ISPRS Society

Report on Mid Term Symposium TC II

Xian, China from 20-23 August 2002: International Symposium and Exhibition on Integrated Systems for Spatial Data Production, Custodian and Decision Making

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The International Symposium and Exhibition on Integrated Systems For Spatial Data Production, Custodian and Decision Making was held in Xian, China from 20 to 23 August 2002.

This symposium was organised by ISPRS Technical Commission II, Chinese Society of Geodesy, Cartography and Photogrammetry and State Bureau of Surveying and Mapping of China. It was sponsored by the Ministry of Science and Technology of China, National Natural Science Foundation of China, China Association of GIS, National Geomatics Center of China and Shannxi Bureau of Surveying and Mapping.

During the opening session, Mr. Chen Bangzhu, Direction General of State Bureau of Surveying and Mapping of China, Mr. Chen Zongxing, Vice Governor of Shannxi Province, Prof. Yang Kai, Secretary General of Chinese Society of Geodesy, Cartography and Photogrammetry, Prof John Trinder, President ISPRS, joined the meeting and delivered speeches for congratulations to the international symposium. More than 200 participants coming from 18 countries joined the meeting, 80 of them from overseas. In the mean time, 12 companies or institutes joined the technical exhibition for this symposium.

Prof. Gottfried Konecny delivered a cordial speech, reviewing the professional life of Prof. Dr. Wang Zhizhuo, the senior membership of the Chinese Academy of Sciences, the honorary membership of ISPRS, praising his contribution in the development of photogrammetry and remote sensing. Prof. Dr. Wang Zhizhuo died on 18 May 2002, at the age of 93. As the founder of the discipline of photogrammetry and remote sensing and one of the few forerunners of education and research in geomatics in China, he enjoyed the high and wide respect in the academic community in China.

During the past few years, systems for spatial data production from digital imageries have been becoming more operational and easier to use. There have been increasing demands the development of systems for spatial data custodian and delivery. More and more attention now is paid to value-added products and services. The technical commission¢Úof ISPRS and its seven working groups concentrate on the development of systems for automated geo-spatial data production and updating from imagery, real-time mapping technologies, system for SAR and LIDAR processing, integrated systems for information services, design and operation of spatial decision support systems, spatial analysis and visualisation systems.

As the important academic event of ISPRS Commission II during the period 2000-2004, this mid-term symposium chose The Integrated Systems for Spatial Data Production, Custodian and Decision Support as its Theme.

Prof. Shunji Murai delivered keynote entitled 'Yesterday, today and tomorrow of systems for spatial data processing, analysis and representation', putting emphasis on the suggests what should be solved nowadays and key issues for future, which includes (1) How to achieve automated or semi-automated 3D measurement for wide coverage? Which sensor; TLS, laser scanner, or radar? How about image understanding? (2) How to integrate Information and Communication Technology (ICT) with geoinformatics? Which tool will be more useful; PC, mobile phone, PDA, TV or others? (3) How to achieve real time mapping of moving objects from moving platform? How much GPS/INS/Stabiliser will be developed?

Prof. Christian Heipke delivered another keynote entitled 'Requirements for modern geographic information', describing some requirements that an ideal Geographic Information System (GIS) must meet to cope with the challenges of the future and look at data modelling, the integration of geographic information science and photogrammetry, update and refinement of a geo-spatial database, and data integration. claim that data modelling needs to be carried out in 3D based on a topologic data structure with the possibility for incorporating change. Photogrammetric operations such as the generation of digital terrain models or the manual and automatic acquisition of vector data from imagery should be considered as modules of future GIS, which should also have efficient mechanisms for incremental updating and versioning. Finally, the integration of all types of data should be possible, e.g. various vector data sets as well as DTMs and images.

The symposium of ISPRS Commission II received in total 120 papers from more than 20 countries. These papers are included in the CD-ROM and printed proceedings. The following is a summary of the progress reported in the areas of the WGs of Commission II symposium.

By the end of the last decade, Mobile Mapping technology has made a remarkable progress, evolving from rather simple land-based systems to more sophisticated, real-time multi-tasking and multi-sensor systems, operational in land and airborne environments. Following the proliferation of GPS/INS integrated technology in the mid 1990s, the quality of Direct Platform Orientation reached the level of supporting even demanding airborne mapping. Mobile mapping technology has been employed in a number of important real-life applications. Over the past decade, the uses of both airborne and land-based mobile mapping technology have been notably expanding in many new directions. The aspect of real-time mobile mapping/mobile computing, based on GPS/INS, automatic image processing and telecommunication networks were indicated as the newest trends in MMS technology development. It was introduced for the results of automatic registration, bundle adjustment, and DEM generation from panoramic close-range images taken on the 1997 Mars Pathfinder mission. Image registration is based on Förstner interest points, cross-correlation coefficient-based matching, parallax verification, and graph consistency verification. A free-network approach is used for bundle adjustment. The final product is a seamless DEM of the landing site created by a five-step process: automatic registration of intra-stereo images, coarse DEM generation, automatic registration of inter-stereo images, bundle adjustment of the entire panorama, and seamless DEM generation.

A method for mitigating atmospheric effects on InSAR measurements was studied based on an integrated use of Continuous GPS (CGPS) and ground meteorological observations. The study shows a 20% reduction in the peak-to-peak errors.

Some works on 'Integrated systems for information services' have been doing. At present, there have been various information systems all over the world, which integrate existing geospatial data and new acquired spatial information as well as administrative data. These systems are not only used as national information platforms, but also play important roles in various industries, such as agriculture, mining and transportation, et al. Mobile GIS and LBS (Location Based Services) will be the most requested applications in the field of mobile communication in the near future. The use of geo-data is facing several barriers: legislation, pricing, and lack of metadata or difficult access to metadata or data itself. More and more services are facilitated by the Internet and provided by governments, municipalities, and private companies. The services range from simple home pages to interactive services where geo-data, information, software toolboxes and GIS applications are made available for the user. Also, WG II/3 is co-operating with WGISS of CEOS which is one of the several international organisations dealing with geographic information dissemination

The WG II/4 maintains a particularly close co-operation exists with ISO/TC211 project 19130 'Sensor and data models for imagery and grid data', aiming at develop an international ISO 19130 standard on sensor and data models for imagery and grid data. Since the form of project team in March 2001, significant progress has been made for drafting the international standard. The standard is devoted to specify a sensor model describing the physical and geometrical properties of each kind of photogrammetric, remote sensing and other sensors that produces imagery and grid data. It will also define a conceptual data model that specifies, for each kind of sensors, the minimum content requirement and the relationship among the components of the content for the raw data that was measured by the sensor and provided in an instrument-based coordinate system, to make it possible to geo-locate and analyse the data. The standard will be applicable to most low-level remote sensing data. The latest version of working draft of the international standard is version 2 released to members of the project team for comments in March 2002, it is to be completed as an international standard in November 2004
There is still strong demand on the application side for a flexible exchange of data at many stages of the production flow in photogrammetry and remote sensing. So far ISO 19130 focuses on geo-referencing imagery. Most of the peripheral instruments have not been taken into account. The interfaces to a GPS-receiver or to an Inertial Measurement Unit may require more metadata elements then presently supplied.
Furthermore ISO 19130 focuses on medium to small scale applications only. As everybody knows, the market for large scale applications is growing fast: high resolution satellites, 3D-city-models, location based services etc. The experts for standardisation should keep a close eye on the development in these areas in order to help the industry and the user and to make the best use of the potentials of photogrammetry and remote sensing.

During the closing session, two awards were presented. The Best Young Authors Paper Award was given to M. Crosetto, B. Crippa, R. Barzaghi for theirs paper 'Modelling and analysis tools for interferometric SAR observations'. The Best Poster Award went to paper 'A Framework for Linking Data from Multi-scale Navigation Electronic Maps' by Yanhui Wang.

Besides the technical meeting, there was a plenty of opportunity to meet during social events, but also during technical and tourist tours.

Report Mid Term Symposium TC III

Graz, Austria from 9-13 September 2002: 'Photogrammetric Computer Vision' - PCV'02

By Franz Leberl and Rainer Kalliany, Institute for Computer Graphics and Vision, Graz University of Technology, Graz, Austria, E-mail: leberl@icg.tu-graz.ac.at

The 2002 Symposium of ISPRS Commission III was held in Graz, Austria, during the week of September 9th – 13th, 2002, at the baroque facilities of the Graz Congress. The Symposium's motto was 'Photogrammetric Computer Vision, PCV02', in tune with the Commission's focus on Theory and Algorithms of photogrammetry and remote sensing. The motto reflects the intention of the Commission's leadership to develop synergies between traditional photogrammetry and the more recent evolution of the field of computer vision within the discipline of computer science.

