# ISPRS Society

## The International Policy Advisory Committee (IPAC) of ISPRS

*By Ray Harris, Chair IPAC, Department of Geography, University College London*

### Terms of Reference

In addition to its valuable work on the science, technology and programmes of the remote sensing, and photogrammetry and spatial information sciences, the ISPRS Council recognised a need for the ISPRS to be involved in the development of the policy issues relevant to the sector. In the light of this the ISPRS Council has established an International Policy Advisory Committee (IPAC) whose members are drawn from a wide international background. The members of IPAC are shown in the table. The following terms of reference of the IPAC were approved by the ISPRS Council in April 1999.

- Identify, co-ordinate and prioritise policy issues with the ISPRS Council for analysis and public dialogue
- Provide the ISPRS Council with early warning of relevant international policy issues and recommend spokespersons
- Provide policy advice for and with the ISPRS Council to international organisations in which ISPRS is represented (COPUOS, ICSU, CEOS, UATI, etc.)
- Collaborate with the ISPRS Council to provide policy advice upon requests of international bodies
- Provide advice to and co-ordinate inputs of ISPRS Commissions and Working Groups on international policy issues
- Ensure any advocacy stances are fair and in the best interests of all segments of the ISPRS membership

### Activities

Since its establishment, the IPAC has been active in providing advice to the ISPRS Council on its input to the UNISPACE III conference held in July 1999, on upcoming policy issues which are emerging in the sector, on questions of the relationships between the Committee on Earth Observation Satellites and private industry, and on sustainability issues and Earth observation.

The IPAC drafted policy input by ISPRS to UNISPACE III in 1999. The document emphasised the need for improvements in access to data, the need for a wider view of the value of Earth observation data, and the desirability of support to the initiatives to achieve more operational systems in the Earth observation sector. The document also highlighted priority issues for future attention, including methods to sustain Earth observation, the implications of non-discriminatory access to data and the role of Earth observation data in supporting international environmental treaties. The IPAC has identified three upcoming policy areas which are likely in the future to present challenges to remote sensing: the arrangements for the licensing of very high resolution systems (and the implications of the licences), the resolution of differences in Earth observation data policies by different states responsible for remote sensing satellites, and the methods possible to improve liaisons between government organisations in Earth observation (such as CEOS) and the growing commercial Earth observation sector. As an independent organisation, ISPRS can help to promote dialogue between CEOS and different parts of the remote sensing industries concerned with Earth observation by arranging independent meetings, providing contact points to encourage dialogue at the working group level, and to identify user-related problems that could benefit from improved dialogue.

| Name | Affiliation |
|---|---|
| Stefano Bruzzi | European Space Agency HQ, Paris, France |
| Jean-Louis Fellous | CNES, Paris, France |
| Joanne Gabrynowicz | University of North Dakota, USA |
| Ray Harris | University College London, UK |
| Changchui He | Food and Agriculture Organisation, Rome, Italy |
| John Neer | Lockheed Martin, USA |
| Gilbert Rye | Orbimage, USA |
| Gunter Schreier | Definiens, Munich, Germany |
| Lisa Shaffer | Scripps Institution of Oceanography, University of California San Diego, USA |
| Frans von der Dunk | International Institute of Air and Space Law, Leiden, The Netherlands |
| Ray Williamson | George Washington University, Washington DC, USA |

*International policy advisory committee, membership.*

The IPAC is currently looking at how Earth observation data can contribute to the questions of environmental sustainability. A sustainable environment is of great concern to governments around the world, and while remote sensing data provides a vast database of environmental information there is a challenge to harness these resources effectively in support of sustainability. All members of the ISPRS community are invited to raise policy issues with the IPAC. Please contact the chairman, Ray Harris.

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# The International Science Advisory Committee (ISAC) of ISPRS

*By Armin Gruen, Chair ISAC, ETH, Zürich, Switzerland*

The ISAC has been established to support the Council and the ISPRS General Assembly in identifying and addressing important S&T trends which impact the scope of the ISPRS Commissions and the activities which should be addressed by ISPRS Working Groups. The ISAC is to ensure that ISPRS S&T activities are in proper balance and cover the breadth of the Society's S&T mission.

## ISAC Terms of Reference

- Identify and prioritise scientific and technologic (S&T) trends which will impact the S&T activities of the Society and recommend actions to ISPRS Council
- Facilitate excellence in scientific research and development and the use of proper and appropriate technology by evaluating and refining S&T Resolutions proposed in advance by ISPRS Member Organisations and Commissions for approval by the quadrennial ISPRS General Assembly
- Collaborate with the ISPRS Council to formulate Resolutions for ISPRS General Assembly approval which will ensure that ISPRS is at the forefront of the S&T in the photogrammetry, remote sensing and spatial information sciences and covers the full breadth of the Society's mission
- Review proposed Working Groups Terms of Reference with Council and identify S&T gaps and overlaps and recommend corresponding fills and consolidations
- Evaluate inputs recommended for changing the overall scope and direction of S&T activities in the Society and advise Council accordingly
- Suggest collaborative S&T activities with other international societies and intergovernmental bodies to foster co-operation on the inter-disciplinary boundaries
- Propose worthy candidates for recognition and awards

## ISAC Membership

In general, Council decided that it is preferable to have a Committee of 12 members who have broad experience and knowledge of the state of the sciences and technologies, and are respected experts and visionaries in the three primary disciplines embraced by ISPRS. The ISAC Chair and Members are appointed by Council, not limited by term, but periodically reviewed and replaced if deemed inactive. To ensure proper representation, the ISPRS Council will strive to maintain active participation by four specialists for each area of expertise.

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# Liaison Report from the ISPRS to the Twelfth ISO/TC 211 Plenary in Lisbon

***Portugal, 8 and 9 March 2001***

***By Prof. Dr. Hans Knoop, ISPRS***

During the ISPRS Congress in Amsterdam in the summer 2000 standardization issues were discussed in a broader auditorium then ever before in the photogrammetric and remote sensing community. But still the general interest was not adequate for the importance of the topic.

Titled "Standards Scandal in Amsterdam" Ian Dowman, Secretary General of the ISPRS, wrote: "Perhaps the scandal is that too few people understand, or take an interest, in the topic. The problems in making progress in this area are immense. On one hand there are national and international standards organizations such as the International Standardization Organization (ISO) and the Open GIS Consortium (OGC) and on the other hand there are many companies, each with their own ideas about how to transfer image data. These decisions will affect the lives of everyone active in the field and the ISPRS Congress is an ideal opportunity to get up-to-date with the issues." (Quoted from ISPRS daily – XIXth Congress – Amsterdam 2000.)

ISPRS has been slightly restructured after Amsterdam. The society has now 7 Commissions with a total of 47 Working Groups. The standardization topic appears in the following Commissions and Working Groups:

Commission I: "Sensors, Platform and Imagery"
Some of their Terms of Reference (ToR) are:

- Standardization of definitions and measurements of sensor related parameters
- Geometric and radiometric properties of image data, quality standards, and factors (environmental and others) affecting data quality

WG I/1 (Working Group I/1) titled "Define standards for

sensor parameters" and WG I/2 titled "Sensor calibration and testing" maintain close contacts to ISO/TC172/SC1 and SC9, to ISO/TC42/WG3 and WG20, and to CEOS.

Commission II: "Systems for Data Processing, Analysis and Representation"
One of their ToR is:
- Standardization of data transfer formats and processes

WG II/2 titled "Systems for SAR and LIDAR processing" deals with data quality, calibration and standards of SAR and LIDAR.
WG II/4 titled "Image data standards" maintains close contacts with ISO/TC211 and OGC.

