS an advantage over journals in similar areas. The Table of Contents (ToC) will be published on the back cover for easier reference. ISPRS will have a more prominent presence in the Journal (list of ISPRS Officers in the inside cover, gratis ads for Congress and Symposia, as well as Call for Papers for Theme/Special Issues).

The short version of the instructions for authors has been improved, while a full version will be published in the first issue of each year. A list of reviewers has been published, starting in 1997, in the last issue of each year together with the subject and author indices. An attempt was made to find a new figure for the front cover. The three proposals sent were evaluated by the ISPRS officers. The conclusion was that none was particularly good and significantly better than the present cover. The search for a new cover will be continued with the help of the new EAB.

WWW

Apart from a page in the ISPRS WWW site, the main Journal pages are administered by Elsevier at <http://www.elsevier.nl/locate/isprsjprs>. Elsevier recently changed the form of all its WEB pages. Currently, the Journal pages provide information on aims and scope, audience, abstracting and indexing, editorial board, manuscript status, instructions for authors, form for ordering

sample copies (from late 1998 an on-line electronic sample copy will be available), Table of Contents (ToC) for issues since 1995, list of Special Issues, journal dispatch dates, registration form for ContentsDirect (see below), ordering information and order form, news on PRS, earth and planetary sciences or other areas including general news, conferences, call for papers etc., advanced search facilities (currently the whole earth and planetary sciences, where PRS belongs, has to be searched), links to ISPRS Homepage and Calendar, other relevant journals and neighbouring scientific areas etc.

ContentsDirect is an e-mail alerting service which delivers the table of contents of PRS or other Elsevier journals providing information on soon-to-be published papers, as well as calls for papers, calendar of events etc. As of December 1997, 150 people had subscribed for the ToC of PRS. The manuscript status system OASIS is new and allows authors to obtain password-protected information on the status of their paper from submission of final paper to Elsevier to scheduled publication date. Other possible improvements have been discussed with Elsevier, such as on-line subject and author indices, inclusion of keywords and abstracts, and for few single papers full text in the ToC, search facilities only within PRS, inclusion of call for papers and conference announcements for ISPRS events in the bulletin of the WWW pages etc.

Electronic Form

Elsevier, being the largest scientific publisher in the world, is pioneering new electronic forms for publication, distribution and subscription of its journals. Several hundred journals are already available in electronic form, while the potential is there for all of its 1,200 journals, including PRS, to be converted to electronic form. On one hand, electronic subscriptions of journal packages are offered to libraries, thus permitting electronic access to all their members. On the other, personal electronic subscriptions, usually parallel to a hardcopy, are offered. The electronic form permits search facilities, free colour, more images and data than in the hardcopy, clickable paper references with additional information, cross-references to other sources and many more options. A nice example can be viewed at <http://www.elsevier.nl/journals/eps1>. PRS being a small journal, is probably not in the first priority list to become electronic. However, both the EIC and Elsevier will keep an open eye on these developments and try to implement them for PRS with the first possible opportunity.

Administrative Matters

A new contract between EIC and Elsevier was signed. The contract, among many new positive

changes, gives the EIC advisory rights on a series of important topics that were previously at the sole discretion of Elsevier. A new questionnaire for the reviewers, guidelines for Guest Editors of Theme/Special Issues, and guidelines for TC and WG activities related to the Journal have been prepared. The cooperation with Elsevier on various issues and production details has been excellent, while some problems regarding electronic communication and promotion still remain. Cooperation with ISPRS Council, TCPs and WG Chairs is good and frequent, while through regular meetings (ca. once per year) with Council/TCPs, and Elsevier detailed exchanged of ideas can be achieved and decisions taken.

There are many more tasks to be completed. It must be realised that no matter how well the EIC and the EAB do their job, major improvements cannot be achieved without the contribution of each individual member active in ISPRS. It is particularly at the TC and WG level that the Journal should be in the mind of all colleagues, including taking initiatives to support submission of good quality papers, proposing topics, making suggestions for improvements, promoting the Journal and attracting new subscriptions etc. The Journal should be an integral part of the programme related to any of the scientific activities within ISPRS. Remarks and criticism from readers and other colleagues are more than welcome.

With this opportunity I would like to thank former Editor-in-Chief David Tait for his support and help during my work as Associate Editor of PRS and his efforts for a smooth transition, as well as the old EAB members for their valuable contribution in running the Journal affairs and reviewing papers. With the help of the new EAB, a good cooperation with the ISPRS Council and Elsevier, and most importantly, the active support from the TCs, WGs, and all active individual members I am confident that more improvements will be realised in 1998.

Scientific and technical manuscripts may be submitted in triplicate to:

E.P. Baltasvias,
Institute of Geodesy and Photogrammetry,
ETH-Hoenggerberg, CH-8093 Zurich, Switzerland,
Tel./fax +41-1-6333042/6331101,
E-Mail: manos@geod.ethz.ch

Subscriptions to PRS (ISSN 0924-2716) may be made through WWW (<http://www.elsevier.nl/locate/isprsjprs>) or by contacting an Elsevier Regional Office. Instructions for authors and addresses of Regional Offices can be found in the Journal or its WWW pages.

**ISPRS AWARDS OFFERED IN 2000***By: Lawrence W. Fritz, ISPRS President*

Pursuant to its aims of developing international cooperation in photogrammetry, remote sensing, spatial information systems and their applications, ISPRS recognizes individual accomplishment in these areas by six sponsored awards which are presented to recipients at the quadrennial Congresses of ISPRS.

The **Brock Gold Medal Award**, sponsored by the American Society for Photogrammetry and Remote Sensing, is presented for an outstanding contribution to the evolution of photogrammetric theory, instrumentation, or practice. Ordinary Members (national societies) of ISPRS are invited to recommend recipients of the Award. Recommendations shall be made by two individuals of different nationality and also different from the candidate. Recommendations shall reach the Secretary General of ISPRS, John Trinder, not later than November 1999.

The **Otto von Gruber Award**, sponsored by the ITC Foundation, is presented to the author, not older than 40 years, of a significant paper on photogrammetry or an allied subject written in the four year period preceding the Congress. The Award consists of a medal and a monetary grant. Applications with 3 copies of the paper shall reach the President of ISPRS, Lawrence Fritz, not later than December 1999.

The **Samuel Gamble Award**, sponsored by the Canadian Institute of Geomatics, is presented to persons irrespective of nationality, for their contributions to the administration of the Society or to the organization of activities of the Society's Commissions. Recommendations for the Award shall reach the Secretary General of ISPRS, John Trinder, not later than February 2000.

The **Schwidefsky Medal**, sponsored by the German Society for Photogrammetry and Remote Sensing, is presented to persons who have made significant contributions to photogrammetry and remote sensing, either through the

medium of publication as author or editor, or in another form. Recommendations for the Medal shall reach the Secretary General of ISPRS, John Trinder, not later than February 2000.

The **Willem Schermerhorn Award**, sponsored by the Netherlands Society for Earth Observation and Geo-Informatics, is presented to a person who has most significantly contributed to the activities of a Working Group of the ISPRS during the past four year Congress period. Nominations for the Award shall reach the President of ISPRS, Lawrence Fritz, not later than February 2000.

The **Edouard Dolezal Award**, sponsored by the Austrian Society of Surveying and Photogrammetry, is presented to a person from a developing or reform country, who has successfully contributed to development of applications of photogrammetry and remote sensing. The Award is a grant to cover expenses for the participation in the Congress. Applications shall reach the President of ISPRS, Lawrence Fritz, not later than November 1999.

The ISPRS also awards **Prizes for Best Papers by Young Authors**, who are at most 35 years old and are the single author of a high quality paper presented to the Congress. The Prizes are grants to make it possible for the winners to attend the Congress. Applications including the paper shall reach the President of ISPRS, Lawrence Fritz, not later than January 2000. Details will be published in the announcements booklets of the ISPRS Amsterdam Congress in the year 2000.

Regulations and rules of the six awards are found in the **International Archives of Photogrammetry and Remote Sensing, Vol XXXI, Part A, 1998** (Proceedings of the Vienna Congress 1996), in the so called "Silver Book" of **ISPRS Organization and Programs 1996-2000**, and on the ISPRS Home Page:

<http://www.geod.ethz.ch/isprs>.