The 3-day-PCV02-Symposium (Figure 1a) was accompanied by three other events:

- A series of 3 tutorials on Monday, September 9th
- A special workshop for attendants from Eastern Europe and beyond, under the motto 'East-West-Vision 2002 –EWV02' (Figure 1b)
- The 26th meeting of the Austrian Association for Pattern Recognition -- AAPR02 (Figure 1c)

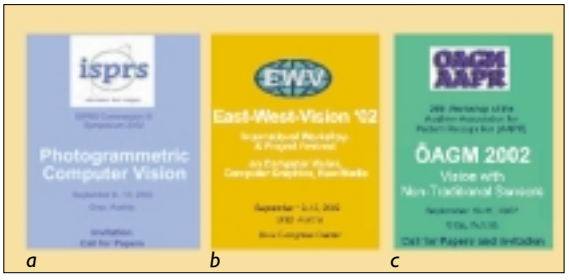

Figure 1: Announcements of the 3 consecutive or parallel conferences in Graz: PCV'02 (a), EWV'02 (b) and AAPR'02 (c).

A total of 353 attendants participated in PCV02. Of these, 92 specifically registered for the EWV-workshop and were sponsored to attend the PCV-tracks. In addition, 70 attendants were counted in the separate AAPR02-event and are not included in the 353-number for PCV.

PCV-Papers, Peer Review and Two Volumes for the Proceedings

We received 180 submissions in response to the call for papers. Of these, 90 were full papers which were submitted to a double blind peer review. Part A of the Proceedings contains the accepted 68 papers (ISPRS Archives Volume 34, Part 3A, 480 pages). Another 71 papers are collected into Volume B of the Proceedings (ISPRS Archives Volume 34, Part 3B, 325 pages), where acceptance was based merely on an abstract. These papers must be considered 'unreviewed'. Figure 2 presents the obvious difference between the two Volumes. Table 1 presents the assignment of the papers to the Working Groups.

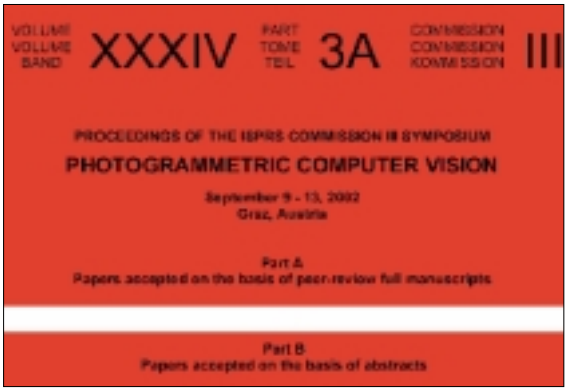

Figure 2: Section of Proceedings covers with defining statements for the peer-reviewed papers in Part A (a, above) and papers accepted based on abstracts in Part B (b, below).

	WG	Papers
Sensor Orientation	III/1	20
Surface Modeling	III/2	9
Laser Scanning	III/3	25
Object Extraction	III/4	16
Industrial Vision	III/5	15
Data Fusion	III/6	14
Vitual Habitat	III/7	14
Quality Assessment	III/8	21
Image Sequences	IC III/V	6
Papers		141

Table 1: Papers per Working Group.

The PCV-Program

A Single Track Event

The Commission leadership met in May of 2002 at the occasion of the European Conference on Computer Vision (ECCV) in Copenhagen to conclude the review process of the full papers. That meeting of the Programme Committee decided that the Symposium would have only a single track of oral talks. Time slots for a total of 48 papers were available. All other accepted papers and abstracts would be presented in a series of poster sessions to be held while there were no oral talks. This format for a Symposium is consistent with the recent trends in computer vision conferences. For ISPRS-Symposia, this format was novel.

Keynote Talks

A special program element consisted of 3 invited keynote talks, one each to open each of the three symposium days. The Commission President issued the invitations to three leaders in the field of computer vision:

- Professor Luc van Gool from ETH-Zurich and Catholic University Leuven presented algorithms to obtain 3D models from uncalibrated video image sequences
- Prof. Gerd Hirzinger from the German Aerospace Center Oberpfaffenhofen discussed computer vision as part of roboter systems as they are used in space exploration
- Professor Giulio Sandini from the University of Genova reviewed his work in foveal imaging with sensors that offer higher geometric resolution at the array's center than at its edges, and explained how one processes such imagery

These three keynotes offered a view of image processing and computer vision slightly beyond the traditional confines of a photogrammetrist's daily routine.

Figure 3: Franz Leberl (a) and John Trinder (b) at the symposium opening. Two of the three keynote speakers: Luc van Gool (c) and Gerd Hirzinger (d).

East-West-Vision

The EWV-meeting followed the PCV-track during the first 2 days and then split off into its own track for 2 days. Additional 14 countries were added to the national mix, all from Eastern Europe and beyond (Georgia, Azerbaijan), receiving courtesy registrations for PCV. A separate volume of proceedings was assembled and financially sponsored by the Austrian Computer Society, so the EWV-papers are available from that source.

Contributions on Sensor Orientation (WG III/1)

'Sensor pose' is the terminology from computer vision for the exterior orientation of a sensor. 'Pose' includes both position and orientation. Two major issues were the focus of the 20 papers on sensor pose estimation. The important one addressed the use of independently measured position and attitude values using inertial sensors and GPS. The presentations, for example from Stuttgart University, seem to conclude that for ortho-photo production, the direct observation of pose parameters is applicable and a traditional triangulation is no longer required. But with stereo mapping and network densification tasks, the direct measurement needs to get improved by a triangulation. Obvious is, though, that the need for ground control points is greatly reduced in this case. The second issue was the advent of new sensor types, most importantly tri-linear array cameras such as those by Leica Geosystems. These new systems need novel methods for the analysis of sensor characteristics, calibration of the interior orientation and computation of exterior orientation or pose.

Contributions on Digital Surface Models (WG III/2)

This series of papers focussed on DEM-production from automated stereo matching, and from matching more than 2 photographs for each terrain point. The recent methods of capturing 3D- terrain information via laser altimetry or interferometric SAR were relegated to WG III/3. Of particular interest is the use of new space sensors and their applicability to create accurate DEMs, and the novel digital sensors using the tri-linear array approach with the need to match the two rows of pixels from a for-aft configuration, or the three rows of for-aft-down arrays. Another topic addressed in the papers is the transition from so-called 'point clouds' to continuous surface models, and the idea of surface versus elevation models.

Contributions on Airborne Laser Scanning and IfSAR (WG III/3)

Airborne laser scanning is a topic of increasing interest and led to 12 oral presentations, 20 posters and a tutorial with 34 attendees. Three major areas were covered: Accuracy, filtering and 3-D object extraction. Techniques for the accuracy assessment of planimetry and height of laser scanner data were developed in order to evaluate and characterise the quality of data sets. They may be followed by strip adjustment techniques in order to improve the precision. Laser scanner data are being filtered with the goal of determining the digital terrain model. Features of modern laser scanner systems such as high point density and multi-pulse registration are supporting this. Structure, reliability, precision and density of laser scanner data makes the technique well suited for the automatic extraction of 3-D objects. Besides techniques for 3-D building modelling, several techniques for the extraction of forest parameters were presented. Data fusion with aerial images or multi-spectral scanner data, which may be considered complementary to laser scanner data, is exploited both for data processing and visualisation.

Object Extraction (WG III/4)

The main topics of the sessions on 'Automated Object Extraction' have been building and road extraction with the latter comprising half of the submissions. Automatic road extraction has advanced to a state where first tests have been conducted by European National Mapping Agencies for a system employing GIS-information and 3D matching. Other topics for road extraction have been the modelling of roads in cities comprising markings and cars, the semi-automated tracking of roads as well as the modelling of crossings and context. For building extraction new means to utilise the information in multiple images

were shown. Other topics have been the use of MPEG-7 texture descriptors for the extraction of trees or the statistical analysis of the comparison of human subjective feature descriptors with mathematically defined objective feature descriptors.