Commission IV: "Spatial Information Systems and Digital Mapping"
WG IV/2 titled "Federated databases and interoperability" maintains also close contacts with ISO/TC211 and OGC.

Commission VI: "Education and Communications"
One of their ToR is:
- Promotion of education and training at fundamental, advanced and professional levels

Commission VII: "Resource and Environmental Monitoring"
WG VII/6 titled "Monitoring and modelling global change" evolves standards for data exchange and quality evaluation of satellite derived bio-geophysical parameters.

The probably closest link between ISPRS and ISO/TC211 is established through the ISPRS WG II/4 "Image data standards". The chairman Wolfgang Kresse and the co-chairman Liping Di are members of the project team of ISO/TC211project 19124 "Imagery and Gridded Data Components". Both will also have a leading position in the New Work Item "Sensor and Data Model for Imagery and Gridded Data".

Further information may be found on the ISPRS homepage www.isprs.org.

# Standardisation of Photogrammetric and Remote Sensing Data Formats: Status Report

***By Wolfgang Kresse, Chairman ISPRS WG II/4 and Liping Di, Co-Chairman ISPRS WG II/4***

According to its Terms of Reference the WG II/4 shall be a forum for systems manufacturers, data providers and application specialists for the exchange of ideas and questions related to the standardization of photogrammetric and remote sensing data formats. The discussion is to procede in cooperation with ISO/TC211 and OGC (OpenGIS Consortium).

Preliminary work has been done by the former WG II/7 "Practical and Implementation Issues in Digital Mapping". The outcome was the "Image Transfer Standard" (ITS) which could be considered a detailed concept for the general data exchange between any type of photogrammetric and remote sensing sensor and application.

In the last two years a good working relationship has been established with ISO/TC211. (ISO = International Organization for Standardization, TC211 = Technical Committee 211 "Geographic Information – Geomatics"). TC211 has mainly dealt with the creation of basic standards for vector based geographic information systems. The first group within the TC211 to deal with rasters was the project team 19124 "Imagery and Gridded Data Components". The ISPRS "Image Transfer Standard" was taken as a guideline for the standardization of all photogrammetric and remote sensing raster data.

In order to focus the work on the heterogeneous field of different sensors a new ISO/TC211 project 19130 "Sensor and Data Models for Imagery and Gridded Data" was confirmed at the last plenary meeting in Lisbon, Portugal, in March 2001. Project leader is Liping Di, who also is the co-chair of ISPRS WG II/4. Wolfgang Kresse is the editor.

The concept of project 19130 is a stepwise approach towards a general data exchange standard. As a first step the sensor model proposed in the "Image Transfer Standard" shall be confirmed and partly extended according to the needs of the ISO members. In a second step the related metadata will be listed. Presently the US-FGDC (Federal Geographic Data Committee) is completing a metadata standard for remote sensing applications. A part of it is a rather extensive list of metadata for the frame camera and for the swath (pushbroom) sensor. This material can also be utilised for ISO.

Further steps will be the creation of a data model and perhaps a complete software interface for use in application systems. The documentation of the models will be written in UML.

The first official meeting of the ISPRS WG II/4 will be a joint meeting with the new ISO/TC211 project 19130. It will be held in Berlin June 18th and 19th 2001. The meeting shall bring together the experts from both worlds:

Photogrammetry/Remote Sensing and Standardization. Representatives of sensor and systems manufacturers are expected as well as scientists, ISO-experts and OGC-members. We hope to have a clearer understanding of the sensor models as well as the start of a comprehensive list of metadata after the meeting.

ISO always works with a rather tight schedule. Budgetary considerations will limit meetings of the project team 19130 to three per year. The project shall be completed within two or three years. Depending on the results of the Berlin meeting it will be decided how the expertise of ISPRS can be linked to the ISO effort in the future.

# ISPRS Commission III
# 'Towards Photogrammetric Computer Vision'

***By Franz W. Leberl, President, ISPRS Commission III***

Photogrammetry is of course a much older discipline than computer vision by at least 70 years. However, computer vision has recently developed very rapidly and numerous international conferences are being held every year to illustrate the dynamics of this new branch of computer science (see Table 1). Photogrammetry has traditionally been focussed on aerial surveys and the creation of topographic maps and is associated with survey

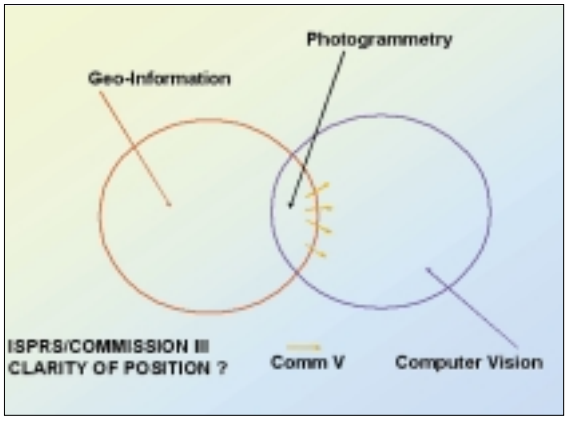



*Figure 1: Computer Vision and Geodata Processing define Photogrammetry.*

engineering and topographic mapping. In contrast, computer vision is not limited to any one particular application as is generally the case with computer science. However, digital cameras have stimulated some non-topographic interest among photogrammetrists but this has been 'relegated' within ISPRS to Commission V. It has not radiated into other Commissions, say on sensors or algorithms.

I see photogrammetry at the intersection of computer-vision and geo-data processing (Figure 1). In this view, photogrammetry is that part of computer-vision which is focussed on the Earth' surface. This is not as it has to be; it appears to me simply as a reflection of facts. We may see another small difference between the interest of photogrammetry versus the boarder-area-of-interest of computer vision: Photogrammetry in two dimensions is not very interesting. Computer vision, however, has a large presence in the analysis of two-dimensional situations.

Increasingly we also are being confronted with computer graphics which is not clearly separable from computer vision. Figure 2 is an attempt at explaining the overlap between the two: when real-world scenes need to be modelled or rendered/visualised we are in the grey zone that can be seen as both computer vision and graphics. Figure 3 further illustrates how "image-based modeling" can be photogrammetry/computer vision and "image-based rendering" can be photogrammetry/computer graphics.

In the coming quadrennial period of Commission III the intent is to position it for 'Photogrammetric Computer Vision'. The interest is in the theory and algorithms that are associated with photogrammetric computer vision.

Computer graphics is a large discipline that overlaps with computer vision and with photogrammetry where it deals

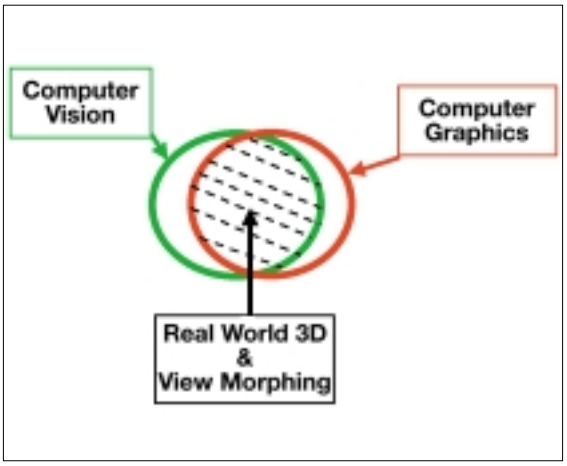



*Figure 2: Computer Vision overlaps Computer Graphics when Real world scenes are concerned.*

with the real world as opposed to fictitious scenes and objects (Figure 4).