CONTACT ADDRESSES:

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FAX: +1-301-460-0021

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Sydney NSW 2052

AUSTRALIA

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FAX: +61-2-9313-7493

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ISPRS EVENTS CALENDAR

15 May 1998 Version

Note: ISPRS Sponsored Events are Highlighted

For monthly updates-visit the ISPRS HomePage www.geod.ethz.ch/isprs






Send Updates to: J. Heckman. Fax: +1-610-354-6255

Email: Joanne.Heckman@LMCo.com

T = Telephone; F = Facsimile; E = E-mail; tbr = to be resolved; WG = Working Group

ISPRS		1	9	9	8	ISPRS
DATE	EVENT	SITE	CONTACT			
1-3 Jun 98	1 st International Conference on "Geospatial Information in Agriculture and Forestry"	Lake Buena Vista, USA	ERIM P: +1-313-994-1200x3234/F: 994-5123 E: wallman@erim.org www.erim.org/CONF/ag.html			
1-3 Jun 98 NEW	ION 54 th Annual Meeting "Taking Navigation to New Heights"	Denver, USA	Ms. Lisa Beaty, ION Hq. P: +1-703-683-7101/F: 683-7105 E: lbeaty@ion.org			
2-5 Jun 98	Confirmed by Council ISPRS Commission V Symposium on "Real-Time Imaging and Dynamic Analysis"	Hakodate, JAPAN	Eihan Shimizu (Secry Com V) P: +81-3-3812-2111x6126 F: +81-3-5689-7290 E: shimizu@planner.t.u-tokyo.ac.jp Dr. H. Chikatsu, President Com. V http://planner.t.u-tokyo.ac.jp/ISPRS/			
2-6 Jun 98 NEW	ECCV '98 "5 th European Conference on Computer Vision"	Freiburg, GERMANY	Conference Secretariat P: +49-761-203-8260F: 203-8262 E: eccv98@informatik.uni-freiburg.de www.informatik.uni-freiburg.de/~eccv98			
3-5 Jun 98	World Conference on the Role of Earth Observation Data in Forecasting	London, UK	Dr. D. Sloggett P: +44-1483-740-0014/F: 740-231			
3-5 Jun 98 NEW	Space and the Global Village: "Tele-services for the 21 st Century"	Strasbourg, FRANCE	International Space University F: +33-3-88-65-54-47 E: symposium@isu.isunet.edu http://www.isunet.edu/Symposium/			
3-12 Jun 98 NEW	41 st Session of the Committee on the Peaceful Uses of Outer Space (COPUOS)	Vienna, AUSTRIA	N. Jasentuliyana P: +43-1-211-31-4951/F: 213-45-5830			
8-11 Jun 98 NEW	The 10 th International Geomatics Conference "Spatial Data Infrastructures"	Ottawa, CANADA	Marion Fuller P: +1-613-996-2817/F: 947-7059 E: sdi98@ccrs.nrcan.gc.ca www.ccrs.nrcan.gc.ca/sdi98/			
8-12 Jun 98	International Symposium on Advanced Technology in Environment and Natural Resources "World of Information"	Rovaniemi, FINLAND	RTI F: +358-16-3364640 E: rt98@roi.metla.fi www.metla.fi/event/rt98			
8-12 Jun 98 NEW	27 th Symposium on Remote Sensing of Environment "Information for Sustainability"	Tromso, NORWAY	Norwegian Space Centre F: +47-22-51-18-01 E: isrse@spacecentre.no www.spacecentre.no/			
16-20 Jun 98 NEW	PACON'98	Seoul, KOREA	Dr. Harendra Saxena P: +1-808-956-6163/F: 956-2580 E: saxena@wiliki.eng.hawaii.edu			
17-19 Jun 98 NEW	Geoinformatics '98 International Conference	Beijing, CHINA	CPGIS & CAGIS F: +86-1-6491-5035 E: proj@irsa.irsa.ac.cn http://cpgis.geg.miami.edu/cpgis/geoim98/			
22-25 Jun 98 NEW	International Conference on "Modeling Geographical and Environmental Systems with Geographical Information Systems (GIS)"	Hong Kong, CHINA	Ms. Karen Chau P: +852-2609-6643/F: 2603-5174 E: geo-conf@cuhk.edu.hk www.geo.cuhk.edu.hk/geo-conf			
22-26 Jun 98	"5 th Circumpolar Remote Sensing Symposium"	Dundee, UK	Sheila Newcombe P: +44-0-1382-344933/F: 345415 E: S.K.Newcombe@dundee.ac.uk			

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DATE	EVENT	SITE	CONTACT
22-26 Jun 98 NEW	IXth Conference on Laser Optics (LO'98)	St.Petersburg, RUSSIA	Chair: A.A.Mak, P: +7-812-218-4460/F: 218-5891 E: meeting98@ilph.spb.su www.spie.org/web/meetings/calls/lo98_home.html
23-25 Jun 98	1998 Computer Society Conference "Computer Vision and Pattern Recognition - CVPR"	Santa Barbara, USA	IEEE PAMI Technical Committee P: +1-805 893-3866/F: 893-8553 E: yfwang@cs.ucsb.edu www.cs.ucsb.edu/~cvpr98/
tbr Jul 98 NEW	International Cartographic Association InterCommission Seminar	Durban, SOUTH AFRICA	D. G. Clarke P: +27-21-685-4070/F: 689-1351 E: dclarke@slj.wcape.gov.za
2-5 Jul 98	Fifth International Symposium on "The 3-D Analysis of Human Movement"	Chattanooga, USA	Dr. Carolyn F. Small P: +1-613-545-2581/F: 545-6489 E: small@me.queensu.ca www.utc.edu/Human-Movement
6-9 Jul 98 NEW	FUSION'98 & CISST'98 International Conferences on "Multisource-Multisensor Data Fusion" and on "Imaging Science, Systems, and Technology"	Las Vegas, USA	Prof. Hamid R. Arabnia P: +1-706-542-3480/F: 542-2966 E: hra@cs.uga.edu www.aptronix.com/FUSION98/ www.cps.udayton.edu/~pan/cisst/cisst98/cisst98.cfp
6-10 Jul 98	<i>Confirmed by Council</i> ISPRS Commission III Symposium on "Object Recognition and Scene Classification from Multispectral and Multisensor Pixels" 	Columbus, Ohio USA	Dr. Toni Schenk (President Com III) P: +1-614-292-7126/F: 292-2957 E: schenk.2@osu.edu www.photo.eng.ohio-state.edu/isprs3/
6-10 Jul 98 NEW	IGARSS '98 International Geoscience and Remote Sensing Symposium	Seattle, USA	Ms. Tammy I. Stein P: +1-281 251-6067/F: 251-6068 E: tstein@phoenix.net
9-11 Jul 98 NEW	Duane C. Brown International Summer School in Geomatics "New Technologies for Geospatial Data Acquisition"	Columbus, USA	P: +1-614-292-2933/F: 292-3780 E: tesfai.1@osu.edu www.ceg.eng.ohio-state.edu/events/
12-15 Jul 98 NEW	International Symposium on Spatial Data Handling	Vancouver, CANADA	Dr. Tom Poiker P: +1-604-291-4515/F: 291-5841 E: sdh98@sfu.ca www.sfu.ca/gis/sdh98.htm
12-19 Jul 98 NEW	32 nd COSPAR Scientific Assembly and Associated Events	Nagoya, JAPAN	COSPAR Secretariat P: +33-1-45-25-06-79/F: 1-40-50-98-27 E: COSPAR@paris7.jussieu.fr www.mpae.gwdg.de/
13-17 Jul 98	<i>Confirmed by Council</i> ISPRS Commission II Symposium - "Data Integration: Systems and Techniques" 	Cambridge, UK	Prof. Ian J. Dowman, President Com II P: +44-171-380-7226/F: 380-0453 E: idowman@ps.ucl.ac.uk http://cesg1.city.ac.uk/isprs2/index.html
18-22 Jul 98	URISA '98	Charlotte, NC	URISA P: +1-202-289-1685/F: 842-1850
19-24 Jul 98	Vision Geometry VII (SD91) Part of SPIE's International Symposium on "Optical Science, Engineering, and Instrumentation"	San Diego, USA	Dr. Longin Jan Latecki P: +49-40-4123-5156/ F: 4123-5117 E: latecki@math.uni-hamburg.de
19-25 Jul 98	XXI International Congress of Surveyors (FIG '98) "Developing the Profession in a Developing World"	Brighton, UK	FIG '98 P: +44-171-393-2996/F: 171-802-0045 E: fig@wctlive.co.uk www.cesgil.city.ac.uk/fig
20-24 Jul 98 NEW	9 th Australasian Remote Sensing & Photogrammetry Conference "Converging Technologies and Applications"	Sydney, AUSTRALIA	Prof. Tony Milne P: +61-2-9385-2731/F: 9385-3733 E: T.Milne@unsw.edu.au www.geog.unsw.edu.au/arspc98/