Industrial Vision (WG III/5)
The oral and poster presentations comprised a diverse set of topics. One of the focal points was the uncalibrated reconstruction of objects from video sequences. Furthermore, real-time 2D object recognition techniques were described and evaluated in two papers. In addition, an elegant representation of the three-view geometry of cylinders for the purpose of augmented reality was presented. A fourth topic was the calibration of inexpensive digital cameras for photogrammetric applications.

Multi-Source Vision (WG III/6)
'Fusion' is another terminology that is applicable to the use of multiple images and types of sensors observing the same scene. With the expanding variety of space- and airborne sensors of different characteristics, there is an urgent need for proper data fusion approaches. The overall goal is formulating a truly applicable general theory and methodology for merging any kind of sensor information. The ongoing work is typically focussed on a specific application, and the proposed solutions for the use of multiple images are applicable only to this scenario. The papers can be characterised as wide ranging, from improvements to already well established multi-channel cluster analysis methods to the rather recent trifocal tensor approach.

Modelling Urban Environments (WG III/7)
A series of papers aimed at the reconstruction of building shapes using calibrated and uncalibrated cameras. For large-scale 3D models of urban areas, a combination of different sensors and methods was proposed by several authors, to include laser scans, panoramic cameras, video sequences etc. Space-borne sensors are not yet considered suitable for the task. Facades of buildings and various installations in the street have to be captured by ground-based methods, in most cases using a large number of photographs, and at times so-called mobile mapping units. The goal is to automate the process of photo-triangulation and integration of various data sources, followed by object recognition and 3D modelling. The presentations also addressed the final representation in a GIS and the advanced photo-realistic visualisation of the urban environment in a 3D-generalisation of the ortho-photo.

Reliability and Performance of Algorithms (WG III/8)
Presentations addressed the assessment of scene simulations, image quality, remote sensing data interpretation and automated image analysis methods. In support of the co-operation on the important task of quality assessment in photogrammetry and remote sensing, the workgroup announced the establishment of a 'Geo-Spatial Imagery and Reference Data Set'. This data set is available on the web and is hoped to serve as a test bed for proofing new methods and algorithms.

Image Sequences (IC WG III/V)
Traditionally, this topic refers to the analysis and use of video imagery for modelling and measurement tasks. In the past, this topic was only discussed within Commission V and focussed on the applications in a photogrammetric context. This time room was made also in Commission III for this topic, in an attempt to focus on methods and theories, less so on applications. The presentations reviewed the state-of the art of obtaining 3D information from video scenes. The problem of simultaneous registration and object tracking of multiple views and movement analyses were discussed.

Conclusions
Peer Reviews of Full Papers Should Be Maintained
Setting up a peer review process for full papers covered new ground in this Symposium. The response from the community was not predictable. Therefore we permitted both approaches, the use of traditional abstract submissions as well as the full paper/peer review. After our initial experience we propose to abandon the abstract based paper track altogether in future Commission III events.

A Separate ISPRS-Focus on Theory and Algorithms Is Needed
In ISPRS leadership circles, the purpose of a separate Commission III on 'Theory and Algorithms' is at times questioned with the argument that every ISPRS-activity (and therefore every Commission) must include theories and algorithms. We strongly disagree with this view and hope that we are able to prove our point. Commission III can and must be the link to the novel computer science developments in 'Digital Processing of Visual Information'. There is a strong concept of an 'applications-free' element, addressing methods, theories and algorithms. The narrow focus of traditional ISPRS-views on the terrain stifles the ability to innovate. Commission III needs to encourage innovation, it needs to take an applications-independent look to improve chances for innovations.

Single Track Events Are Superior
New was also the insistence on a single track event. We had to select the oral presentations from the accepted full papers. As a result, the attendants were not forced to constantly decide which room to go to and which papers to listen to, when in the end the audiences dwindle very much per paper. We think that the single track was advantageous, but the participants need to decide about their preference for multi-track conference over the single-track approach. It requires, however, that one take the poster sessions very seriously, and that there be sufficient time allotted to poster sessions.

Eastern Europe Must be Better Integrated into ISPRS
Given all the talk about a European Spirit and a growing

European Union, we were surprised as Symposium organisers about the poor response from Eastern Europe. Given that Graz is a location very close to that region, we had expected that we would have a relatively large number of Eastern European papers and attendants. However, we received only 2 papers and hardly any early registrations from Eastern Europe. That was the reason why we organised a separate workshop specifically addressing the Eastern European experience in academic computer vision and computer graphics. By eliminating the need to pay a registration fee for selected attendees from Eastern Europe, we were able to attract more than 90 people who otherwise would not have enriched the PCV, among them the Minister of Education of the Republic of Slovakia (Figure 4). He pointed out that the scientific co-operation between the new reform countries and the western industrial countries leaves much to be desired and has largely led to an unacceptable brain drain from the East to the West.


Figure 6


Figure 7

Figure 6: The Minister for Education of Slovakia Peter Ponicky (left) visiting after his address the poster presentation, accompanied by EWV-co-organiser Andrej Ferko (right).
Figure 7: At the reception by the governor of Styria in the staterooms of the Grazer Burg.

The Social Program Was Great
The Symposium had two social evenings at the invitation of the local political leadership. We spent a first evening at the Graz City Hall at the invitation by the city's mayor and another evening at the Gubernatorial residence (the Burg/ the castle) at the invitation by the governor of the state of Styria, of which Graz is the capital.

The Discussion of the Future Structure of ISPRS Is Too Timid
The symposium reserved a full 90-minute session slot to a public discussion of a better structure of the Society than is currently in place. While the discussion was lively, it did not inspire much expectation that a major change is likely. As organisers of the Symposium and as current ISPRS-insiders, we are very concerned. Will the ISPRS continue to miss the capability to properly adapt to the dramatic changes in society? Most important are

- Globalisation and transition to an information society
- Changes in industry with the transition to software-based products
- Evolution in technology driven by the Moore principle
- The only really fundamentally new discipline in engineering science since 100 years, namely computer science

This latter development leads to an emerging competition in the form of computer vision and computer graphics.

Let's see how much ISPRS-flexibility can be mustered to cope with these issues in the future!

Report on Mid Term Symposium TC V

Corfu, Greece from 2-6 September 2002: 'Close-range Imaging, Long-range Vision'

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The president of Commission V, Prof. Petros Patias, The Aristotle University of Thessaloniki, had invited to participate in the ISPRS Inter-Congress symposium entitled 'Close-Range Imaging, Long-Range Vision' to the lovely island of Corfu, Greece. The symposium was held in the Marbella Beach hotel, a large building that offered all required facilities to run an international conference. In addition, the touristic aspect of such an event were covered due to the Mediterranean environment, the sea shore and a number of excursions offered to places of interest on the island.

Some 240 participants from 29 countries were registered. During 20 technical sessions and 2 poster sessions a total number of 116 papers were presented. A commercial exhibition had also been organised where laser-scanning companies have presented their products and projects. The technical sessions were structured according to the Commission V working groups. The major number of papers were given in the field of working group V/1 (Automation for Vision Metrology Systems and Industrial Applications) and working group V/4 (Image Analysis and Spatial Information Systems for Applications in Cultural Heritage). As a total result the quality of the presented paper was good, although only a few papers can be highlighted with respect to new technologies or new developments.

With 23 papers working group V/1 covered the wide range of industrial vision systems and applications, from sensor technology to algorithmic aspects and practical solutions. Although all sessions had gained a significant interest by the audience, there was only a small number of participants from industry and/or system suppliers. This

indicates that the conference lost part of its attraction to users and commercial companies in this special field of interest.

In working group V/2 'Scene Modelling and Virtual Reality' 20 papers and posters have been presented. The importance of modelling has also been addressed by the conference keynote speech of Armin Gruen on 'Return of the Buddha – New Paradigms in Photogrammetric Modelling'. Facing new 3D sensors (e.g. laser scanning or fringe projection) with new amount and quality of data, the lack of appropriate modelling methods became obvious. A number of different approaches has been discussed based on pure image data and/or a combination of hybrid data in order to improve automation and quality of 3-D object reconstruction.

The topic of WG V/3 'Medical Image Analysis and Human Motion' covered a very specific field of photogrammetric applications. Since the actual group of users, namely medical scientists and doctors, do not attend such a conference, the 9 presented papers and posters were discussed more from the technical point of view since the medical one. However, the session was visited remarkably since the medical field offers a wide range of applications and a significant market.