We recognise a certain need to re-define photogrammetry's identity in terms of the dynamically emerging fields of computer vision and computer graphics. We find the computer vision communities firmly rooted in computer science (Informatics) and in computer engineering or electronic engineering (German: Informationstechnik). They have developed their methodologies and theories largely independent of photogrammetry although there is a general appreciation that photogrammetry has since more than 100 years developed useful co-ordinate processing and camera calibration ideologies. These are often examined with a certain level of curiosity by vision specialists.

*Figure 3: An illustration of the inseparability of vision and graphics, using a 3D photorealistic computer model of the Representation Hall of the Austrian National Library, Vienna.*

Commission III needs to and will accept the challenge to position itself, and by extension the ISPRS, vis-a-vis computer vision and computer graphics. We recognise that image based modelling of real-world objects, while the subject of computer vision, is also a subject of photogrammetry, the orthophoto and photo texture of three-dimensional objects are both products of image based rendering which in computer graphics is a new concept.

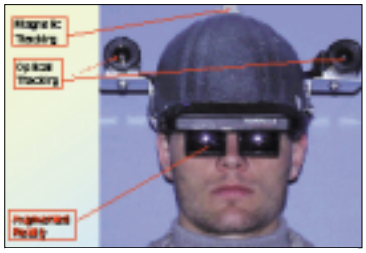


*Figure 4: Augmented Reality superimposing virtual objects over the real world and relying on optical tracking using real time camera images.*

To help clarify theses issues, we propose for the coming four year period eight separate subjects that we expect to address in separate Working Groups (Table 2).

We will attempt to align our Working Groups with some of the international events in computer vision as listed in Table 1. We have a significant job to do, but a great team of dynamic people emerging to run the Working Groups so that we can be confident that in the next four years we will be increasingly be noticed as the Commission for 'Photogrammetric Computer Vision'.

| Conference | Location | Web Site | Sponsor | Date | Paper Deadline | Contact Person |
|---|---|---|---|---|---|---|
| 3DIM-2001 | Quebec, Canada | www.vit.iit.nrc.ca/3DIM2001/ | NRC Canada | May 28 - June 1, 2001 | Dec 4, 2000 | Marc Rioux |
| ICCV 2001 | Vancouver, Canada | www.cs.ubc.ca/conferences/ICCV/ | IEEE CS, PAMI TC | July 9 – 12, 2001 | Dec 4, 2000 | Jim Little, David Lowe |
| CAIP 2001 | Warsaw, Poland | IAPR | | | | |
| ICIP 2001 | Thessaloniki, Greece | icip01.ics.forth.gr/ | IEEE SP | Oct 7 – 10,2001 | Jan 15, 2001 | Ionnis Pitas |
| SCIA 2001 | Bergen, Norway | www.ux.his.no/scia2001/ | IAPR | June 11 – 14, 2001 | Nov 6, 2000 | Ivar Austvoll |
| CVPR 2001 | Kaui, Hawaii | vision.cse.psu.edu/cvpr2001/ | IEEE CS, PAMITC | Dec 11 – 13, | May 18, 2001 2001 | Rangachar Kasturi, Gerard Medioni |

*Table 1: Vision Events, 2001/2002.*

*Note: Most of the above conferences also take place in 2002 except ICCV, CAIP and SCIA which are held every second year. Additionally the ICPR, ECCV and BMVC which are also held every second year will take place in 2002.*

1. Sensor Pose Estimation/The New Triangulation
2. Surface Reconstruction from Images as Information Source
3. 3D Reconstruction from Airborne Laser and InSAR Point Clouds
4. Automated Object Modeling
5. Algorithms for Industrial Vision
6. Conceptual Aspects of Information Fusion
7. Generation of Virtual Environments
8. Reliability and Performance of Algorithms

*Table 2: Working Groups Topics of Commission III, 2000-2004.*

# High Spatial Resolution Commercial Imagery Workshop [Report]

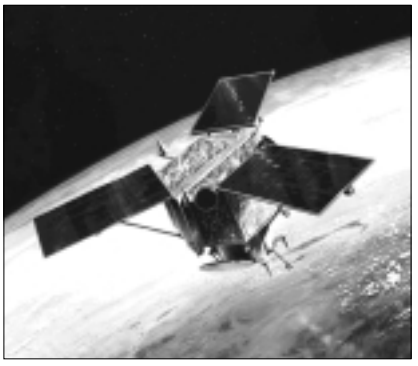
***Greenbelt, USA, 19-21 March 2001***

***By Stan Morain, President ISPRS TC I and Amelia Budge, Technical Secretary, ISPRS TC I***

The Joint Agency Commercial Imagery Evaluation (JACIE) team, comprised of system analysts and applications specialists from NASA, NIMA, and USGS held a three-day workshop March 19-21 in Greenbelt Maryland. The focus of the workshop was to review the U.S. Government's use of IKONOS imagery and to exchange information on the characteristics of government-purchased IKONOS data. Space Imaging is working closely with the JACIE team to assess and evaluate the characteristics and early applications of IKONOS, including the calibration systems and parameters. Attendance was by invitation only, but there were about 125 people present; and, it proved to be a highly successful experience.

NASA's role in JACIE is primarily in system characterisation (i.e., geometric, spatial, spectral, and radiometric parameters). The USGS role is focused on cartographic assessment of IKONOS data (i.e., georeferencing, orthorectification, and DEM production); and NIMA's role is centred on cartographic applications (i.e., image interpretability, photogrammetric evaluation, general cartographic qualities). Altogether, the program consisted of 39 presentations, including several by Space Imaging personnel who described the various system components. The overwhelming consensus is that the IKONOS system and products meet, or exceed, design specifications; and, that only slight modifications are required to perfect the system's performance.

Considerable attention was paid to Modulation Transfer Function Compensation, that is whether the MTFC was turned on or off in regard to data analysis and applications. MTFC is an edge-sharpening tool and its usefulness is decidedly application-specific. For example, 'MTFC-on' appears to be useful for urban and transportation studies, but may be less advantageous where regional gradations occur. Its use varies slightly across rows and along columns in both the Panchromatic and Multispectral data sets, being a little stronger in the row direction than along columns. Its effects seem to be a little stronger in the Pan than in the MS data.



As might be imagined, another topic of great importance addressed calibration coefficients. These coefficients are critical because they are needed to convert radiance values to Digital Numbers (DNs). Here we learned that the IKONOS system is exceptionally stable. The on-board star tracker and other calibration systems are perform-


ing very well, and both laboratory and field radiometry tend to confirm the system's stability. A general broadbanding problem was detected for data sets acquired and processed by Space Imaging before 22 February 2001, but this has been corrected. The attribute is only detectable when imagery purchased by the government is processed for NDVI; it is undetectable in standard imagery.

*Images by: Space Imaging*

# 3rd International Symposium on Mobile Mapping Technology [Report]

***Cairo, Egypt, 3-5 January 2001***

***By Dr. Naser El-Sheimy, University of Calgary, Canada and Dr. Kaichang Di and Dr. Ron Li, The Ohio State University, USA***

The 3rd International Symposium on Mobile Mapping Technology (MMS) was successfully held in Cairo, Egypt, January 3-5, 2001, following the 2nd International Workshop on Mobile Mapping Technology in Bangkok, Thailand in 1999. It was co-organised and co-sponsored by Ain Shams University, Egypt, the ISPRS Commission II (WG II.1 'Real time Mobile Mapping'), the FIG Commission V (WG 5.3 'Kinematic and Integrated Positioning Systems'), the IAG Special Commission IV (WG SC4.1 'Mobile Multi-Sensor Systems '), The University of Calgary, the Egyptian Survey Authority, and the Chinese National Lab for Information Engineering in Surveying, Mapping and Remote Sensing. The symposium was financially supported by Ashtech-Magellan Corp. (USA/UK), Applanix Corp. (Canada), and Premier GPS Inc. (Canada).