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DATE	EVENT	SITE	CONTACT
27-30 Jul 98 NEW	1998 International Conference on "Applications of Photonic Technology"	Ottawa, CANADA	Jean-François Pigeon E: jean-francois_pigeon@qmail.newbridge.com www3.sympatico.ca/icapt/icapt.html
9-12 Aug 98 NEW	DSP Workshop '98 "The 8 th Digital Signal Processing Workshop"	Bryce Canyon, USA	V. John Mathews P: +1-801-581-7869 E: mathews@ee.utah.edu http://iris.usc.edu/Information/eee-dsp-8-98-call.html
10-14 Aug 98	V Congreso Internacional Ciencias de la Tierra / V International Congress on Earth Sciences	Santiago, CHILE	Instituto Geográfico Militar (IGM) P: +56-2-696.8221 / 8, F: +56-2-698.7278
10-15 Aug 98	"Applications of Remote Sensing Data in Environmental Hazard Zoning and Mapping"	ERITREA	AARSE P: +234-1-820-191/F: 820-191
16-20 Aug 98 NEW	Int'l Conf. on Inventory and Monitoring of Forested Ecosystems "Integrated Tools for Natural Resources Inventories in the 21 st Century"	Boise, USA	Mark Hansen F: +1-612-649-5285 E: hanse034@maroon.tc.umn.edu http://dendron.fr.umn.edu/burk/boise
17-20 Aug 98 NEW	ICPR 98 14 th International Conference on Pattern	Brisbane, AUSTRALIA	P: +61-7-3870-8831/F: 3371-9514 E: icpr14@convqld.org.au www.cssip.elec.uq.edu.au/~icpr98/
20-26 Aug 98	Sixteenth World Congress of Soil Science	Montpellier, FRANCE	CNEARC F: +33-67-410232
24-26 Aug 98	<i>Confirmed by Council</i> ISPRS Commission VI Symposium - "Education and Communications" 	Bandung, Java, INDONESIA	Dr. Teuku Lukman Aziz President ISPRS Commission VI P: +62-22-250-1116/F: 250-1116 E: lukmanaz@indo.net.id
8-12 Sep 98 Note update	BiOS Europe 98 "European Biomedical Optics Week"	Stockholm, SWEDEN	BiOS Europe '98 P: +32-2-743-1573/F: 743-1550 E: didier@associationhq.com www.spie.org/info/ebo/home.html
1-4 Sep 98	<i>Confirmed by Council</i> ISPRS Commission VII Symposium on on "Resource and Environmental Monitoring" 	Budapest, HUNGARY	Dr. Gabor Remetey-Fulopp President ISPRS Commission VII P: +36-1-212-0056/F: 1-156-6581 E: gabor.remetey@f-m.x400gw.itb.hu www/hegyi.com/isprsc7
7-10 Sep 98	<i>Confirmed by Council</i> ISPRS Commission IV Symposium on on "GIS - between Visions and Applications" 	Stuttgart, GERMAN	Prof. Dieter Fritsch (President Com IV) P: +49-711-121-3386/F: 121-3297 E: Dieter.Fritsch@ifp.uni-stuttgart.de www.ifp.uni-stuttgart.de/comm4/comm4_index.html.
7-11 Sep 98 NEW	Early Warning Systems for the Reduction of Natural Disasters	Potsdam, GERMANY	GFZ Secretariat of LOC-EWC98 P: +49-331-288-1523/F: 288-1504 E: dwc98@gfz-potsdam.de
9-11 Sep 98 NEW	24 th Annual Conference & Exhibition of the Remote Sensing Society	Kent, UK	P: +44-181-331-9803/F: 331-9805 E: rss98@gre.ac.uk www/gre.ac.uk/~rss98
11-13 Sep 98	<i>Confirmed by Council</i> ISPRS Joint Meeting - Council and Technical Commission Presidents 	Hirsau, GERMANY	Prof. J. Trinder (Secretary General) P +61-29-385-5308/F: 313-7493 E: j.trinder@unsw.edu.au
14-17 Sep 98 NEW	1 st International Asia-Pacific Symposium on "Remote Sensing: Atmospheric, Environmental, and Space"	Beijing, CHINA	COEMA Secretariat P: +86-10-436-2211x490/F: 436 3226 E: coema@public2.bta.net.cn www.spie.org/info/ae/
21-25 Sep 98 NEW	European Symposium on "Remote Sensing V"	Barcelona, SPAIN	SPIE E: pw98@spie.org

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DATE	EVENT	SITE	CONTACT
23-25 Sep 98 NEW	Intergeo '98	Wiesbaden, GERMANY	P: +49-611-360-9988/F: 360-9977 E: intergeo98@metronet.de
25 Sep-1 Oct NEW	CAD CAM	Kortrijk, BELGIUM	CV De Hallen P: +32-56-204-000/F: 217-930
28 Sep-1 Oct 98 NEW	Oceans 1998	Nice, FRANCE	Thomson Marconi Sonar P: +33-492-96-44-69/F: 96-39-25 E: g.bienvenue@ieee.org
1-2 Oct 98 NEW	GISDECO: GIS Tools for Effective Planning	Pretoria, SOUTH AFRICA	Dr. Pieter van Teeffelen E: gisdeco@frw.ruu.nl www.up.ac.za/academic/gis/gisdeco.htm
4-7 Oct 98 NEW	ICIP 1998 International Conference on Image Processing	Chicago, USA	Billene Mercer P: +1-409-693-6000/F: 693-6600 E: mercer@conf-mgmt.com http://iris.usc.edu/Information/icip-8-98-call.html
4-10 Oct 98	2 nd Regional Conference of the African Association of Remote Sensing of the Environment "Lessons of Experience and the Way Forward"	Abidjan, COTE D'IVOIRE	Conference Secretariat P: +225-22-35-30/F: 22-23-29 E: cigise@cntig.cntig.ci
5-7 Oct 98	5 th International Conference on Remote Sensing for Marine and Coastal Environments	San Diego, USA	ERIM Marine Conferences P: +1-313-994-1200x3234/F: 994-5123 E: wallman@erim.org www.erim.org/CONF/conf.html
5-9 Oct 98 NEW	IAG '98 Section II Symposium "Towards an Integrated Global Geodetic Observing System"	Munich, GERMANY	Prof. Dr. Reinhard Rummel P: +49-89-23031-107/F: 23031-240 E: mailer@dgfi.badw-muenchen.de http://dgfi2.dgfi.badw-muenchen.de/~iggos/
14-16 Oct 98 NEW	AIPR '98 "Advances in Computer Assisted Recognition"	Washington, DC USA	SPIE E: pw98@spie.org
20-23 Oct 98 NEW	SIBGRAPI'98 1998 International Symposium on Computer Graphics, Image Processing and Vision	Rio de Janeiro, BRAZIL	Prof. Luciano da Fontoura Costa F: +55-162-71-3616 E: luciano@ultra3000.ifsc.sc.usp.br
21-23 Oct 98 NEW	ISMIP'98 International Symposium on Multispectral Image Processing	Wuhan, CHINA	Prof. Mingyue Ding P: +86-27-754-3476/F: 754-5438 E: myding@server20.hust.edu.cn http://prai.hust.edu.cn/ismip'98/
23-28 Oct 98 NEW	"1 st International Workshop on Computer Vision, Pattern Recognition and Image Processing" (CVPRIP'98) in 1998 Joint Conference On Information Sciences	Research Triangle Park, USA	Paul P. Wang P: +1-919-660-5271/F: 660-5293 E: ppw@ee.duke.edu http://ubn.cs.usu.edu/Conferences/CVPRIP/
1-6 Nov 98 NEW	Photonics East and Electronic Imaging International Exhibition	Boston, USA	SPIE P: +1-360-676-3290/F: 360-647-1445
8-9 Nov 98 NEW	GIS/LIS '98 Annual Conference and Exposition	Fort Worth, USA	ASPRS P: +1-301-493-0290/F: 493-0208 E: asprs@asprs.org
14-19 Nov 98 NEW	9 th International Symposium on "Recent Crustal Movements"	Luxor, EGYPT	Prof. Ali Tealeb F: +20-2-782683 E: gad@Frcu.eun.eg
10-12 Nov 98 NEW	12 th CEOS Plenary "Changing Face of the Earth: An EO Treatise"	Bangalore, INDIA	Mukund Rao, ISRO P: +91-80-333-4358/F: 333-4229
16-20 Nov 98	The 19th Asian Conference on Remote Sensing	Manila, PHILIPPINES	Prof. Shunji Murai, Gen. Secretary AARS F: +81-3-3479.2762, F: +81-3-3402.6231 E: chiwa@shunji.iis.u-tokyo.ac.jp
13-16 Dec 98 NEW	<i>Approval pending</i> Spatial Information Science and Technology (SIST '98) "Integration of RS, GPS and GIS and Its Applications in Sustainable Development"	Wuhan, CHINA	Prof. Li Deren P: +86-27-788-1292/F: 786-5973 E: fao@wtusm.edu.cn