Working group V/4 'Image Analysis and Spatial Information Systems for Applications in Cultural Heritage' was traditionally addressed by a large number of papers dealing with different applications in architectural and cultural heritage photogrammetry. Laser scanning plays an important role in this field. In this context the CIPA WG 6 International Workshop on 'Scanning for Cultural Heritage Recording ' has to be mentioned that was held from 1. - 2. September 2002 at the same location. Here 26 more papers were presented and published in written form. In addition, the conference location in Greece has a close link to this specific area of interest.

In working group V/5 'Quick Response and Distributed Computing for Close-range Applications' 7 papers were presented. Integrated mapping systems and novel techniques for image content analysis were addressed, mainly in the field of object detection and reconstruction.

Working group V/6 'Visualisation and Animation' covered a wide range of methods and applications. Although only 7 papers were submitted it must be mentioned that visualisation and animation is a major topic for a number of other working groups.

Finally the intercommission working group V/III on 'Image Sequence Analysis' could present 9 papers. Image sequences recorded for the measurement of motion and dynamic processes offers an interesting field for future work since sensor and hardware technology becomes feasible for a larger number of users.

Looking at the distribution of papers with respect to countries it could be observed that the major number of papers came from Japan (21), Germany (19), Greece (15) and Italy (14) while, for instance, only 5 papers were submitted from USA.

The conference was accompanied by social events where old friends could be met, or new friends could be found. The relaxed and fruitful conference atmosphere should engage people to participate in future workshops and conferences as they are announced on the ISPRS web-sites.

Report on Mid Term Symposium TC VI

'New Approaches for Education and Communication'

By Tania Maria Sausen, ISPRS Commission VI President and João Ávila, ISPRS Commission VI Secretary, E-mail: tania@ltid.inpe.br, avila@ltid.inpe.br

The ISPRS Commission VI Mid Term Symposium 'New Approaches for Education and Communication' held at the National Institute for Space Research (INPE), São José dos Campos, São Paulo State, Brazil, on September 16-18, 2002, was organised by the ISPRS Commission VI, the Brazilian Society of Cartography, Geodesy, Photogrammetry and Remote Sensing (SBC), the National Institute for Space Research (INPE) and the São José dos Campos Municipality.

This symposium was attended by 68 participants from 14 countries and four continents:

- American participants: Argentina (1), Bolivia (1), Brazil (51), French Guiana (1), United States (2)
- Asian participants: Thailand (1)
- European participants: Austria (1), England (1), France (1), Germany (4), Italy (1), Turkey (1), Switzerland (1)
- Oceanic participants: Australia (1)

The decisive financial support received from the National Institute for Space Research - INPE, the China-Brazil Earth Resources Satellite - CBERS, the Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq, the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - CAPES and the Fundação de Amparo à Pesquisa do Estado de São Paulo - FAPESP enabled the symposium, as well other institutions that provided simi-

The opening ceremony. (From left to right: Eng. Camillo J. M.Gomes, Dr. Tania M. Sausen, Dr. John Trinder, Dr. Luiz Carlos M. Miranda).

The Brazilian grammar and high school students showing their experience in the project 'Training New Talents in Space Science and Technology: INPE at School ' to Dr. Gottfried Konecny, from University of Hannover, Germany.

The ISPRS Council Members in the Welcoming Cocktail. (From left to right: Dr. Ian Dowman, Dr. John Trinder, Dr. Tania M. Sausen, Dr. Lawrence Fritz and Dr. Orhan Altan).

lar financial support to some participants.

The main topics of the Symposium were:
- Education and Training
- Computer Assisted Teaching
- International Cooperation and Technology Transfer
- Internet Resources and Distance Learning

The Symposium Scientific Committee composed by representatives of 14 countries analysed the papers submitted and made several critical and constructive proposals regarding content, form and structure of the symposium as well as helped to set the symposium technical program.

The 70 authors of the 45 published papers represented 18 countries from 5 continents and the content of these papers focused on Satellite Programmes in Latin America, Geomatics Curricula and Education, Computer Assisted Transformation of Learning, International Co-operation and Transfer of Technology, Internet Resources and Distance Learning, Geomatics Education Programmes, Training Programmes Developed by International Institutions, Practical Examples of Computer Assisted Learning and Teaching, Web Based on Computer Assisted Learning and Teaching and Education for Young Students and School Teachers.

Technical Presentations

The 32 presented papers from 73 authors in 14 countries were arranged into seven technical sessions, three special sessions, a poster session, a mini course and a forum.

These presentations brought valuable and detailed information regarding to the main topics of this symposium. More details can be found in the full papers, which are available in the proceedings and on the WEB at http://www.commission6.isprs.org.
The papers were published as International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences, Vol. 34, Part 6 and consist of 181 pages. They can be ordered from GITC bv, P.O. Box 112, 8530 AC Lemmer, The Netherlands, tel. +31-514-561854, fax +31-514-563898, E-mail: mailbox@gitc.nl, Web-site: www.gitc.nl. The proceedings were also distributed on a CD.

Papers Presented

Special Session 1: Satellite Programmes in Latin America
Chair: Ian Dowman / Co-chair: Leonel Fernando Perondi
- The China-Brazil Earth Resources Satellite – CBERS. Presented by: José Raimundo Braga Coelho - INPE/MECB, Brasil
- The Dissemination of CBERS Images to Universities in Brazil: Procedures and Results. Presented by: Paulo Roberto Martini - INPE, Brasil

Technical Session 1: Geomatics Curricula and Education

Chair: Jana Niederoest / Co-chair: Tania Maria Sausen
- Recent Global Changes in Geomatics Education. Presented by: Gottfried Konecny - University of Hannover, Germany
- Remote Sensing Education Programmes for a new University in French Guiana. Presented by: Laurent Polidori - ORSTOM, French Guiana
- Remote Sensing in Different Education Levels: A Case Study. Presented by: Sandra Maria Fonseca da Costa - Universidade do Vale do Paraíba, Brasil

Technical Session 2: Computer Assisted Transformation of Learning

Chair: Pierre Grussenmeyer / Co-chair: Hans-Peter Bähr
- Remote Sensing Education CD-ROM: an Interactive Approach to Technology Transfer Utilising Real Research Results. Presented by: Nelson Wellausen Dias - Indiana State University, United States
- Didactic and Methodological Challenges in New Media Based Teaching and Learning for GIS. Presented by: Florian Bischoff - University of Karlsruhe, Germany

Poster Session

- Urban Imagery Combining Photogrammetric and Remote Sensing Techniques: a New Training Course at

ENSAIS Strasbourg. Presented by: Pierre Grussenmeyer- ENSAIS-MAP, France
- Training New Talents in Space Science and Technology: INPE at School. Presented by: Tania Maria Sausen - INPE, Brasil

Mini Course SPRING
Chair: Gilberto Câmara Neto /Co-chair: Alexandre Benevento Marques
- The Brazilian Experience Towards Integrating GIS and Remote Sensing. Presented by: Antônio Miguel Vieira Monteiro - INPE, Brasil
- Training in the use of SPRING–GIS: Experience in Latin America and the Caribbean Region, Africa and Asia. Presented by: Eduardo Manuel Banús - IAI, Brasil
- SPRING software: Tools and Applications. Presented by: Silvana Amaral Kampel - INPE, Brasil
- New Approach on Teaching Geotechnology. Presented by: Hilcéa Santos Ferreira - INPE, Brasil

The closing ceremony. (Dr. John Trinder, the ISPRS President, Dr. Tania M. Sausen, the ISPRS Commission 6 President, Dr. Walter Humberto S. Piña, the representative of the SBC President, Dr. Gilberto Câmara Neto, the representative of the INPE Director and Dr. Orhan Altan, the ISPRS Congress Director).

The participants of the ISPRS Commission 6 Mid Term Symposium New Approaches for Education and Communication.

Technical Session 3: International Cooperation and Transfer of Technology
Chair: Luis Alberto Murgio / Co-chair: Eduardo Manuel Banús
- Joint Educational Geomatic Programmes in Brazil and Germany since 1981 Strategies for Sustainable Development. Presented by: Hans-Peter Bähr- University of Karlsruhe, Germany
- A Virtual Receiving Station for Remote Sensing Users in the Caribbean-Amazonian Area. Presented by: Laurent Polidori - ORSTOM, French Guiana
- Photogrammetry and Remote Sensing Training for Cadastral Staff in Central America. Presented by: Laurent Polidori - FIEF-SOFRECO, French Guiana
- Decentralization Policy of ITC in Latin America. Presented by: Carlos Valenzuela - ITC, Bolivia

Technical Session 4 – Internet Resources and Distance Learning
The Technical Session 4 was cancelled because most of the authors did not attend the meeting.
For this reason the Technical Session 5 was anticipated and a visit to the INPE Visiting Centre was made after this session.