The symposium brought 350 participants from 29 countries, who are specialists, engineers, users and those interested in mobile mapping technology, kinematic real-time positioning, sensor integration and calibration, feature extraction and 3-D data acquisition. 90 oral presentations in 18 sessions reported the most recent R&D and application achievements of mobile mapping technology.

The opening ceremony was chaired by Dr. Naser El-Sheimy, and included welcome speeches by representatives of the sponsoring organisations, followed by welcome speeches by Prof. Mohamed Sheriah, the Dean of Faculty of Engineering of Ain Shams University, Prof. Hassan Ghallab, President of Ain Shams University, and Prof. Ibrahim El-Domery, the Egyptian Minster of Transportation. Prof. Gerard Lachapelle gave a very informative keynote address on 'Location: A 21st Century Utility.' The technical papers covered the full spectrum of mobile mapping technology. The following highlights the major features of the papers presented.

From the papers on mobile mapping systems, which were developed by many universities and companies on almost all continents, it was very clear from the number of papers presented at the symposium that building a mobile mapping system by integrating off-the-shelf hardware and software components is getting easier, but it requires significant courage, investment and efforts. The 'dream' is to achieve the same level of ground position accuracy as traditional aerial triangulation.

Among the presented systems, some of new developments are: a helicopter based portable handheld MMS for avalanche mapping developed by the Photogrammetric lab of the Institute of Geomatics at Swiss Federal Institute of Technology; a portable MMS for survey community developed by the Department of Geomatics Engineering at the University of Calgary; airborne laser-ranging and multi-spectral imaging mapping system (ALMIMS) - a multi-sensor mapping system developed by the Institute of Remote Sensing Applications of Chinese Academy of Sciences; and DORIS (Differential Ortho-Rectification Imagery System) - an airborne multi-sensor mapping system that has been under development for years at Alberta Research Council.

New applications presented during the symposium are: automatic bald digital terrain model reconstruction from digital surface data acquired from an airborne SAR system; automatic generation of a hierarchical DEM for Mars rover navigation; integrating data from terrestrial mobile mapping systems and aerial imagery for change detection purposes; integrating photogrammetric data from mobile ship-borne and airborne systems for supporting conservation process, and environmental analysis of coast heritage along the 'CinqueTerre' coast in the Gulf of Liguria region, Italy; automatic building extraction from airborne laser systems; and integration of mobile phone location services into intelligent GPS vehicle navigation systems.

The continuing development of Mobile Multi-Sensor Systems (MMS) is stimulating the development of intelligent processing techniques and new areas of applications. Some of the emerging processing techniques presented at the symposium are: motion estimation by vision for mobile mapping with a motorcycle; motion tracking framework for mobile appliances; online GIS module for

an unmanned aerial vehicle; innovative active-vision-based approach for traffic surveillance and control.

The current MMS technological development speed is still very rapid and we expect some major contributions toward the perfection and popularity of the technology in years to come. The CD of the symposium proceedings, edited by Dr. Naser El-Sheimy, can be ordered from the Department of Geomatics Engineering, The university of Calgary (E-mail Marguerite Anderson: marguerite@geomatics.ucalgary.ca) or from the Survey Group at Ain Shams University (E-mail: Dr. Atef Fayad: afayad@datum.com.eg ).

The 4th International Conference on Mobile Mapping Technology will be held in Kunming, China, 25-27 May 2003. For further information please contact Prof. Dr. Deren Li, Wuhan University, China, at E-mail: derenli@wtusm.edu.cn or Dr. C. Vincent Tao, University of Calgary, Canada, at E-mail: ctao@ucalgary.ca

## 9th Conference of the OICC and the 7th International Seminar 'Geographic Information Systems Applications in Planning and Sustainable Development' [Report]

***Cairo, Egypt, 13-15 February 2001***

***By PD Dr. Carsten Jürgens***

During the 9th Conference of the Organisation of Islamic Capitals and Cities (OICC), the 7th International Seminar 'Geographic Information Systems Applications in Planning and Sustainable Development' was held in Cairo/Egypt from 13-15 February 2001.


The major concerns of the delegates and seminar speakers were among the following:

- Rapid urban growth and associated management problems
- How can sustainable development in mostly arid environments be achieved for metropolitan areas
- How can the GIS-toolbox efficiently be used

About 350 participants from all Islamic countries were present to discuss these topics and to exchange ideas and experiences in data processing strategies. Hopefully there will arise a fruitful future co-operation between OICC and ISPRS. The conference proceedings are available on CD-ROM. From ISPRS the President, Prof. Trinder, and from WG VII-4 (Human settlements and impact analysis), Dr. Jürgens, participated with oral presentations.

## Internet Resources and Distance Learning, India [Report]

***Working Group Meeting of ISPRS TC VI/4, New Delhi, India, 10 February 2001***

***By Alka Singhal***

The Working Group Meeting of ISPRS (International Society for Photogrammetry and Remote Sensing) TC VI/4 was held at New Delhi, India on 10th February 2001.

ISPRS consists of seven Technical Commissions for accomplishing the scientific and technical works. Each Commission is entrusted to an Ordinary Member organisation for the four-year term between Congresses (Congress held after every four year). The present Working Groups were formed during the last ISPRS Congress held at Amsterdam, The Netherlands in July 2000.

The WG VI/4 is working on Internet Resources and Distance Learning. The main objective of the meeting was to develop the Road Map for this Working Group. Also, to identify the existing educational programmes in Photogrammetry, Remote Sensing and GIS through distance learning, to work out the mechanism to build upon existing system and plug the loopholes.

More than 50 academicians, researchers and others took part in the meeting from all over the world. There were delegates from ITC, The Netherlands, Delft University of

*Sanjay Kumar, Director, CSDMS and Chairman of the ISPRS WG VI/4 (right), Dr Tania Maria Sausen, Chairperson of the ISPRS TC VI (centre) and Prof. Karl Harmsen, ITC, The Netherlands (left) at the opening ceremony of the Working Group Meeting of ISPRS TC VI/4 'Internet Resources and Distance Learning'. Sanjay Kumar and Tania Maria Sausen chaired the meeting.*

Technology, The Netherlands, CEOS working group on education, Indian Institute of Remote Sensing, Indian Space Research Organisation, Anna University, Delhi University. In addition, few GIS industry professionals and other concerned has also attended the meeting.

Sanjay Kumar, Director, CSDMS & Chairman, ISPRS WG VI/4, presented the welcome speech. In his speech, he has emphasis on the need for developing a mechanism for distance learning in the field of Geographic Information Science and the development of good quality training and education modules.

Dr. Tania Maria Sausen, Chairperson of ISPRS TC VI, chaired the meeting. In her address she presented an overview of the objectives of the meeting. Also, she describes the activities and the terms of references of the working group VI/4.

The keynote address was delivered by Prof. Karl Harmsen, ITC, The Netherlands. In his address, he focuses on the global strategy for education and training in Remote Sensing and GIS.

Many papers were presented during the meeting on various topics like:

- CEOS initiatives in education
- Perspectives on e-education in colleges and universities
- What's new in Internet and distance education
- Web-enabled education material etc.

The highlight of the meeting was the presentation of 'Prototype Development for web-based educational programme by CSDMS, which is an IIRS and CSDMS initiative for ISPRS WG VI/4. An overview of the existing distance learning programmes and the scope of improvement was presented in the proposal. The proposed programme would include unique approach. Inputs were taken from the delegates through discussions and finally it was proposed to develop the prototype by the end of year 2001. An e-mail discussion group would be form to take inputs from the other academicians around the world for the smooth running and to make this programme more comprehensives. Many International and national agency would participate in the above programme.