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DATE	EVENT	SITE	CONTACT
5-7 Jan 99 NEW	HYDRO 99 Information Management	Plymouth, UK	P: +44-1752-232410/F: 232406 E: hydro99@plymouth.ac.uk
23-29 Jan 99 NEW	<i>Confirmed by Council</i> Videometrics VI - Workshop of ISPRS WG V/3 & V/SIG on Animation (Videometrics VI is part of SPIE Photonics West) "Scene Modeling for Visualization and Virtual Reality" 	San Jose, USA	Dr. Sabry El-Hakim (Chair WG V/3) P: +1-613-991-6381/F: 613-952-0215 E: elhakim@iit.nrc.ca Dr. Armin Gruen (Chair V/SIWG) P: +41-1-633-3038/F: 633-1101 E: agruen@geod.ethz.ch www.iitng.nrc.ca/~elhakim/wgv3.html
1-5 Feb 99	<i>Confirmed by Council</i> Workshop of ISPRS Working Group VI/3 	Cape Town, SOUTH AFRICA	Prof. Luigi Mussio (Chair WG VI/3) P: +39-2-2399-6501/F: 2399-6530 E: luigi@ipmtf2.topo.polimi.it
1-3 Mar 99	13 th International Conference and Workshops on Applied Geologic Remote Sensing "Practical Solutions for Real-World Problems"	Vancouver, CANADA	ERIM Geologic Conferences P: +1-313-994-1200x3234/F: 994-5123 E: wallman@erim.org www.erim.org/CONF/conf.html
21-23 Apr 99	<i>Confirmed by Council</i> ISPRS Working Group II/1 Workshop on: "Real Time and Mobile Mapping" 	Bangkok, THAILAND	Dr. Rongzong Li (Chair WG II/1) P: +1-614-292-6946/F: 292-2957 E: li.282@osu.edu
Apr-May 99	<i>Approval pending</i> ISPRS Joint Meeting - Council and Technical Commission Presidents 	Amsterdam, NETHERLANDS	Prof. J. Trinder (Secretary General) P +61-29-385-5308/F: 313-7493 E: j.trinder@unsw.edu.au
3-6 May 99 NEW	International Intergraph Graphic User Group (IGUG) Conference 1999	Huntsville, USA	P: +1-201-943-5552/F: 943-0046 E: 74441.744@compuserve.com
18-21 May 99	"Geotechnica '99" International Trade Fair for the Geosciences and GeoTechnology	Cologne, GERMANY	KolnMesse P: +49-221-821-0/F: 821-25-74
Spring 99 tbr NEW	<i>Approval pending</i> ISPRS Working Group III/3 Workshop 	Los Angeles, USA	Dr. Ram Nevatia (Co-Chair WG III/3) P: +1-213-740-6428/F: 740-7877 E: nevatia@iris.usc.edu www.photo.verm.tu-muenchen.de/isprs/wgIII3/wgIII3.html
1-3 Jun 99	Remote Sensing & Forest Monitoring Conference	Warsaw, POLAND	T.Z-Niedzwiecki F: +48-22-491-375 E: tzawila@giswitch.sggw.waw.pl
21-24 Jun 99 Note update	4 th International Airborne Remote Sensing Conference and Exhibition	Ottawa, CANADA	ERIM Airborne Conferences P: +1-313-994-1200x3234/F: 994-5123 E: wallman@erim.org www.erim.org/CONF/conf.html
23-25 Jun 99 NEW	IEEE Computer Society Conference on "Computer Vision & Pattern Recognition"	Fort Collins, USA	Bruce Draper E: draper@cs.colostate.edu www.cs.colostate.edu/~cvpr99
19-30 July 99 NEW	"UNISPACE III" Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space	Vienna, AUSTRIA	OOSA P: +43-1-21345-4945/F: 21345-5830 E: OOSA@unov.un.or.at
19-30 Jul 99 NEW	IUGG 22 nd General Assembly	Birmingham, UK	IAG E: iag@gfy.ku.dk www.bham.ac.uk/IUGG99/
14-21 Aug 99	ICA - Ottawa 1999 "Touch the Past, Visualize the Future"	Ottawa, CANADA	P: +1-613-992-999/F: +995-8737 E: ica1999@ccrs.nrcan.gc.ca www.ccrs.nrcan.gc.ca/ica1999/
Tbr Sep 99 NEW	<i>Approval pending</i> ISPRS WG IV/6 Workshop on "Global Databases Supporting Environmental Monitoring" 	tbr	Ryutaro Tateishi, Chair WG IV/6 P: +81-43-290-3850/F: 290-3857 E: tateishi@rsirc.cr.chiba-u.ac.jp David Hastings, CoChair WG IV/6 P: +1-303-497-6729/F: 497-6513 E: dhastings@ngdc.noaa.gov www.ngdc.noaa.gov/seg/tools/gis/isprs46.html

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DATE	EVENT	SITE	CONTACT
15-18 Sep 99 NEW	Institute of Navigation (ION) GPS-99 Meeting and Exhibits	Nashville, USA	Lisa Beaty P: +1-703-683-7101/F: 683-7105 E: lbeaty@ion.org www.ion.org
19-24 Sep 99	47 th Photogrammetric Week	Stuttgart, GERMANY	Martina Kroma P: +49-711-121-3201/F: 121-3279 E: martina.kroma@ifp.uni-stuttgart.de
Tbr Oct 99	<i>Approval pending</i> ISPRS Council Meeting	tbr	Prof. J. Trinder (Secretary General) P +61-29-385-5308/F: 313-7493 E: j.trinder@unsw.edu.au
10-15 Oct 99 NEW	FIG Commission 7 Annual Meeting & Symposium	Auckland, NEW ZEALAND	NZIS F: +64-4-471-1907
Fall 1999 tbr	<i>Approval pending</i> ISPRS Working Groups III/3 & II/8 Conference on "Digital Photogrammetry" (possibly in cooperation with ISPRS WG's III/2 & III/4)	Munich, GERMANY	Prof. Helmut Mayer (Chair WG III/3) P: +49-89-2892-2688F: 89-2809573 E: helmut@photo.verm.tu-muenchen.de Prof. Christian Heipke (Chair WG II/8) P: +49-89-2892-2671F: 89-2809-573 E: chris@photo.verm.tu-muenchen.de www.photo.verm.tu-muenchen.de/isprs/wgII8/wgII8.html www.photo.verm.tu-muenchen.de/isprs/wgIII3/wgIII3.html
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DATE	EVENT	SITE	CONTACT
Jan 31-4 Feb 2000	<i>Confirmed by Council</i> Workshop of ISPRS Working Group VI/3	Ljubljana, SLOVENIA	Prof. Luigi Mussio (Chair WG VI/3) P: +39-2-2399-6501/F: 2399-6530 E: luigi@ipmtf2.topo.polimi.it
Mar 2000	<i>Approval pending</i> ISPRS Joint Meeting - Council and Technical Commission Presidents	tbr, HUNGARY	Prof. J. Trinder (Secretary General) P +61-29-385-5308/F: 313-7493 E: j.trinder@unsw.edu.au
14-26 Jul 2000	<i>Confirmed by Council</i> XIX ISPRS Congress "Geo-Information for All"	Amsterdam, NETHERLANDS	Prof. Klaas Jan Beek (Congress Director) P: +31-53-48724-214 /F: 4874-200 E: ISPRS@ITC.NL





INTERNATIONAL WORKSHOP ON DYNAMIC AND MULTI-DIMENSIONAL GIS

Hong Kong, 25 - 26 August, 1997

The International Workshop on Dynamic and Multi-Dimensional GIS was held at the Hong Kong Polytechnic University from 25 to 26 August 1997. It was jointly organised by:

- ISPRS Inter-Commission Working Group IV/III.1 (GIS Fundamentals and Spatial Databases).
- ISPRS Working Group II/1 (System Integration).
- ISPRS Working Group IV/1 (Database Design and Spatial data access).
- ISPRS Working Group IV/3 (Temporal Aspects and Data Revision).
- IGU Study Group on Geographical Information Sciences.

An international steering committee consisting of the following members was formed to guide the organisation of the workshop.

Jun CHEN (China), Fabio CROSILLA (Italy), Max EGENHOFER (USA), Manfred EHLERS (Germany), Christopher GOLD (Canada), Y. C. LEE (Hong Kong), Deren LI (China), Martien MOLENAAR (Holland), Lutz PLUEMER (Germany), Peter SHIH (Taiwan), Anthony YEH (Hong Kong).

The logistics of the workshop was handled by a local organising committee: Y. C. LEE (Chair), Jun CHEN, Kent LAM, Zhi-lin LI (Convenor), Hui LIN, Geoffrey SHEA, Wen-zhong SHI, A. YEH

The workshop was officially opened by Prof. John Burnett, Acting Dean of the Faculty of Construction and Land Use, the Hong Kong Polytechnic University. Eighteen technical papers were presented, and over 60 professionals from eight countries and regions, including representatives from all organising working and study groups, attended the Workshop.

The objective of the Workshop was to provide an interdisciplinary forum for leading researchers in the related areas to present their results, to exchange ideas, and to promote international collaboration.