Technical Session 5 - Geomatics Education Programmes
Chair: Lawrence W. Fritz / Co-chair: José Carlos Neves Epiphânio
- Remote Sensing and GIS Activities in Asian Institute of Technology: Education, Training and Research. Presented by: Kiyoshi Honda - AIT, Thailand
- Evolution of Teaching of Remote Sensing, a Geoprocessing and Geomatic in the Federal University of Santa Maria, RS. Rudiney Soares Pereira - Universidade Federal de Santa Maria, Brasil / Presented by: Tania Maria Sausen
- EU Research and Education Programmes for non-EU Countries. Presented by: Jana Niederoest - Swiss Federal Institute of Technology - ETH, Switzerland
- UNESP Graduate Program on Cartographic Sciences. Presented by: Antonio Maria Garcia Tommaselli - UNESP/Presidente Prudente, Brasil

ISPRS Commission VI Activities - Forum
Chair: John Trinder, ISPRS President – Australia / Co-chair: Tania Maria Sausen, Commission 6 President - Brazil

Special Session 2: Training Programmes developed by International Institutions
Chair: Odylio Denys de Aguiar / Co-chair: Tania Maria Sausen
- Education Curricula in Space Science and Technology. Presented by: Hans Joachim Haubold - UN, Austria
- The Education and Training Programme of the European Space Agency to bring space to citizens, decision makers and professionals. Presented by: Juerg Lichtenegger - ESA/ESRIN, Italy

Technical Session 6: Practical Examples of Computer Assisted Learning and Teaching
Chair: Walter Humberto Subiza Piña / Co-chair: João Ávila
- The E-FOTO Project: An Educational Digital Photogrammetric Workstation. Presented by: Luiz Carlos T. Coelho Filho - Instituto Militar de Engenharia, Brasil.
- Development of a GIS Supported Interactive 'Remote Sensing' Learning Module. Presented by: Heike Weippert - University of Stuttgart, Germany
- A Educational CD-ROM on Remote Sensing and Geoprocessing Techniques for Biologists. Presented by: Marisa Dantas Bitencourt - Universidade de São Paulo, Brasil.

Technical Session 7: Web based on Computer Assisted Learning and Teaching
Chair: Juerg Lichtenegger / Co-chair: Tania Maria Sausen
- Arpenteur 3.0: Recent Development in Web based Pho-

togrammetry. Presented by: Pierre Grussenmeyer-ENSAIS-MAP, France
- ISPRS and Internet: history, presence and future. Fabio Remondino, Tuan-chih Chen - ISPRS, Taiwan / Presented by: Ian Dowman
- Training Brazilian Managers on Geoprocessing and Orbital Image Interpretation for Coastal and Offshore Reef Conservation. Presented by: Douglas Gherardi - INPE, Brasil

Special Session 3: Education for young students and school teachers

Chair: Orhan Altan / Co-chair: Tania Maria Sausen
- Satellite Technology as part of high school syllabus: an innovative educational proposal. Presented by: Luis Alberto Murgio - Instituto Universitário Aeronáutico, Argentina
- Cartographic Initiation for Young Students, using Aerial Photographs and Satellite Images. Presented by: Maria do Carmo Silva Soares - INPE, Brasil

Symposium Final Remarks

- Since the beginning of the organisation of this symposium, the main concern was somehow to join experts from all around the world, representing a concentration of knowledge and experience in education and communication in Commission 6 issues, and this goal was reached

- During the three days all participants have the opportunity to attend several presentations about papers focused on education and communication in photogrammetry, remote sensing and spatial information systems. All these presentations and papers represented a worthwhile collection of information about new methodologies, technologies and opportunities, accessible worldwide

- To organise a symposium like this it is not an easy task, mainly if we consider the enormous difficulties the organising committee has faced to get financial support, in this special moment in the Brazilian economy and politic transition. Despite these difficulties, the committee always had the unconditional support from the symposium organisers and sponsor

- These three days Symposium were really meaningful for all participants and for ISPRS Commission 6, because we stepped to the future on education and communication in phogrammetry, remote sensing and spatial information systems; we started our journey into the new millennium, but most of all we met colleagues and made friends, that together will care about improving and making available the education and communication to all society

- In this Symposium, Commission 6 could show that it is possible to do important and useful activities in education all over the world. We just need motivation, dedication, support from main institutions involved with this subject and mainly courage to face the new challenges

ISPRS Gains Full Union Membership of the International Council for Science (ICSU)

By John Trinder, President ISPRS

At the ICSU General Assembly held in Rio de Janeiro Brazil from 25-28 September 2002 the application of ISPRS to become a full union member of ICSU was approved. This is excellent news for ISPRS and it recognises the quality of the scientific work being undertaken by ISPRS.

ICSU is a non-governmental organisation founded in 1931 to bring together natural scientists in international scientific endeavour. It comprises 98 multi-disciplinary National Scientific Members, Associates and Observers (scientific research councils or science academies) and 27 international, single-discipline Scientific Unions to provide a wide spectrum of scientific expertise enabling members to address major international, interdisciplinary issues which none could handle alone. ICSU also has 27 Scientific Associates.

The Mission of ICSU is to identify and address major issues of importance to science and society, by mobilising the resources and knowledge of the international scientific community; to promote the participation of all scientists, irrespective of race, citizenship, language, political stance or gender in the international scientific endeavour; to facilitate interactions between different scientific disciplines and between scientists from 'Developing' and 'Developed' countries; to stimulate constructive debate by acting as an authoritative independent voice for international science and scientists.

ICSU seeks to break the barriers of specialisation by initiating and co-ordinating major international interdisciplinary programmes and by creating interdisciplinary bodies alone or in partnership with others which undertake activities and research programmes of interest to several

members. A number of bodies set up within ICSU also address matters of common concern to all scientists, such as capacity building in science, environment and development, and the free conduct of science.

ICSU is organised in a similar manner to ISPRS, in that it has an Executive Board similar to the ISPRS Council, and a General Assembly. Decisions are made at the General Assembly for implementation by the Executive Board. Its Secretariat is located in Paris. A major task of the ICSU over the past year has been representing Members at the World Summit for Sustainable Development (WSSD) in Johannesburg in August/September. ISPRS argued the importance of having Earth observation included in the Declaration. The efforts of ICSU and CEOS have let to a number of such references being included in the Declaration. As well, ICSU published booklets on the relationship between ICSU's activities and the environment. More details can be found on www.icsu.org.

It is a great step forward for ISPRS to become a full member of ICSU. I believe that past Councils of ISPRS for more than 20 years have aimed to achieve this goal. More importantly, it places ISPRS in an excellent position to undertake collaborative work with related Unions, as well as contribute to IGBP and DIVERSITAS, which are interdisciplinary bodies with activities related to studies of the environment. I hope that we will be able to pursue these links in the near future.

Obituary Dr. Mohamed Mosaad Allam

By Omar Allam, Gordon Plunkett and Ian Dowman

A well-known contributor to ISPRS, Dr. Mosaad Allam tragically passed away at the age of 62, as the result of an automobile accident in Riyadh, Saudi Arabia on 21 August 2002.

Throughout his long and prominent career in the surveying and mapping profession, Dr. Allam served on numerous national and international scientific associations and commissions. He was President of ISPRS Commission II from 1992-1996. Dr Allam also served as Chairman of Commission V-E of the International Federation of Surveyors (FIG); was a member of the US National Committee for the exchange of digital map data and was the Canadian representative on the International Cartographic Association (ICA) for standards. Throughout his distinguished career Mosaad played key roles in the successful creation of many GIS-related programs. These include the creation of the national GIS Technology Centre in the GIS Division/Department of Energy, Mines and Resources (EMR), the creation of the Inter-Agency Committee on Geomatics, the development of the data model for the national topographic database and the Canadian standards for digital data exchange.