During the concluding session, there was discussion on the proposed working plan of the WG VI/4. Working Group VI/4 has proposed to launch a web-based Photogrammetry, Remote Sensing and GIS education programme. It has also proposed to develop a web site for GIS educators along with a web site on GIS education.

# International Workshop on Recreating the Past - Visualisation and Animation of Cultural Heritage [Report]

***Ayutthaya, Thailand, 26 February – 1 March 2001***

***By Professor Klaus Hanke, CIPA's Webmaster***

From the 26th of February to the 1st of March 2001 an international Workshop about visualisation of the cultural heritage took place in Ayutthaya, Thailand. It was organised by the ISPRS Working Group V / 6 'Visualisation and Animation' (Armin Gruen, Shunji Murai) together with CIPA (The ICOMOS / ISPRS Committee for Documentation of Cultural Heritage, former: International Committee for Architectural Photogrammetry, Peter Waldhaeusl, Cliff Ogleby) with strong support of a local Thai group. Ayutthaya had been selected by the organisers because of its prominent status on the List of the World Cultural Heritage of UNESCO.

Altogether 65 participants came from 13 countries. The strongest delegations placed Japan and Thailand with 19 each and the European Union with 18 colleagues. 2 keynote speeches, 29 oral and 8 poster presentations showed the recent developments in digital photogrammetry and visualisation technology. However, also fundamental topics have been discussed as for example the meaning and authenticity of the achieved results of such technology.

The wide pallet of platforms for data acquisition in this field reaches from satellites about light planes and model helicopters down to tripods. The accomplishing sensors can generate images (digital cameras or analogous cameras of every sort) or purely geometrical (Tacheometer) or unstructured data (laser scanner). Each of these procedures has its advantages in the collection of global shape or in the modelling of details with high point-density. The following necessary combination or unification of such diverse originated data still includes various difficulties and is subject of developments of several international groups.

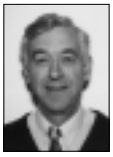
The special endangering of cultural heritage in the countries of the 3rd world on the one hand by potential effect of violence and on the other hand by lack of resources for the protection and the preservation of the cultural monuments ask for Low-Cost methods for their rapid documentation. The explosive effect and topicality of the subject even to a possibly still sceptic participant was quickly explained by the announcement of the Taliban-regime (arriving during the Workshop), that they plan to destroy all Buddha statues in Afghanistan. The bare propagating of high-end solutions to the satisfaction of own scientific needs will not really contribute to the solution of these problems.

Beside the collection of the data a big number of presentations - corresponding to the general subject - was dedicated to the representation or visualisation of historic buildings and archaeological artifacts. The geometrical modelling, surface definition with and without photo texture as well as the interactive meeting with virtual worlds leading as far as virtual museum in the Internet are technically available and already wait for their application. The integration of the data in information systems for easy spatial analysis by the user demands for simple 3D-GIS applications and structures which are also controllable by inexperienced users.

In the final discussion the hope was distinct for a standardisation and, therefore, wider application of the presented techniques by expense reduction in the areas of education, documentation, reconstruction, restoration and damage analysis of historically important buildings.

An excursion to the temple area in Phimai, approx. 200 km to the north-east of Ayutthaya formed the crowning climax. This site is probably older (approximately 11th cent.) as its "sister" Angkor Wat in Cambodia and illustrated to us the Khmer influence in this area for many centuries as well as the often underestimated problems in the recording of such of complex architecture.

All papers are published as volume XXXIV part 5 / W1 of the International Archives of Photogrammetry and Remote Sensing.



# Report of ISPRS Secretary General 1996-2000

***Amsterdam, The Netherlands, July 2000***

***By John C. Trinder***

It is my duty and pleasure to present the report of the Secretary General to the ISPRS General Assembly, covering the period 1996-2000. The primary role of the Secretary General is the management of the Headquarters of the Society, communication with Technical Commission Presidents on the management of the Commissions, especially planning for the inter-Congress Symposia and approval of Commission sponsored workshops, maintenance of membership details, maintenance of communications with Members and other relevant international organisations on all aspects related to ISPRS activities, and provision of the documentation for the General Assembly at the Congress. There is a vast amount of detail to report on events over the last four years, so this report necessarily has to be a summary of these details.

## Correspondence

The level of communication by the Secretary General has been substantial. Fortunately, modern means of electronic communication have enable the transmission and receipt of the many hundreds of messages per year to be carried out efficiently and rapidly. Nevertheless, the work of the Secretary General has amounted to an average of 20-25 hours per week. The activities of ISPRS have increased over the last 4 years, with additional communications with such organisations as the UN Office of Outer Space Affairs (UN-OOSA), ICSU (International Council of Science), the new membership of CEOS (Committee of Earth Observation Satellites) and management of the Society's quarterly bulletin ISPRS Highlights. During the period 1996-2000, about 3300 official messages and letters were sent on behalf of ISPRS from the Headquarters, many with multiple addresses. A similar or larger number of messages were received. Even though the Headquarters has been run mainly in electronic form, the paper collected on behalf of ISPRS activities is still substantial, amounting to almost two complete 4 drawer filing cabinets.

It is with some regret that I have to report that Members have not always been as responsive as I would have expected. On many occasions my letters to the Membership have gone unanswered and on urgent matters, I have had to remind Members of the correspondence or resend the letters. Such repeated correspondence is time consuming and expensive, and I hope that in future that Members will be more responsive to the requests of the Secretary General.

## Technical Commissions

The Technical Commissions have been very active over the last four years, and the Technical Commission Presidents deserve a vote of thanks for their contributions to the science and technological activities in ISPRS over the period 1996-2000. The achievements of the Commissions will be covered at the Technical Sessions at this Congress, while full summary reports will appear in the International Archives for Photogrammetry and remote Sensing Volume XXXIII Part A, as well as in ISPRS Highlights. This report has only included some administrative issues related to Commissions. Table 1 gives the attendance and number of technical presentations at the seven mid-term Symposia. In addition, to these Symposia, Working Groups of the Commission held 32 ISPRS sponsored Workshops during the four years. These Workshops were officially approved by the Secretary General for ISPRS sponsorship and were included in the ISPRS events calendar with the ISPRS logo. They varied from small closed meetings to larger conferences with about 100 attendees.

| Commission | Date | Location | No of Technical Papers | No of Attendees |
|---|---|---|---|---|
| I | 25-27 February 1998 | Bangalore, India | 46 | 173 |
| II | 13-17 July 1998 | Cambridge, UK | 62 | 200 |
| III | 6-10 July 1998 | Columbus, OH, USA | 81 | 160 |
| IV | 7-10 September 1998 | Stuttgart, Germany | 108 | 250 |
| V | 2-5 June 1998 | Hakodate, Japan | 163 | 431 |
| VI | 15-17 April 1999 | Bundung, Indonesia | 32 | 92 |
| VII | 1-4 September 1998 | Budapest, Hungary | 157 | 196 |
| **Total** | | | **649** | **1502** |

*Table 1: Overview of Intercongress Symposia.*

**Member Status**
A listing of ISPRS Membership has been sent to Members annually in the ISPRS Member Lists (Blue Book) by the Secretary General. Developments in membership are summarised below.

**Ordinary Members**
In 1996 at the Vienna Congress, the number of Ordinary Members totalled 97. Since then, six new Ordinary Members have been admitted by postal ballot of Ordinary Members as follows: Eritrea and Botswana (June 1997), El Salvador (October 1998), Bangladesh, Benin and Cameroon (June 1999). This brings the total Ordinary Membership to 103 and a total of 263 votes at the General Assembly.