The 18 papers were presented in six technical sessions on:

1. dynamic GIS covering topics of global GIS, the dynamic of fuzzy

objects, and dynamic modelling of spatial processes and geo-referenced systems in temporal GIS.

2. data and system integration covering the topics of integrating GIS and remote sensing to solve problems such as landuse change monitoring and hydrology, data integration using relational matching strategies, and framework for modelling uncertainty in integrated GIS.
3. multi-dimensional GIS covering the topics of 3D topological data modelling, 3D applications in environmental simulation, multi-dimensional search, temporal data modelling, and scale issues in multi-dimensional data handling.
4. spatial databases covering the topics of multiple representation databases for topographic data, and multi-purpose GIS for urban topographic base data.
5. spatial analysis covering the topics of topological relation for Voronoi regions, automation of spatial analysis methods, and visual spatial SQL for topological relationships.
6. definition of GIS from a managerial perspective and a summary of the workshop.

The workshop has addressed various aspects of dynamic and multi-dimensional GIS from different perspectives. Of particular popularity are topics on three-dimensional data models and the handling of temporal information. They reflect areas of major deficiencies in existing GIS software, and these topics will continue to be targets of active research in the future. The most important finding was perhaps the realisation that as GIS enters new dimensions, considerable challenges lie ahead. Without a solid conceptual foundation for the new GIS, a truly dynamic and multi-dimensional GIS would be hard to materialise.

Y.C. Lee, Hung Hom - Hong Kong

HIGHLIGHTS OF THE INTERNATIONAL SYMPOSIUM ON SPECTRAL SENSING RESEARCH (ISSR)

San Diego, California, December 14-19, 1997

A. SYMPOSIUM OVERVIEW

The past ISSR series of symposia have been focused on the scientific aspect of spectral remote sensing. The 4th ISSR was no exception emphasizing the theme "Observation to Information". The symposium covered the full cycle from instruments for data acquisition to information extraction technology for the generation of applications. It provided a good overview of the current status of hyperspectral remote sensing in many areas in both the civil and military (unclassified) communities. The symposium attended by approximately 100 participants was divided into Tutorials (1 day) the actual Conference (4 days), and Workshops (1 day) as follows:

Tutorials

- The Internet: Remote Sensing Perspective
- Hyperspectral Imagery Exploitation

Conference

- Data Acquisition
- Features in Hyperspectral Data

- Modelling and Simulation
- Information Extraction
- Terrestrial/Littoral Feature Extraction
- Information on the Internet
- Workshops
- Commercial Systems
- Ground Truthing Protocol

B. INSTRUMENTATION

The symposium clearly showed that the focus in instrument development changed from airborne to spaceborne systems. Only a few new airborne instruments were presented. Worth to mention is Probe 1, a 1 28-band imaging spectrometer developed by integrated Spectronics, Sidney (Australia). This instrument covers a wavelength range of 440 nm to 2500 nm with 13 nm to 20 nm wide spectral bands. This commercially available instrument is in direct competition with sensors such as CASI (Compact Airborne Spectrographic Imager), SFSI (SWIR Full Spectrum Imager),

HYDICE (Hyperspectral Didital Imagery Collection Experiment), TRWIS-III (TRW Imaging Spectrometer), etc.

Other new systems presented are the AAHIS (Advanced Airborne Hyperspectral Imaging Sensor), a VNIR imaging spectrometer, and the AIRIS (Adaptive Infrared Imaging Spectroradiometer) working in the LWIR (Long Wave Infra-Red).

The presentation of future spaceborne hyperspectral sensors included NASA's Earth Orbiter (EO-1) system, US Navy's Naval Earth Map Observer (NEMA), and Orbimage's Warfighter. The Australian Resource Information and Environment Satellite (ARIES) was also mentioned. These sensors are planned to be launched within the next three years.

C. DATA ANALYSIS TECHNIQUES

Most papers were focused on target identification of natural targets and man made objects. Techniques included spectral unmixing, spectral matching, and parametric and non-parametric approaches. The emphasis was clearly on spectral unmixing and related techniques, for instance, for automatic endmember selection. The unmixing technique seems to be the most effective way to classify a hyperspectral cube in the sub-pixel domain.

D. APPLICATIONS

Emphasis was given on the emergency management incorporating remote sensing and GIS technology. This area is a huge potential market for remote sensing provided that the required sensor systems are in place and data products can be delivered in a timely fashion. It

was stressed that remote sensing has to be a real time operation (including mission planning, data acquisition, data down link, data processing, and product generation). Other applications presented touched on precision farming, mineral identification/mapping, littoral mapping (coral reef, pollution, etc.), forest species discrimination, classification of roofs (for the fire department), and man-made object detection.

E. PROGRAMS

The Adaptive Spectral Reconnaissance Program (ASRP) Day/night hyperspectral sensing capability is envisaged with real time data processing for military field operations.

Landsat 7 (NASA)

A status update was given on the Landsat spacecraft and the Enhanced Thematic Mapper-Plus (ETM+) instrument, both on target for mid-1998 launch.

NASA's Earth Science Program (G. Asrar, NASA Headquarters)

The scientific priorities for the next 5 to 7 years will be focused on the following areas:

- atmospheric chemistry and ozone,
- seasonal to inter-annual climate variability,
- long term climate change,
- land cover/user change, and
- natural hazards.

Karl Staenz, ISPRS WG VIII Chairperson

REPORT ON THE ISPRS WORKSHOP REVIEW OF THEORY AND ALGORITHMS FOR SAR

28-30 January 1998, Cannes, France

The ISPRS Working Group III/6 "Theory and Algorithms for SAR" is chaired by **L. Polidori** and **S. Madsen** (co-chair). Although open to all theoretical aspects of SAR it has a strong thematic focus on interferometric SAR (InSAR) and feature extraction. This was the first Workshop of the group. It was very well organized at Aerospatiale. 14 experts from 8 different countries attended. The presentations were of the review type where different group members (the reviewers) were responsible for giving an asymptotically complete overview of their fields of expertise. Each review was discussed in the working group after its presentation. The **review topics** were: InSAR processing steps, limitations of InSAR, phase unwrapping, topographic mapping methods, resampling/regridding, stereo radargrammetry, coherence, InSAR quality, geocoding, mosaicking, ScanSAR interferometry, feature extraction, and speckle filtering.

The following is a short summary of selected relevant statements of the reviewers.

InSAR Processing Steps:

The following processing steps are both critical to the InSAR quality and require further research effort:

- regridding phase unwrapping
- absolute phase determination
- airborne SAR data processing (motion compensation, etc.)

These steps are still interesting research topics, but are close to being solved:

- calibrated coherence estimation
- baseline refinement

The remaining steps are considered as being well understood and solved:

- signal interpolation, eg. for co-registration of InSAR pairs
- phase preserving satellite SAR data processing
- wavenumber shift filtering (slope-adaptive filtering is still a problem)

Phase Unwrapping

Least squares estimation (LSE) methods have proven to be less useful for InSAR phase unwrapping. The most promising approaches are global minimization methods based on graph or network theory developed by Flynn and Costantini. The minimum cost flow algorithm especially allows for an effective solution of branch-cut problems. Thus the problem of phase unwrapping is reduced to the determination of appropriate cost functions that describe the probability of terrain discontinuities (lay-over etc.). Besides these computationally efficient methods, model-based algorithms are a mathematically challenging alternative.

Quality Assessment

The commonly used error measures like mean and standard deviation are not sufficient to specify the quality of DEMs derived by different methods.

The spatial correlation properties of the error especially need to be considered (high pixel-to-pixel variation vs. smooth deviations). When it comes to terrain slope estimation, scale is a crucial parameter.

Resampling/Regridding

At several stages of the InSAR data processing chain signals are resampled.

The errors involved are well understood and optimum

interpolation kernels exist. However, the process of regridding the interferometrically obtained highly irregular cloud of points in 3-D space to a regular grid on the ellipsoid is either extremely time consuming (model-based methods, MAP, maximum entropy) or involves simplifying assumptions (nearest neighbour, simplicial, low-order surface fitting). Their impact on final DEM quality is not yet fully understood.

Coherence Estimation

The generation of calibrated scene coherence maps requires the compensation for slope dependent baseline decorrelation as well as the knowledge of the local signal-to-noise ratio. Coherence estimation itself suffers from a systematic bias present in low coherence areas and the need to remove the (usually unknown) topographic phase. There are several approaches to tackle these problems but there is no commonly agreed optimal procedure for coherence estimation.

Feature Extraction

Feature extraction from SAR images is a wide field that cannot be fully covered by this working group. It was recommended to concentrate on features relevant to SAR mapping and classification.