Born and raised in Tanta, Egypt, Mosaad obtained a Civil Engineering degree from Alexandria University in 1961. Subsequently Mosaad obtained a PhD. in Photogrammetric Engineering from the Geodesy, Aerial Survey and Cartography Institute Moscow, Russia in 1967. After finishing his education, Mosaad began his working career as an Assistant Professor of Photogrammetry at Al-Azhar University in Cairo. In 1970, Mosaad moved to Canada where he accepted a position as a post doctoral fellow with the National Research Council (NRC). In 1972 he joined the Department of Energy, Mines and Resources (EMR), and later married his wife Amira in 1974.

Mosaad moved through various positions in the Research and Development Section and in the Topographic Engineering Section of EMR. Subsequent to several other positions, Mosaad was appointed as Deputy Director and later as Director of the GIS Division within the Surveys, Mapping and Remote Sensing Sector of EMR. Mosaad proudly served the government of Canada for 26 years, and consulted on behalf of many organisations such as the Food and Agriculture Organization (FAO) of the United Nations. In 1997, he implemented and became the Director of the Egyptian Environmental Information Systems (EEIS) project in Cairo, Egypt. In 1999, he retired and returned to Canada with Amira and Omar.

During his time as President of ISPRS Commission II, the field of systems for data processing, analysis and representation was changing rapidly and the working groups and subsequent resolutions reflected this change, and set the

pattern for the succeeding years. Mosaad's experience in a production organisation gave him the background to lead the commission through these changes and to concentrate on relevant and topical issues. His enthusiastic and good humoured contribution to ISPRS will be remembered.

Mosaad was known by all his friends and colleagues as a brilliant, sympathetic humanitarian whose professional contribution to his work brought him to the forefront of his profession. His many years of Government and professional service both in Canada and serving the people in developing nations, and his contribution to ISPRS, is a testament to his dedication and loyalty.

Mosaad was laid to rest in Riyadh on 26th August and a memorial service was held in Cairo on 7th September. A memorial service for his friends and colleagues was also held in Ottawa on 19 October 2002. Mosaad is survived by his wife Amira and his two sons Nader and Omar.

XX Congress - Did You Know Turkey?

By M. Orhan Altan, ISPRS 2004 Congress Director

* The land of the ancient Asia Minor or Anatolia is today's Turkey.

* Although Turkey is predominantly an Islamic country, it is a secular, democratic republic and people have freedom of religion and belief.

* Turkey is an extension and homeland of many great civilisations of the world heritage, such as Hattians, Hittites, Phrygians, Urartians, Lydians, Ionians, Carians, Lycians, Persians, Hellenistic people, Romans, Seljuks, Ottomans and finally the people of the modern republic.

* The Neolithic culture had its origin in Turkey and the peoples of Anatolia played a leading part in the Neolithic Revolution.

* The first recorded international treaty in the world was the Treaty of Kadesh between the Hittite and Egyptian Empires, Hattusilis III and Ramses II, in 1284 BC.

Twelve gods in Yazilikaya.

* Homer's birthplace Izmir (Smyrna) and his mythological city Troy are located in Anatolia.

* The world's first beauty contest was held on Mount Ida (Kaz Dagi). The contestants were Aphrodite, Hera and Athena under the judgement of Paris.

* Many city names in different parts of the world such as Philadelphia, Paris, Antioch, Troy or the continental name 'Europe' originate in Anatolia.

* The oldest known shipwreck on earth was excavated by a team headed by Don Frey in Ulu Burun near Kas.

* In 640 BC, for the first time in history, coins made of electrum (a natural mixture of gold and silver) were used by the Lydians in Sardis (Sart). They used coins to facilitate and regulate commerce.

* The Persian Royal Road of the 6C BC ran from Sardis, western Anatolia, to Susa.

* Aesop, teller of animal fables, was an Anatolian.

* Is The birth place of King Midas, who turned everything in to gold.

* Alexander the Great cut the Gordian knot-literly a phrase used for short-cut to 'solving difficult problems'.

* Alexander's tutor, Aristotle, virtually invented the life sciences while he stayed in Assos (Behramkale) for three years.

* Between 7 and 5C BC, Miletus was the home of Thales (one of the Seven Sages), of Anaximander and

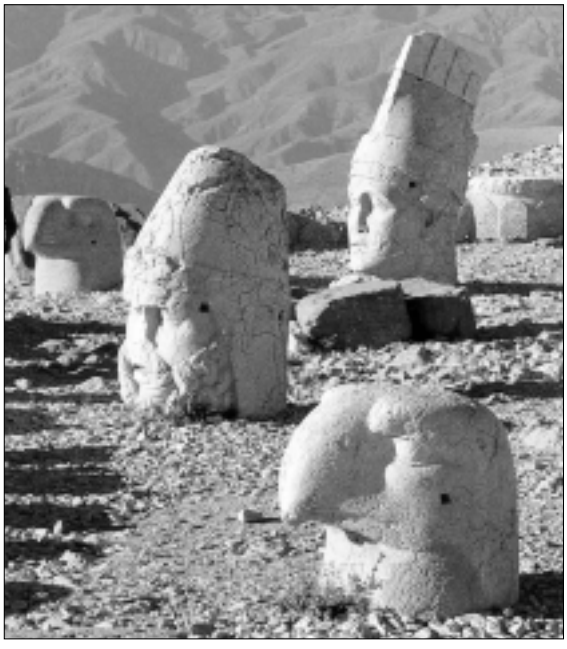
The mountain of Ararat.

Anaximenes (natural philosophers), Hippodamus (philosopher and the earliest town planner) and Hecataeus (geographer).

* Historian Herodotus, physician Galen, mathematician Apollonius, philosophers Anaxagoras, Scopelianus, Cleanthes and many more were all Anatolians.

* Two of the Seven Wonders of the World stood in Anatolia: the Temple of Artemis at Ephesus and the Mausoleum at Halicarnassus. The others are the Pyramids of Egypt, the Hanging Gardens of Babylon, the Statue of Zeus at Olympia, the Colossus of Rhodes and, the Pharos of Alexandria.

* The words of Julius Caesar 'Veni, vidi, vici (I came, I saw, I conquered)' were said in Amasya, east of Ankara when he went to Anatolia in 47 BC.



The statues of gods and eagles.

* When the Egyptians prohibited the export of papyrus, the King of Pergamum ordered that a new material be found. The new discovery was 'parchment', a fine material from sheep or goat skin, which is highly polished with pumice stone and slit into sheets. The name, Pergamum, has been perpetuated and seen as synonymous with the word 'parchment'.

* Anatolia was the first major stronghold of Christianity.

* The Garden of Eden in the Book of Genesis was said to be watered by a river which separated into four streams as it left the garden; two of them the Tigris (Dicle) and Euphrates (Firat) rise in the mountains of eastern Turkey.

* Mount Ararat (Agri Dagi) is in Anatolia. According to tradition, Ararat is the place where Noah's Ark landed. Ararat is the Hebrew form for Urartu, the Assyrian name for a kingdom that existed in the region from the 11C to the 7C BC.

* St. Paul was born in Tarsus (southern Turkey). He undertook most of his missionary journeys and wrote most of his biblical epistles to early Christians in Anatolia.

* St. Nicholas, known as Santa Claus today was born and lived as bishop of Myra in Demre. According to legend, he secretly bestowed dowries upon the daughters of a poor citizen. This originated the custom of giving presents on the eve of the feast of St. Nicholas, a tradition later transferred to Christmas Day.

* The Seven Churches of Asia mentioned in the Revelation of John are all located in Anatolia; Ephesus (Efes), Smyrna (Izmir), Laodicea ad Lycum (Denizli, Goncali), Sardis (Sart), Pergamum (Bergama), Philadelphia (Alasehir) and Thyatira (Akhisar).

* All of the 7 Ecumenical Councils which are accepted by both the Orthodox and the Catholic Churches were held in Anatolia.

* Istanbul houses the Greek Orthodox Ecumenical Patriarchate in Fener and the Armenian Patriarchate in Kumkapi.

* The huge building of the Hagia Sophia, which was for many centuries the largest church in Christendom, is still standing in Istanbul.

* For the first time in history, Seljuks created state insurance for the losses of tradesmen.

* Sultan Bayezit II dispatched the Ottoman Navy to bring the Jewish people who were expelled from Spain. They were brought safely to the Ottoman lands in 1492.

* Tulips were introduced to Holland from Anatolia by

Ogier Ghiselin de Busbecq, He was ambassador of Charles V to Suleyman the Magnificent in 1554.

* The first man ever to fly was Turkish. Using two wings Hezarfen Ahmet Celebi flew from the Galata Tower over the Bosphorus to land in Uskudar in the 17C.