However, a number of Ordinary Members have not paid their annual subscriptions for many years or responded to communications from the Council. The issue as to whether these non-paying ISPRS Members should be maintained has been presented to this General Assembly by the Council.

The following Members have changed their names:
- Belarus to **State Committee for Land Resources, Geodesy and Cartography of the Republic of Belarus**
- Mexico to **National Institute of Statistics, Geography and Informatics (INEGI)**
- New Zealand to **National Institute of Water and Atmosphere Research Ltd (NIWA)**
- Slovenia to **Section of Photogrammetry and Remote Sensing of The Association of Slovenia Surveyors**
- Democratic Republic of Congo - The country Zaire has changed its name to **Democratic Republic of Congo**

One member, China-Taipei, increased its category from 3 to 4, since the Vienna Congress in 1996. ISPRS appreciates this action by our colleagues from China-Taipei.

**Associate Membership**
At the 1996 Vienna Congress, the category of Associate Membership was introduced, with five Associate Members being admitted. Since then, four new Associate Members

| Members Name | Country | Date of joining |
|---|---|---|
| Applanix Corporation | Canada | October 1998 |
| Core Software Technology | USA | July 1997 |
| DIIAR - Sezione Rilevamento, Politecnico di Milano | Italy | October 1998 |
| ERIM International Conferences | USA | June 1997 |
| ESRI | USA | August 1998 |
| ETH Zurich, Chair of Photogrammetry & Remote Sensing | Switzerland | October 1998 |
| Getty Conservation Institute | USA | July 1997 |
| Institute for Photogrammetry, University of Stuttgart | Germany | October 1998 |
| International Center for Remote Sensing of Environment (ICRSE) | USA | January 1999 |
| ITC | The Netherlands | April 2000 |
| LH Systems LLC | USA | December 1997 |
| Open GIS | USA | September 1996 |
| RACURS | Russia | June 1998 |
| Remote Sensing Centre of General, Department of Land Administration (GDLA) of Vietnam | Vietnam | June 1999 |
| Sensor Systems, Inc. | USA | January 2000 |
| Stora Enso Forest Consulting Oy Ltd | Finland | August 1999 |
| StorageTek | USA | May 1998 |
| Survey & Development Services Ltd | UK | February 1997 |
| Department of Geomatic Engineering, UCL | UK | October 1998 |
| School of Geomatic Engineering, UNSW | Australia | October 1998 |

*The following Sustaining Members have new names:*
Aerofilms Limited (UK)
Leica GeoSystems AG (Switzerland)
TopEye AB (Sweden)
Z/I Imaging Corporation (USA and Germany)

*Table 2: New sustaining members.*

| Publication/Document | Date Published |
|---|---|
| ISPRS Organisations and Programs 1996-2000 (Silver Book) | January 1996 |
| ISPRS Brochure | January 1996 |
| ISPRS Members List 1997 (Blue Book) | January 1997 |
| ISPRS Members List 1998 (Blue Book) | March 1998 |
| ISPRS Members List 1999 (Blue Book) | March 1999 |
| ISPRS Members List 2000 (Blue Book) | March 2000 |
| ISPRS Highlights Vol. 1 - October 1996 | |
| ISPRS Highlights Vol. 2 - January, April, July and October 1997 | |
| ISPRS Highlights Vol. 3 - January, April, September, December 1998 | |
| ISPRS Highlights Vol. 4 – March, June, September, December 1999 | |
| ISPRS Highlights Vol. 5 – March, June 2000 | |
| ISPRS Journal Volumes 51 to 55 were published bi-monthly from 1996-2000 | |
| International Archives of Photogrammetry and Remote Sensing | Periodically |
| Manual of Operation of ISPRS Technical Commissions and Working Groups Council Meetings (Orange Book) | May 1997 and December 1999 |
| ISPRS Guidelines | Periodically |
| ISPRS Home Page – ISPRS.org | Continuously updated |

*Table 3: Publications prepared on behalf of ISPRS.*

were admitted by postal ballot of Ordinary Members as follows: Pakistan Space and Upper Atmosphere Research Committee (SUPARCO) (May 1997), Augustin Codazzi Geographic Institute in Colombia (January 1998), Indian National Cartographic Association (INCA) (June 1999) and Department of Natural Resources (Queensland) in Australia (June 1999). The number of Associate Members is now 9.

**Regional Members**
One new Regional Member has been admitted by postal ballot of Ordinary Members in June 1999: CILSS/ Centre Regional AGRHYMET in Niger. The number of Regional Members is now 8.

**Sustaining Members**
Five Sustaining Members were deleted, while 20 new Sustaining Members have joined ISPRS since the Vienna Congress bringing the total Sustaining Membership to 49, as shown in Table 2. Six of these are academic institutions.

**Publications**
Publications prepared on behalf of ISPRS are listed in Table 3.

**ISPRS Highlights**, the quarterly bulletin, has been a new venture for ISPRS in the period 1996-2000. It commenced in October 1996 with the post-Congress edition with Professor Mauricio Araya from Chile contracted to edit and publish ISPRS Highlights for the first two years. In 1998, a new 2-year contract to publish ISPRS Highlights was signed with GITC bv in the Netherlands. negotiated. The publication of ISPRS Highlights was initially supported financially by ISPRS, but since mid 1999 its publication has been supported by advertisement revenue. A contract for the next four period is currently being negotiated. ISPRS Highlights is intended to include information about ISPRS activities, such as reports and announcements of ISPRS sponsored meetings, Minutes of meetings of Council and Joint Meetings of Council and Technical Commission Presidents, news from Technical Commissions, keynote addresses at ISPRS and related meetings, news of significant technical developments, book reviews, reports of international organisations with which ISPRS is collaborating and the ISPRS Annual Report. The Annual Report is published in the March issue each year, and is a significant contribution to providing members with information about the current developments in the sciences and technologies of interest to ISPRS. A regular feature in ISPRS Highlights is the Calendar of Events, which is also displayed on the Home Page, giving a list of conferences and meetings in the areas of interest of ISPRS. Approximately 316 such conferences were included in the Calendar over the four years, of which 32 were approved by Council for sponsored or co-sponsored by ISPRS. A special vote of thanks goes to the President Lawrence Fritz for maintaining the Calendar of Events.

In order to improve the distribution of ISPRS Highlights Members have been asked to provide addresses of indi-

viduals who should receive copies of ISPRS Highlights directly from the Publisher. These addresses are currently being received, and will be forwarded to the publisher for compilation of the address database. A separate report will be given by the Editor-in-Chief of ISPRS Highlights, Dr Lucas Janssen.

**The ISPRS Journal** has been published by Elsevier Science on a bi-monthly basis, under the contract that was signed in late 1996, with Editor-in-Chief Mr David Tait. Dr Emmanuel Baltsavias assumed the position of Editor-in-Chief in mid 1997. A new contract with Elsevier Science has recently been signed, that provides ISPRS with an improved quality Journal. An important development with the Journal has been the introduction of the Heleva Award for the best paper over the four period, the first of which has been awarded at this Congress. A separate report will be given on the Journal by Dr Baltsavias.

**The International Archives of Photogrammetry and Remote Sensing** comprises published papers presented at ISPRS Congresses, Symposia and more recently other ISPRS sponsored events. A new contract was signed in 1996 between ISPRS and RICS Books in the UK, for the post-conference sale of Archives volumes. This arrangement has proved to be working well. Included in the guidelines in the Orange Book is the requirement that in future, the proceeds from the post-conference sales of Archives volumes will be paid to ISPRS. The ITC in The Netherlands is also a repository for the Archives. The number of new Volumes of the Archives over the period 1996-2000 is 24, as listed in Table 4. Recently Council approved revisions to the Guidelines for publication Guidelines for Publication and Review of The International Archives of Photogrammetry &Remote Sensing that aim at raising the quality of volumes in the Archives.