The WG decided to compile a set of commented bibliographies on relevant topics that will facilitate further research and will serve as references for Ph. D. students and other newcomers in the respective fields. The bibliographies may be augmented by a list of recommended further research activities vs. well-understood issues. The bibliographies/recommendations will be collected by the WG Chairmen by the end of June 1998, who will report to the ISPRS Conference in Columbus, Ohio, in July 1998. The following topics have been agreed upon: SAR Simulation (L. Polidori); SAR Speckle Filtering and Cartographic Feature Extraction (F. Cauneau, M. Datcu, M. Buchroithner); Radargrammetry and SAR Image Matching (H. Raggam, F. Cauneau, L. Polidori); Regridding (P. Rosen, S. Madsen); Phase Unwrapping (R. Bamler, S. Madsen, P. Rosen); Coherence Map Generation (P. Dammert, A. Arnaud, P. Bally); Impact of SAR System Parameters on InSAR Data Quality (S. Madsen, A. Arnaud, R. Bamler); Shape From Shading (L. Polidori, T. Toutin, M. Datcu); Atmospheric Artifacts (F. Adragna, P. Dammert, A. Arnaud).

Richard Bamler

German Aerospace Center (DLR)

REPORT: THE VIRTUAL WORKSHOP ON ENVIRONMENTAL DATA ISSUES

Ryutaro Tateishi, WG IV/6 Chairperson; David A. Hastings, WG IV/6 Co-Chairperson

Dates: September 1997 through at least 2000?

Venue: <http://www.ngdc.noaa.gov/HyperNews/get/virtual.html>

Initial Organizers: ISPRS WG IV/6 and others.

Additional participation is invited.

SUMMARY

Normally, a conference report describes a brief event that occurred several months prior to being summarized in print. To the contrary, this report describes the embryonic Virtual Workshop on Environmental Data Issues, which is currently running on the World Wide Web. We hope you will visit the Virtual Workshop, participate in it, and even help shape its development.

BACKGROUND

ISPRS Working Group IV/6 (Global Databases Supporting Global Monitoring) plans a Workshop, about September 1999, perhaps in the Puget Sound area (near Vancouver and Seattle) or in Hawaii. Like other traditional workshops (which we call "physical" workshops), this will have constraints imposed by its limited duration and participation. How will we partially overcome these constraints?

We hope to reduce constraints on physical workshops caused by scheduling conflicts and limited duration by creating the Virtual Workshop on Data Issues. This Virtual Workshop is open, though in an early stage of development. We see the Virtual Workshop running for almost two years before the physical workshop, then being updated for continued activity. Besides providing a long-running forum for almost any issue related to the validity,

improved production and acceptance of environmental data, we hope the Virtual Workshop will provide reference materials in this arena to researchers at all levels.

CURRENT STATUS

The Virtual Workshop was inaugurated in September, 1997, in time for discussion at the Workshop on "From Producer to User" held shortly afterward by ISPRS WGs 1/2 and II/3, plus several other workshops and conferences held about the same time.

Subjects such as the following are in development at the Virtual Workshop:

Virtual "Plenary" Sessions of overall scientific interest:

- Non-scientific legacies in spatial data sets (for example, mapping vs. scientific data).
- Precision vs. Geographic Information Systems.
- Cultural biases in spatial data: How might they limit science? How can we overcome biases?
- Uneven detail within a data set.
- Satellite vs. in-situ sources: making them work better together.
- Adapting in-situ observations to digital spatial representations. Better point-to-spatial data conversions, better access to ground truth data collected by various labs around the world.
- Sponsors/users vs. producers: Closing the gap between expectations and delivered data sets.
- "Top-down" vs. "bottom-up" designs: how to achieve balance?
- Data fusion/integration as the ultimate goal, vs. data fission commonly still practiced now.

- The Spatial Data Transfer Standard: How can we make it work?

Virtual "Concurrent" Sessions on different data themes:

- Discussions on topography, ecosystems data, and land cover classifications.

NEAR-TERM DEVELOPMENTS

We hope to have additional plenary discussions on fundamental scientific data issues, and concurrent discussions on several specific types of environmental data. In addition, we plan to help point to leading data sets, documentation, and Web-accessible high level processing capabilities.

We have given overviews on the Virtual Workshop to several components of the Committee on Earth Observation Satellites, the Asian Conference on Remote Sensing, and the International Conference/Workshops on Integrating GIS and Environmental Modeling. All are considering participation in some way.

However, we also need your participation. Create and chair a new virtual session! Participate in the discussions by using the email or HyperNews responses at the bottom of each discussion page. These materials will get edited into the workshop discussions, and will be credited to you

unless you wish to remain anonymous. We would like input/collaboration with as many ISPRS Working Groups as may be appropriate. Please see if this concept can serve your needs, and if you can help shape it!

We plan to use the Virtual Workshop as a precursor to the physical workshop in 1999. Participants in the Virtual Workshop will likely be among the most qualified people for participation in the physical workshop. The Virtual Workshop will hopefully become a Web-based "white paper" upon which the physical workshop can build.

CALL FOR SESSIONS/PAPERS/DISCUSSION

Please visit the Virtual Workshop. Please participate in discussions, and consider leading topics of your own (on your site or ours).

Also, please see how the Virtual Workshop fits into our broader goals, by visiting our Working Group IV/6 Home Page at URL: <http://www.ngdc.noaa.gov/seg/globsys/isprs46.html>

David Hastings

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SHORT REPORT ON THE ISPRS INTERCOMMISSION WORKSHOP OF COMMISSIONS III AND VII

*Budapest, Hungary. February 19-20, 1998
an Hungarian-American Joint Fund Project*

Compiled by **Péter Kardeván**, senior geophysicist, marketing advisor, The Geological Institute of Hungary (MAFI), Hungarian Geological Survey. **Mail:** Stefánia út 14, H-1442 Budapest, Pf. 106., HUNGARY, **E-mail:** kardevan@euroweb.hu

BACKGROUND

Organizing the international workshop on "GIS, AIRBORNE REMOTE SENSING AND GEOSPATIAL CLEARINGHOUSE IN HUNGARY" was an initiation of the Hungarian Geological Institute (director Károly Brezsnýánszky) based on the close, and fruitful professional cooperation established with the US Geological Survey, Reston (head of International Program Units: Dr. Robin Brett) in the field of geosciences. As a result, appreciation of the timeliness and usefulness of the proposed agenda was followed soon by the board's approval of the Hungarian-American Joint Fund (MAKA), the primary sponsor of the event, and the workshop came true as MAKA project JF Nº 658 (project leader: Dr. Péter Kardeván).

Main factors rendering the workshop a prominent international meeting in Hungary were, that:

- the successful adaptation of the Hungarian geological survey organization to the market economical conditions became vital in Hungary as well, while experiencing the real demand of the society for geoscientific information (geological, geophysical, geochemical etc.) shifted towards environmental protection and natural resource management in a broader sense

- spurred by the outlook of Hungary's early accession to European Union, the Hungarian government

made special efforts to develop the GI sector in Hungary, offering ideal environment to scientific meetings supporting the over-all aims of the modernization program package coordinated by the Prime Minister's Office (administrative implementation level: The Co-ordination Office of Governmental Information Systems, head of dept.: Zsolt Sikolya). As part of this development program, the project of developing the geospatial infrastructure, including establishment of the data clearinghouse service on Internet being in progress gave actuality to the workshop.

- the National Committee for Technological Development (OMFB), another key organization of the country's modernization efforts, spearheading among others the coordinated development of the standardized digital maps and the establishment of the corresponding standardized metadata services, and the Geological Institute of Hungary (MÁFI) jointly initiated the accomplishment of the "Aerial Survey of Hungary" project, accepted also as part of the modernization program. While the decision supporting study containing up-to-date review of leading edge technologies of remote sensing data acquisition, data processing and interpretation, the feasibility study of this program is still in preparation.

- the Geological Institute of Hungary (MÁFI) as part of the Hungarian Geological Survey, the Institute of Geodesy, Cartography and Remote Sensing (FÖMI) and the Mapping Agency of the Hungarian Defense Forces (MH TEHI) formed a consortium for preparing and implementing the "Aerial Survey of Hungary" program. These state institutions are the main hosting organizations of digital database

services of the geospatial data characterizing the man-made (built) and natural environmental state in Hungary.

- the forthcoming ISPRS Commission VII International Symposium is due to be organized in Budapest in 1-4 September, 1998

AIM

In response to these challenges - and making use of the favorable circumstances opened - the international workshop was designed to formulate the professional standing of the international research community engaged in addressing problems of airborne and space-borne remote sensing methods and related digital database management and services, on the application possibilities of Earth observation data for environmental protection, land use, management of natural resources and agricultural monitoring, in order to give professional support to the elaboration of feasibility study of the "Aerial Survey of Hungary" project.

Moreover, it was purposely organized as a precursor event to the ISPRS Commission VII International Symposium in September. The recommendation of the workshop will be presented on the symposium (Brezsnyánszky, K.-Kardeván, P.- Róth, L. WG7 -session 1).