* Istanbul houses the historical building of Sirkeci Train Station. This served as the last stop of the Simplon-Orient Express 'king of trains and the train of kings' between Paris and Istanbul from 1883 to 1977. It still lives on in the pages of Stamboul Train by Graham Greene, 1932, Murder on the Orient Express by Agatha Christie, 1934 and From Russia with Love by Ian Fleming, 1957.

Troya.

* Indo-European languages derive from Anatolia not the Russian Plains.

* Many words in English language such as angora, bulgur, byzantine, caique, divan, kiosk, mausoleum, meander, parchment, sherbet, turban, turquoise and yoghurt derive from Anatolia.

* Had the world's first female Supreme Court Judge, and gave women the right to vote in 1934.

* Witnessed the first known Human Rights Declaration, in 1463, 485 years before the Universal Declaration of Human Rights.

* Has 70% of its population under 35.

* Provides 70% of the world's hazelnuts: probably the nut in your chocolate bar was grown in Turkey.

* Turkey is one of only 8 countries in the world which consistently produces surplus food and cattle for export.

* Many valuable finds from Anatolia can also be seen in museums all over the world. The Pergamum Museum of Berlin contains the Zeus Altar, Gateway to the Sanctuary of Athena from Pergamum, Statues from Priene and the great Market Gate from Miletus. The British Museum has become the adopted home for the Temple of Artemis from Ephesus, the Mausoleum of Halicarnassus, and the Harpy Tomb from Xanthos.

* For the present-day traveller, the fact that Western excavators were often working for institutions back home means that some of the better sculpture and architecture has left the country. This has made it difficult to study the overall effect of architecture and sculpture together.

* Has a 650-year old covered shopping mall of 64 streets, 3,500 shops, 22 entrances and 25,000 workers, - the famous Grand Bazaar.

* Is the originator of the fabulous Iznik ceramic tiles, which were created at Lake Iznik, north-western Turkey, from the 15th century, many of the designs were inspired by the wall paintings from the Roman period.

* Has 3,500 periodical publications, 1,056 radio stations, and 280 TV channels.

* Has historical relics pertaining to three of the world's major religions Christianity, Judaism and Islam.

* Has the most valuable silk carpet in the world, in the Mevlana Museum, Konya with 144 knots per sq. cm. In the 13th century, Marco polo wrote 'The best and handsomest of rugs are woven here, and also skills of crimson and other rich colours'.

* Is uniquely in two continents – Europe and Asia.

* Has a city, Mardin, which is one of the few places where you can hear the native language of Jesus Christ – Aramaic. The final home of the Virgin Mary, no which she travelled with St. John, is located nearby.

* Was producing wine as early as 4000BC.

* Has the first church ever built (St Peter's) in Antioch, southern Turkey. It is also the site of the oldest temple at Urfa, dated between 8500 and 9000BC.

A view of the obelisk of Theodosius.

* Receives children from around the world each year on 23rd April to 'honour and cherish the freedom and independence of all people'.

* Was where the cherry was first found, by the Romans who planted it throughout the world, at Giresun (also known as Kerasos), in the stunning Black Sea region.

* Has the earliest landscape painting, dating from 6200BC.

* Reputedly has one of the world's 3 greatest cuisines.

* Has the beautiful Bosphorus waterway diving Europe and Asia with two great bridges and masses of ferries, permitting access to Central Asia, Eastern Europe and Russia.

* Has 9,000 species of flowers. It is also 80% mountainous; has an abundance of rivers and lakes; and has clear, turquoise blue waters on the Aegean and Mediterranean coasts.

A modern business centre in Istanbul.

* Is modern and sophisticated, yet has more ancient sites than any other country.

* Is one of the safest countries in the world, according to comparative statistics.

* Is technologically well advanced with almost 100% of its transmissions digitised.

Important Notice!

We kindly recommend you to read carefully this serial about Turkey, and to keep it for your further reference. By the end of 2003, there will be a quiz and winners will be awarded with promotional gifts of the ISPRS 2004 Istanbul Congress.

Report on The International Workshop on Mobile and Internet GIS

By Prof. Jianya Gong and Prof. Zhilin Li, E-mail: geogjy@163.net

The International Workshop on Mobile and Internet GIS was held in Wuhan, China, during 15-16 August 2002. It was jointly organised by four ISPRS working groups and the National Key Lab for Information Engineering in Surveying, Mapping and Remote sensing (LIESMARS) of Wuhan University. The workshop is hosted by the LIESMARS. The four ISPRS working groups are:

- WG IV/2: Federated databases and interoperability
- WG II/1: ISPRS Real-Time Mapping Technologies
- WG II/5: ISPRS Design and operation of spatial decision support systems
- WG II/6: ISPRS for Spatial Analysis and Visualisation Systems

A total of 65 scholars from 9 countries/regions participated in the workshop. Among them, 37 are locals (i.e. from China Mainland) and 28 are non-locals from other countries/regions such Austria, Canada, Denmark, France, Korea, Hong Kong, the Netherlands and USA. Officials

from the Ministry of Science and Technology, Canadian Embassy in Beijing, the Foreign Affairs Office and various institutes of the Wuhan University (e.g., Institutes of Surveying and Mapping, Remote sensing, resources and environment and urban studies). In addition, a number of staff members and research students at the LIESMARS also attended the workshop.

The Opening ceremony was chaired by Prof. Jianya GONG, the chair of ISPRS WG IV/II and the deputy director of LIESMARS. Prof. Changjie Hou, the president of the Wuhan University and Prof. Deren Li, the director of LIESMARS, delivered their welcome speeches.

There were two keynotes speeches. One delivered by Prof. Deren Li, entitled °ÆThe Integration of the Spatial Information and Mobile Communication°Ø, and the other was given by Mr. Rob Lemmens of ITC (The Netherlands) on 'Distributed GIS and Metadata: Methods for the Description of Interoperable GIS Components°Ø.

The workshop concentrated on the topics related to mobile and Internet GIS, i.e.
- Mobile data collection systems
- Mobile mapping systems
- Web-based spatial decision support systems
- Web-based systems for mapping and value-added data analysis
- Mobile-based systems for visualisation and value-added analysis
- Federated database for mobile and Internet GIS environment
- Inter-operable database environment
- Distributed spatial databases
- Integration of Imagery, DEM, attribute and vector data from federated databases
- Mobile and internet GIS based on heterogeneous databases
- Spatial data standardisation and interoperation specifications for data sharing
- 3-D and VR GIS based on Internet

A total of 22 papers were received and 16 of them were scheduled into four sessions for oral presentation. These sessions are as follows:
- Mobile Data Collection System
- Web-Based Spatial Decision Support System
- Web-Based Map Service
- Mobile and Web Mapping

The chairs and co-chairs of the relevant working groups, Profs. Liping Ding, Poul Frederiksen, Jianya Gong, Walfgang Kainz, Ron Li, Zhilin Li and Qingming Zhou chaired these sessions.

In addition to these technical sessions, a technical tour was also organised to visit the LIESMARS and some other research centres. The closing ceremony was held in the LIESMARS. Prof. Ron Li, the chair of ISPRS WG II/1, made a summary of this workshop and an introduction to other ISPRS activities in the coming 12 months.

It is worth noting that the chairs and/or co-chairs of all the organising working groups (i.e. IV/2, II/1, II/5 and II/6) participated in the workshop. In addition, the chairs and/or co-chairs of II/3 and II/4 also joined the workshop. It is therefore, clear that this topic must be of great interest to the ISPRS community and this workshop play an great contribution to the development of science and technology in this area.

Planned Workshop: Global Environmental Databases: The Next Step(s)

Bangkok, Thailand from 2-6 June 2003

By Ryutaro Tateishi, E-mail: tateishi@ceres.cr.chiba-u.ac.jp and David Hastings, E-mail: hastingsd@un.org

ISPRS Working Group IV/8 (Global Environmental Databases) has seen two books produced from a November 1999 workshop. 'Global Environmental Databases: Present Situation; Future Directions' Volume 1 (2000) and Volume 2 (2002) are available from the Geocarto International Centre (www.geocarto.com/features.html), from GITC (E-mail mailbox@gitc.nl) or from Ryutaro Tateishi (quantity requests, email below). The well-reviewed books were designed to help decision-makers as well as scientists understand how well such data describe environmental features/phenomena. The workshop itself, held at the East-West Center in Honolulu, was a unique experience of 'real-time-peer-review' by participants of their draft materials for the book. Participants constituted a majority of the authorship, and the peer review committee, of the books. We greatly appreciate the efforts and spirit of the participants (cited in Volume 1), and the East-West Center hosts for creating a unique experience.