**Manual of Operation of ISPRS Technical Commissions and Working Groups Council Meetings (Orange Book)** is a new publication which provides Technical Commission Presidents and Working Group Chairs and Co-Chairs, with full details of the operation of ISPRS Technical Commissions. It includes expanded details of the Guidelines for Technical Commission Presidents and Working Group Chairs and Co-Chairs, as well as many of the Guidelines affecting the operation of the Technical Commissions, such as organisation of Symposia, publication of the Archives, Web Pages, etc. All ISPRS Guidelines have been reviewed and revised where required. The full list of ISPRS Guidelines is given in Table 5.

**The ISPRS Home Page** was launched at the XVIII ISPRS Congress in Vienna with access through the World Wide Web. The Home Page was originally installed on a server at ETH Zurich, with Dr Andre Streilein as the Web Master. Subsequently the information has been transferred to the server at TU Delft, The Netherlands. The ISPRS expresses its gratitude to both ETH Zurich and TU

| | | | |
|---|---|---|---|
| 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 - Götenborg Sweden | XXXII-5C1B | RICS Books |
| " | Comm VI Workshop - Bahia Blanca, Argentina | XXXII-6W4 | RICS Books |
| 1998 | Comm I Symposium – Bangalore, India | XXXII-1 | RICS Books |
| " | Comm II Symposium – Cambridge, UK | XXXII-2 | RICS Books |
| " | Comm III Symposium – Columbus, USA | XXXII-3 | RICS Books |
| " | Comm IV Symposium – Stuttgart, Germany | XXXII-4 | RICS Books |
| " | Comm V Symposium – Hakodate, Japan | XXXII-5 | RICS Books |
| " | Comm VII Symposium – Budapest, Hungary | XXXII-4 | RICS Books |
| " | WG VII/2 Tutorial – Dehra Dun, India | XXXII-7T1 | RICS Books |
| 1999 | Comm VI Symposium – Bandung, Indonesia | XXXII-6 | RICS Books |
| " | WG III/ 2 & 3 Workshop – Munich, Germany | XXXII-3-2W5 | RICS Books |
| " | ICWGIV/III.2, EARSeL et al Valladolid, Spain | XXXII-7-4-3W6 | RICS Books |
| " | WG VII/2 Workshop – Dehra Dun, India | XXXII-7/W9 | RICS Books |
| " | WG II/1 et al, Bangkok, Thailand | XXXII-2-5-3/W10 | RICS Books |
| " | WG V/2 & 5 Thessaloniki, Greece | XXXII-5/W11 | RICS Books |
| " | WG IV/4 et al, Beijing, China | XXXII-4/W12 | RICS Books |
| " | UNISPACE III Conference - Vienna Sweden | XXXII-7C2 | RICS Books |
| " | WG V/3, V/4, ICWG V/III, SIG Wshop, Onuma, Japan | XXXII-5/W12 | RICS Books |
| " | WGVI/3 Workshop ,Cotonou, Benin | XXXII-6W7 | RICS Books |
| 1999 | WG III/2,5 Workshop, La Jolla, CA, USA | XXXII-3/W14 | RICS Books |
| 2000 | WGVI/3 Workshop, Ljubljana, Slovenia | XXXII-6W8/1&/2 | RICS Books |

*Table 4: Additions to International Archives of Photogrammetry and Remote Sensing since 1996.*

Delft for providing access to the server free of charge, and especially Dr Streilein for his excellent maintenance of the Home Page over the past 5 years. Unfortunately he will be relinquishing his position in August. At little cost to ISPRS, an internationally recognisable address has now been established for the ISPRS Home Page as **ISPRS.org**. As with most international activities throughout the world, the ISPRS Home Page has become a major source of published details on ISPRS activities. All significant information on ISPRS is provided on the Home Page, which has now grown to the equivalent of 220,000 lines of text. There are currently over 45,000 requests for access per month on the Home Page. The Home Page is clearly an essential source of communication for ISPRS. A separate report will be given on the Home Page by Dr Streilein.

## Council Meetings

Nine Council Meetings and five Joint Meetings with Council and Technical Commission Presidents (at the same location as the corresponding Council Meetings) were held in the period 1996-2000. Council is grateful for the support of Ordinary Members in providing Council accommodation and meeting facilities. They were provided twice by Japan in Oigami and Bangkok, by USA in Seattle, Brazil in Rio de Janeiro and Natal, India in Bangalore, Germany in Stuttgart and Bad Wilbad, twice by The Netherlands in Enschede and Delft, and Koudun (for the pre-Congress meeting) and by Hungary in Budapest. Council also expresses its gratitude to Ordinary Member hosts of Technical Commission Symposia for the provision of free accommodation and registration at the Technical Commission Symposia in India, UK, USA, Germany, Japan and Indonesia.

Minutes of all Council and Joint meetings were prepared by the Secretary General, amounting to about 150 pages. All minutes have been placed on the ISPRS Home Page and abbreviated versions have been published in ISPRS Highlights. Council devoted its time at Council Meetings covering a broad range of issues including the Technical Commission and Working Group activities and Symposia, ISPRS publications especially ISPRS Highlights, ISPRS Guidelines, ISPRS Statutes and Bylaws, Congress organisation, Membership and financial matters. A total of 339 actions were planned, in addition to the regular actions required by the Statutes and Bylaws, the majority being completed before the Congress. Council has worked hard and very productively over the past four years, as I believe will be revealed by the documents presented to this General Assembly. It has been a pleasure to work with my colleagues on the Council.

## Headquarters Management

The Headquarters were established at the School of Geomatic Engineering at the University of New South Wales for the period 1996-2000. All files are electronic, and most documents are distributed electronically. Given the time commitment of the Secretary General over this period, it is clear that permanent secretarial/clerical assistance is required to relieve this load. Council made a decision at the Strategy Meeting in 1998 that it would not install a permanent office for ISPRS Headquarters, as some similar organisations to ISPRS have done recently. The reasons for this decision were that such an office would in most cases, isolate the Secretary General from the Headquarters, if the Secretary General resides a significant distance from the Headquarters and hence cause difficulty in his/her management of the day-to-day affairs of the Society. However, Council supports the provision of funding for secretarial/clerical assistance for the Headquarters, in the location of the Secretary General. Given the increased demands on employees in all sectors of the profession, academia, industry and government, it will become even more difficult in future to find people who are available and willing to make such a voluntary commitment to ISPRS, no matter what the benefits are of such a commitment. ISPRS must therefore be prepared to fund the Headquarters to a greater extent than has been required in the past.