The workshop focused on airborne remote sensing methods as they pertain to geological, geophysical and geochemical mapping. Special emphasis was placed on interdisciplinary approaches, integrating remote sensing with GIS technology, applying multi-sensor data, merging different data sources into GIS, managing data of different accuracy and resolution, as well as dissemination of data (clearinghouse).

IMPLEMENTATION

The preparation of the Workshop was done by an international team, headed also by **Tony Schenk**, the counterpart scientist of the MAKI project, professor of the Department of Civil and Environmental Engineering at The Ohio State University, Columbus who is currently the ISPRS Commission III President. Other members of the team were Dr. Beáta M. Csathó, Byrd Polar Research Center, The Ohio State University, Columbus, Dr. Erzsébet Merényi, staff scientist at the Lunar and Planetary Laboratory, The University of Arizona, Tucson, who are the Co-Chair and the Scientific Secretary of the ISPRS Working Group III/5 respectively. The USGS was represented by Dr. Trude V. King, research geophysicist at the USGS Spectroscopy Laboratory in Denver in the team.

It was straightforward with the moderate overweight of the ISPRS officers in the team to approach the President of ISPRS commission VII, **Dr. Gábor Remetey Fülöpp**,

chief counsellor at the Department of Lands and Mapping, Ministry of Agriculture, who was kind enough to take the necessary steps for getting the workshop accepted as intercommission ISPRS event of the Commissions III and VII, thus, raising international interest for joining the workshop activity.

The broad spectrum of support and interest was manifested in additional financial support from OMF, the National Committee for Technological Development and The British Embassy, and by the patronage of high rank governmental leaders: deputy state secretary János Horváth at Prime Minister's Office, and Lajos Nyíri, president of the National Committee for Technological Development (OMF). As a result, the workshop could be extended to an international conference, offering exhibition opportunity as well to interested companies in Hungary. At last, but not at least to mention are the civil societies playing an increasingly decisive role in the society in Hungary, and especially those giving very important professional support to the workshop, i.e. the "KVIK" Society of Environmental Information (Zoltán Szarvas, president) and the First Hungarian Association for Ecomanagement (Almos Tóth, president).

The outstanding role of ISPRS administrative officers was manifested - in addition to that of Prof. Tony Schenk and Dr. Gábor Remetey - in the active role taking of Dr. Erzsébet Merényi, and Péter Winkler from FOMI, secretary of ISPRS Commission VII, moreover Dr. Beata Csathó in undertaking the session chairmanship of the 3 sessions:

1. State-of-the-art tools and methods
2. Applications, trends
3. Geospatial databases

The moderator of the workshop discussion was Dr. Péter Kardeván, project leader.

The workshop was extended by a self-contained hands-on training course on "Metadata to Clearinghouse" held by Doug Nebert, clearinghouse coordinator, at the US. Geological Survey, Federal Geospatial Data Committee.

CONCLUSIONS

While a detailed report on the recommendations by the workshop is presented on the ECO BP'98 ISPRS Commission VII Conference, some important points can be mentioned in advance:

1. The development of geospatial infrastructure should be effected in such a way, that the advanced airborne and space-borne data acquisition projects form



*Ms. Dr. Beáta M. Csathó,
Dr. Gabor Remetey-Fülöpp,
Ms. Dr. Erzsébet Merényi*



*Dr. Karl Staenz. Member of ISSSR
Scientific Committee (San Diego),
Chair of ISPRS WG VII/1*



*Dr. Péter Kardeván,
Project Leader,
ISPRS IC III/VII Workshop*

the integral part of the development strategy.

2. Interdisciplinary approach will play a very important role even in the near future in getting the edge on the competitors of the GI sector in forming marketable information products by integrating thematic information layers of several science branches. The geological survey organizations may offer their very effective contribution to this approach by applying the traditional geological investigation approach having inherent capability of inte-

grating applied domains of other geoscience branches.

3. The development of the distribution and dissemination of raw- and interpreted data -i.e. the geospatial data clearinghouse service- will only be efficient, if all important strategic elements, e.g. the technical HW/SW basis, the metastandards, and the social relations including regulations of the GI market and fostering formation of connections, and joint actions including all sectors of the government and the industry and the NGOs.

VISUAL REALITY'98

Bonn, Germany. March 16 - 18, 1998

Visual Reality'98 - International Conference on Multimedia in Geoinformation was held on March 16-18, 1998 in Bonn, Germany. This conference was co-organised by Kunst- und Ausstellungshalle, Bonn, Centre for Geoinformatics at the Royal Institute of Technology, Sweden and Institute for Photogrammetry at Bonn University.

The scope of the conference was to provide a forum to promote the production and use of multimedia and virtual reality for visualisation and analysis of geographical processes. About 50 registered participants from universities, research institutes and industrial sectors in 7 countries attended this event.

Nine technical sessions were organised during the two and half days meeting. Technical topics covered, among others, visualisation of landscape and built environment, virtual reality and GIS, multimedia in maps and GIS, multimedia for geoinformatics education. As a joint event to this conference, participants visited the Arctic-Antarctic multimedia exhibition. A technical visit to the Institute for Photogrammetry was arranged as a post-conference activity.

A number of articles addressed the application of multimedia in geoinformatics education. Interactive learning on visualisation-assisted GIS analysis, Web-based GIS and navigation teaching and training, interactive GIS and remote sensing introductory packages have been reported. Authors were of the consensus that multimedia technology provides both teachers, students as well as the public with a new teaching and learning environment, which integrates text, image, audio, video, animation and interaction. Introducing the Internet, with HTML, VRML and Java as primary development tools, into the education activity is an apparent trend, which indicates great potential and flexibility for distance and public learning of geoinformatics.

Visualisation on various types of geoinformation was a central topic during this conference and was regarded as an essential extension to standard geographical information systems. In addition to DEM, 3-D urban data and aéro-space imagery, presentations were also concerned with vector map data, panoramic views with close-range imagery overlay, thematic data such as astronomical pictures, geologic observations, meteorological records, tectonic movements and traffic network.

In order to reach a photo-realistic effect, desktop 2-D and 3-D development tools were efficiently utilised for data processing and visual composing. Industrial sectors reported the publication of 3-D visualisation products, either on CD or on the Web, to meet the ever-growing public demand for GIS. A record number of presentations showed that photo-realistic urban visualisation still remained of great interest to both research and industrial domains. In contrast to most PC-based applications, a traffic network design project was reportedly based on an immersive workbench connected with SGI workstation and stereo viewing, tracking and interaction devices.

Animation, either in 2-D or 3-D, as a special interesting topic of visualisation was covered by oral, on-line and video presentations on topics of DTM, satellite imagery, and Earth crust movement. In addition to technological issues, theoretic background and interpolation algorithms for animation have been intensively presented.

The study of 3-D data acquisition was focused on building extraction from close-range images and aerial photographs with photogrammetric technology. Sensors in use varied from digital amateur cameras, terrestrial metric cameras to aerial cameras and laser scanners. Measurement based on analytical plotter and semi-automatic measurement based on digital stations were reported. The photogrammetric products could be transferred into a data base and transformed into VRML format for photo-realistic visualisation purpose.

Though about 25 presentations formed the main content of the conference, participants also experienced the follow-up discussions and on-site demonstrations, which turned out to be informative, mutual interesting and directly leading to the essential points.

23 articles are included in the 217-page proceedings (ISBN 91-630-6626-2) which are obtainable from M Edlundh, Centre for Geoinformatics, KTH, SE-100 44 Stockholm, Sweden, phone +46-8-7907335, fax: +46-8-7907343, e-mail: medlund@geomatiks.kth.se, for Skr 300 (postage and VAT included - 1 US\$ is approx. 8 Skr).

The next meeting Visual Reality'99 is scheduled on March 15-17, 1999 in Germany.

Academy Day and Joint Meeting

INTERNATIONAL ACADEMY OF ASTRONAUTICS (IAA)

The Australian Academy of Sciences & The Australian Academy of Technological Science and Engineering
Melbourne, Australia, Sunday 27 September 1998

CONTACT ADDRESS: Jean Michel Contant, Secretary General, IAA, 6 rue Gallée, BP 1268-16, 75766 Paris Cedex 16, France.
Fax: 33.1-4723.8216. E-mail: sgeneral@iaaet.org. http://www.iaaet.org



BOOK REVIEW & NEWS



NEW BOOK REVIEW EDITOR FOR ISPRS HIGHLIGHTS

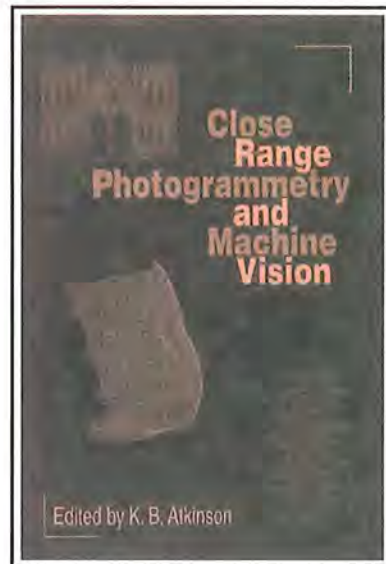
John C. Trinder, ISPRS Secretary General

Dear Colleagues,

I am happy to inform you that we have appointed Emeritus Professor Ian Harley as the Book Review Editor for ISPRS Highlights. Ian was Professor of Photogrammetry and Surveying at UCL, London from 1982 until last year, when he retired. However, he will be maintaining contact with the profession, through a number of activities, including assisting ISPRS as the Book Review Editor. He will be spending his time partly in London and partly in Luxembourg. His contact details are given below:

Ian Harley, Professor Emeritus,
Department of Geomatic Engineering,
University College London,
Gower Street, London WC1E6BT, U.K.
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E-mail: iah@ge.ucl.ac.uk.

Please refer books that you may receive, or others that you believe would be appropriate for readers of ISPRS Highlights to Ian for review. We certainly welcome Ian to this position in ISPRS.



Contact Address: Scottish Book Source, 137 Dundee Street, Edinburgh, EH11 1BG, Fax: 44-131-229.9070.

CLOSE RANGE PHOTOGRAMMETRY AND MACHINE VISION

Edited by: K. B. Atkinson (UCL, UK)



This excellent book was edited by Prof. K. B. Atkinson (Department of Geomatic Engineering, University College London). He was Chairperson of ISPRS Financial Commission 1992 - 1996. The different topics have been written also by distinguished professors linked to ISPRS. The wide vision and detailed treatment of the content, makes this book very useful for academics professionals and students dealing with photogrammetry, surveying, civil engineering and any discipline where the techniques can be applied (architecture, archaeology, medical imaging and others).

Contents: Introduction (*J. G. Fryer*); Theory of close range photogrammetry (*M. A. R. Cooper & S. Robson*); Fundamentals of digital photogrammetry (*I. J. Downman*); Digital close range photogrammetry: development of methodology and systems (*A. Gruen*); Sensor technology for real-time photogrammetry; Camera calibration (*M. R. Shortis & H. A. Beyer*); Vision-based automated 3-D measurement techniques (*S.F.El-Hakim*); Least squares matching: a fundamental measurement algorithm (*A. Gruen*); Network design (*C. S. Fraser*); Architectural and archaeological photogrammetry (*R. W. A. Dallas*); Medical photogrammetry (*I. Newton & H. L. Mitchell*); Industrial measurement applications (*C. S. Fraser*).

IGAC JOURNAL

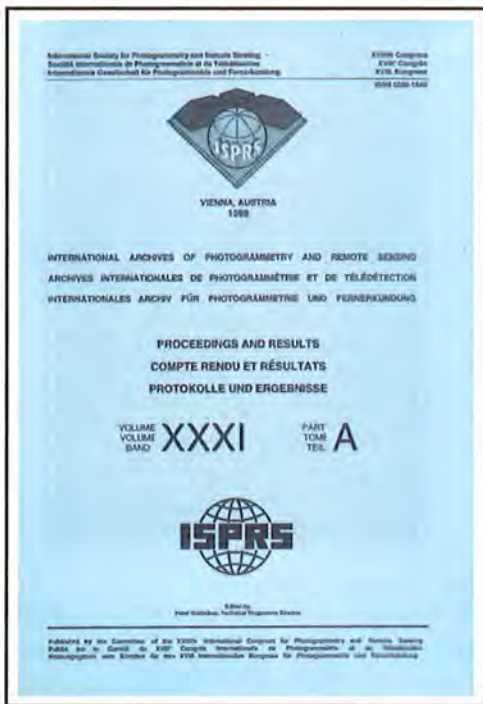
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ISPRS Associate Member



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VIII ISPRS CONGRESS VIENNA
Proceedings and Results: Volume XXXI Part A
Edited by Prof. Dr. Peter Waldhäusl,
Technische Universität Wien



The Editor, Prof. Peter Waldhäusel, has done an impressive detailed summary of all the activities developed at the Vienna Congress, including photos and texts of the Plenary Sessions, General Assemblies, Scientific-Technical Congress Program, ISPRS Officers 1992-1996 and 1996-2000, Winners of ISPRS Awards 1996, List of Participants, Social Programme and Technical Tours, ISPRS Statutes and Bylaws, General Resolutions, ISPRS History and other topics. In summary, a very valuable key document and living memory about the wonderful Vienna Congress.



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ARIDA NEWS LETTER
Association for Real-Time Imaging and Dynamic Analysis
ISPRS Technical Commission V

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1996 ISPRS HIGHLIGHTS 1998

SUMMARY REPORT AND
FAREWELL ACKNOWLEDGEMENTS

Prof. Mauricio Araya F., Editor-in-Chief 1996 - 1998



I wish to express my sincere thanks to all the persons that helped me during these almost two years as Editor-in-Chief of ISPRS Highlights: ISPRS Council, Technical Commissions Presidents, Chairmen of Working Groups, Volunteers and Editorial Team, several new and old Friends, my Family.

It was a great honor to start this publication. I enjoyed by creating the arts and guidelines to include the different type of information. It was a great challenge. Unfortunately we did not get the expected financial support from advertising and certainly it was a great problem for the next 1998-2000 period. However, we obtained several advances which can be summarized as follows:

1) The format of ISPRS Highlights was very well accepted by the international community and these seven issues will be an important legacy to follow in the future, based on the prestige acquired during these almost two years.

2) We produced almost double number of copies than originally expected (2000): 3500 copies for October '96, January '97, April '97 and July '97; 4000 copies for October '97; 5000 copies for January '98 and April '98. These extra copies were financed through the donation of Honorary of the Editorial Team, some improvements to make pre-printing processes more efficient with lower costs, plus some special discounts obtained through the production of higher number of copies and subsequent increasing in the total weight to be delivered. These extra copies were distributed mainly in Latin America (SELPER) but also in special events of interest for ISPRS, being the most important the seven Technical Commission Symposia (about 400 extra copies each).

3) The real incomes for advertising were about 25% against the 75% expected (for 2000 copies). However, if we take into account the real number of copies and its potential cost, the self-financing reached about 50% in the 1996-1998 period. Certainly these extra copies would help to get the self-financing by making better and widely wellknown ISPRS Highlights. On the other hand, it must be considered that a new publication needs at least 1 or 2 years before self-financing. Besides, the content of the publication needed to be well known too (for instance, it was originally thought to include one Review Paper per issue, related to some Technical Commission, to make more attractive the publication because of its only 2000 copies distribution basis; however it was foreseen that this could duplicate efforts with ISPRS Journal and this idea was deleted). So, to increase the number of copies was a key fact. There were some delays to produce and to collect the data, in order

to process, print and deliver the issues on time. But these shared problems are normal in this quite new type of publication and certainly it should be corrected along the time.

4) In order to not increase the financial gap of ISPRS Highlights, since the beginning it was used a system of trade-off pages with the Editor-in-Chief, to equilibrate extra costs related to extra pages. On the other hand, as an incentive for the production/purchase of extra copies, a trade-off system for pages inside ISPRS Highlights was also used. These free pages obtained by trade-off concept were used by the Editor-in-Chief to freely promote some agencies that could be potential sponsors of ISPRS Highlights in the short term; also some pages were used to promote events, as an incentive for future advertisements for this concept. A good agreement with the printers and courier (by paying 50% in advance and 50% when the service be accomplished) allowed us to include 8 extra color pages since January 1998, without increasing costs, to be used for future advertisements.

5) The effort was very great and positive results were obtained by ending November 1997 (SELPER Symposia in Merida, Venezuela), by getting 3 companies but under 4000 copies distribution basis. So, a greater effort was done to produce still more extra copies and to distribute it freely during the ISPRS T. C. Symposia. In this way, it was expected to fill the gap of about US\$ 9000 per issue by ending 1998 (really US\$ 6000 since January '98, that means to get about 7/8 extra advertisement pages). However, this was a risk to be followed and certainly the decision of the Council to choose a very well known and experienced agency like GITC, that assumed the risk for self-financing by mid 1999, is quite understood.

Finally, I would like to say that it was a very nice and unforgettable experience to work so closely within ISPRS and to cooperate for international brotherhood through our Society. Calderon De La Barca, a Spanish writer and philosopher said that life is a dream, so if we believe in a dream we can turn it true during our living time, because anyway when we leave this world and go to the heaven, everything will look like a dream for us. So, I decided to work very hard, and thanks God, this ISPRS Council dream of Vienna 1996 is a real true now, so real that it can be followed by a wellknown editorial agency. Thanks for this nice opportunity to work with so many friends. The best wishes for our Society and ISPRS Highlights.





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