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|---|
| Guidelines for Hosting a Technical Commission |
| Guidelines for Planning ISPRS Symposia |
| Guidelines for Conducting a Working Group |
| Guidelines for Proposing ISPRS Resolutions |
| The President's Honorary Citation |
| Guidelines for Publication and Review of The International Archives of Photogrammetry &Remote Sensing |
| Guidelines for Authors Preparing Manuscripts for ISPRS Sponsored Meetings |
| Manual for Presentation of Technical Papers at ISPRS Congresses and Symposia |
| Guidelines for Preparation of Reports of ISPRS Sponsored/Supported Conferences and Meetings |
| Outline for Preparation of ISPRS Annual Reports |
| Guidelines for Preparation and Maintenance of ISPRS Webpages |
| Guidelines for Members Planning to Host an ISPRS Congress |
| Guidelines for Candidates for Members of the Council |
| Guidelines for ISPRS Financial Commission |
| Guidelines for ISPRS Council Spending Policy |
| ISPRS Awards Policy |
| Guidelines for Preparation of National Reports for Amsterdam Congress - 2000 |
| Terms of Reference for Sustaining Members |

*Table 5: ISPRS guidelines.*

**International Activities of the Secretary General**
The Secretary General has travelled numerous times over the last four years, to attend Council Meeting, Technical Commission Symposia and international organisation meetings, and 21 Ordinary and Regional Members on their home soil. He has also attended meetings of Committee for Peaceful Uses of Outer Space (COPUOS), Committee for Earth Observation Satellite (CEOS), the International Council of Science (ICSU) and International Human Dimensions Program (IHDP).

**Acknowledgments**
The tasks of Secretary General would not have been successfully completed without the forbearance of the Dean of Engineering and the staff of the School of Geomatic Engineering at the University of NSW, who tolerated my commitment to the work of ISPRS, which included many absences overseas, while I was also Head of School from 1996-1999. Many overhead expenses were carried by the School of Geomatic Engineering and I wish to acknowledge this contribution from the University of NSW to the work of the Secretary General and to ISPRS over the past 4 years. I also acknowledge the financial contributions totalling AUD35,000 from the Australian Federal Government department AUSLIG and the Australian Remote Sensing and Photogrammetry Association of Australasia (RSPAA) to the work of the ISPRS Headquarters.

Finally, I wish to thank the General Assembly for their electing me in 1996. The position of Secretary General is a most rewarding one in many ways, and I am grateful for this experience. I am sure it will provide me with an excellent foundation for the job that lies over the next 4 years.

## Correction ISPRS Prizes for Best Papers by Young Authors

On page 44 of the March 2001 issue is it noted that Young authors must submit their paper to the Congress Director Altan by December 2004. This is incorrect; they should submit their paper by December 2003.

# The Oldest Known Town Plan

***By Orhan Altan, ISPRS Congress Director***

How appropriate it is that the country of Turkey, which will be hosting both the ISPRS 2004 Congress and the CIPA 2003 Symposium, should also is the site of the earliest known town plan.

The site of this town plan is at Catalhöyük, south east of Konya in Central Anatolia. The Anatolian peninsula has been home to a great many civilisations dating back to the neolithic age, and it was at this site that James Mellaart discovered Catalhöyük in 1961, which was an artificial tumulus.

The area around the site was estimated to be the home of approximately 5.000 to 10.000 people between the ages 6800 – 5700 B.C. During the first period of excavation, James Mellaart and his team reached level XII of the settlement, whereas in the second period of excavation which started in 1993 and is currently continuing under Prof. Ian Hodder from Cambridge University, it is estimated that there are a further 9 levels to excavate before reaching soil.

The houses in Catalhöyük were built of mud bricks around courtyards. One of the peculiarities of the layout of the settlement was that the buildings were built next to each other with no streets or open spaces between them, presumably due to defence considerations. One theory put forward by Prof. Hodder is that though the first settlers may have built their houses as free standing units, the pressure of the increase in population had forced them to join the houses together, entrance to the house being restricted to an opening in the roof. This viewpoint is reinforced by the fact that though openings for windows have been found, no evidence of doors has come to light.

One of the unique features of the sites of the inhabitants of Catalhöyük is that they buried the headless skeletons of their ancestors beneath the floor of their dwellings. With the passage of time and the increase in the number of graves, more dwellings were needed. Another feature of this neolithic site was the number of shrines interspersed with dwellings which were set aside uniquely for worship. The shrines were distinguished by their pictorial depictions of hunters, birds and headless skeletons.

The town plan found at level VII has been dated as being 8200 years old and is painted in red along the Northern

and Eastern walls of a building used as a shrine. The buildings which are all shown without roofs are in the foreground, while behind them are the twin peaks shown as spurting volcano lava out of one of the peaks and streaming down a slope.

James Mellaart describing the map in his book . 'Çatalhöyük – A Neolithic Town in Anatolia' states that a clearer picture of a volcano in eruption could not have been painted. Mt. Hasandagı, at a height of 10.673 feet (3557 meters) was known to be active up to the second millennium B.C. and was an important factor in the everyday lives of the people. The mountain was a prime source of obsidian, highly prized for its cutting power as well as its reflective attributes. The volcanic eruptions also affected the people in their daily lives as gatherers, herdsmen and farmers and it is supposed that the devastation caused by these eruptions is linked to the underworld, the place of the dead.

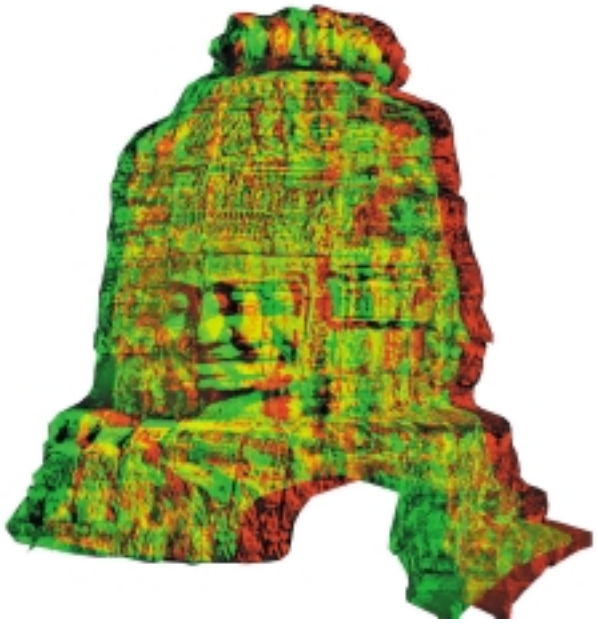
One of the problems facing the archaeologists was the purpose of the wall map, which measured 300 cms on the northern wall and a further 100 cms on the eastern wall. According to Major General Cevat Ülkekul (retd) in his monogram on this map, he theorises that being drawn on the walls of a shrine, with the houses individually shown with no roofs, and with the volcano erupting in full force, emitting far reaching clouds of smoke, was a way of illustrating to the gods the magnitude of the threat to the community.

In panic and fear they remained in the confines of their houses imploring help from their ancestors buried beneath their houses. Their administrative structure being one of general consensus through a council of elders, the same basis was sought to contact the spirit of their ancestors. As it was plainly impossible to gather them all into a single shrine, they probably decided to collect them all symbolically in a town plan, where the houses were depicted without roofs, against the background of the threat to their lives, the erupting volcano bringing death and destruction. The author also speculates that the town plan may have covered all four walls, the remainder having been lost through natural wear and tear.

We shall never know whether in any way the prayers and supplications helped in extinguishing the volcano. However we can be grateful to the early neolithic settlers for providing us with the earliest known town plan.

The portion of the map from the north wall is currently on display at the museum of Anatolian Civilisations in Ankara.

*Article based on study by Major General Cevat Ülkekul (retd)*



*On top: The Temple of Bayon, Cambodia, photographed within a balloon photogrammetry mission in spring 1999. The main goal of the project was to generate a 3D model of the complex structure of this temple from small format balloon images.*
*Left: A textured 3D model of a Bayon tower generated from non-metric small format terrestrial images. For image matching, point cloud editing and texture mapping automated procedures were applied. Novel techniques of point cloud editing and view-dependent texture mapping were developed.*
*Right: 3D model of a Bayon tower in anaglyph representation.*
*These illustrations were sent by Jana Visnovcova of the ETHZ in Switzerland.*