WG IV/8 is now designing a workshop, tentatively scheduled for the United Nations Conference Centre in Bangkok for 3-6 June 2003. This workshop seeks to emphasise the 'future directions' aspects of the books. 'Where can we go from here, to develop databases more

appropriate to the questions they seek to help answer? How can we make databases more useful to scientists, planners, disaster managers, and other users?'

The workshop will be co-organised with the CEOS Global Datasets Task Team and hosted by the Space Technology Applications Section of the United Nations Economic and Social Commission for Asia and the Pacific. UNESCAP promotes increased operational value of space technology for societal benefit. Goals include development of regional co-operative mechanisms for disaster management; better delivery of space-derived and spatial data to serve agriculture, decision-makers responding to drought and floods, and health care; and successful Community Tele-service Centres (CTCs) using satellite communications to bring services like tele-health and tele-education to underserved communities.

Other co-organisers are welcome. Another workshop likely hosted by UNESCAP should add value to the week. Bangkok's status as a centre for organising group or individual travel throughout neighbouring regions is useful for pre- or post-workshop vacations. For example, unique diving/snorkelling in the Maldives is often priced from about US$ 600 for air fare and resort stays.

Contact the organisers soon to help shape the workshop. Other Co-organisers are welcome/

Call for Papers - ISPRS Conference on Photogrammetric Image Analysis (PIA '03)

Technische Universität München, Germany from 17-19 September 2003

By Helmut Mayer, Institute for Photogrammetry and Cartography, Budenswehr University Munich, E-mail: helmut.mayer@unibw-muenchen.de

This International Society for Photogrammetry and Remote Sensing (ISPRS) single track conference addresses researchers and practitioners from universities, research institutes, industry, government organisations, and engineering companies. It consists of high quality, previously unpublished papers, presented either orally or as posters. Contributions should present recent research and applications focusing on, but not restricted to the following topics:

- Automatic and semi-automatic object extraction
- Models and strategies for object extraction from aerial images, satellite imagery, surface models, images from video cameras, and laser-scanner data
- Sensor and data fusion including the use of information from geographic information systems (GIS) and computer aided design (CAD)
- Generation of digital surface models and shape-from-X
- Automatic sensor orientation and calibration (off- and online, geo- and radiometric), image based rendering, and augmented reality
- Integration and interaction of digital systems for image analysis and GIS
- Industrial vision systems including real time object recognition
- Quality control and performance evaluation

All submitted papers will undergo a rigorous review process. Reviewing will be carried out double blind by the Program Committee. Proceedings will be published in the International Archives of Photogrammetry and Remote Sensing, Volume XXXIV, Part 3/W8.

Important dates are:

Deadline for submission of full papers	**17 March 2003**
Notification of acceptance	2 June 2003
Deadline for camera-ready manuscripts	28 July 2003

For further information visit the conference web page: www.remotesensing-tum.de/pia03 or sent Email to pia03@remotesensing-tum.de

We are looking forward to seeing you in Munich.

New Administrative Secretary of Commission IV

Francine Cusson, the Administrative Secretary of Commission IV has moved to a another Division within Geomatics Canada and assisting with the works of the Commission might be a little difficult. Therefore, Florin Savopol will be the new Administrative Secretary of Commission IV. Florin is active in the ISPRS community and helped with the organisation of Com IV Symposium. Florin's co-ordinates are:

Florin Savopol.

Florin Savopol
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I wish to thank Francine for all her help and welcome Florin on-board.

Best regards,
Costas Armenakis

A Joint ISPRS-CNES Initiative

An 'HRS Study Team' for assessing DEM production with HRS data

By Manfred Schroeder, Chair, ISPRS - WG 1/2 'Sensor Calibration and Testing',
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Following the launch of SPOT 5 on 4th May 2002 all instruments on board of the satellite have been tested during the commissioning phase and declared operational. The assessment of the High Resolution Stereoscopic instrument (HRS), made by CNES with Spot Image and IGN Espace, has proven that high accuracy DEM could be derived from HRS data. The DEM derived from HRS could be acquired from Spot Image but HRS raw data are not delivered with the DEM. Nevertheless CNES and Spot Image have agreed to satisfy scientific requests from the photogrammetric and remote sensing community to test the capability of HRS data for DEM production. For this purpose HRS data will be made available for an international HRS assessment project.

An offer by CNES to use the framework of ISPRS for this international assessment project was accepted by ISPRS Council and a first announcement of this project was made during the ISPRS Commission I Symposium at Denver in November 2002.

The HRS Scientific Assessment Program (HRS SAP)

Objectives

The HRS Scientific Assessment Program should allow the user community, within ISPRS, the opportunity to test HRS data, not usually available, for generating DEM and for comparison with other DEM generation methods appropriate for their application domain. It should provide CNES an international scientific performance assessment of the HRS which will be taken into account in future programs.

Organisation

This program will be jointly organised by ISPRS and CNES within an ' HRS Study Team '. This Study Team is open to ISPRS Working Group members (and especially to participants of WG I/2 activities on 'Sensor Calibration and Testing') who are accepting its rules and obligations. (See below.)

The Study Team is managed by a Secretariat, co-chaired by Manfred Schroeder (ISPRS Chair WG I/2) and Alain Baudoin (CNES). Members of the Study Team are either Principal Investigators if they can provide to the Study Team, reference data (Ground Control Points, accurate DEM, ..) on a test area, or Co-Investigators if they work on the same data of a PI.

The Study Team Secretariat will co-ordinate and support the research activities of the Study Team members.

Main Steps and Schedule

The assessment program will be performed in five steps with the following tentative schedule:

1 HRS Study Team constitution (with Principal Investigators)
- Definition of the HRS data set, to be acquired on known areas (where accurate reference data is available): by March 2003

2 Acquisition and delivery of the HRS data (by Spot Image on behalf of CNES) to Principal Investigators and agreements with Co-Investigators: by August 2003
3 Provision of ground reference data by Study Team Members: by August 2003
4 Exploitation and assessment of HRS data: according to investigators timing (by the beginning of 2004)
5 Reports to the Study Team and results presentation to ISPRS at ISPRS Congress in Istanbul (July 2004). First results could be presented in the SPOT 5 Colloquium (to be organised at the end of 2003)

HRS Study Team Rules and Obligations of Its Members

The HRS Study Team is open to ISPRS members who will accept the following rules and obligations:
A membership solicitation should be sent to the HRS Study Team Secretariat before 15 February 2003. Either to be a Principal Investigator or a Co-Investigator of the HRS assessment program.
Members will be accepted by the Secretariat if they agree to use HRS data on commonly agreed areas and to share with other members of the HRS Study Team these HRS data and Ground Reference data.
CNES with Spot Image and IGN will make their best effort to acquire HRS data on test areas defined commonly with the Principal Investigators. They will provide, free of charge, HRS data and related auxiliary data to those Principal Investigators.
The Principal Investigators agree to deliver, free of charge, HRS and Ground Reference data to any other member of the HRS Study Team.
The Principal Investigators and the Co-Investigators agree to use the HRS and ground reference data only for scientific purposes.
All members of the HRS Study Team agree to deliver to its Secretariat:
- A DEM derived from HRS
- A report describing methods used for the generation of DEM and any other derived products (slopes, etc.)

and to present results of his/her assessment at a dedicated ISPRS workshop or at the ISPRS Congress 2004 in Istanbul.
They accept the use of their DEM data derived from HRS, (for example for comparison studies) by any other member of the HRS Study Team.

Membership Request (for Principal Investigators)

Send your request to: alain.baudoin@cnes.fr and Manfred.Schroeder@dlr.de
with the following information:
- Name, organisation, address, phone and fax numbers, Email
- Area of interest (geographical coordinates)
- Available Ground Reference data, which could be shared with other HRS Study Team members

and with your acceptance of the HRS Study Team rules and obligations

Workshop on '3-D Reconstruction from Airborne Laser Scanner and InSAR Data' Dresden, Germany from 8-10 October 2003

Organised by
- ISPRS commission III working group 3 (George Vosselman, Hans-Gerd Maas)
- OEEPE commission I: Sensors, Primary data acquisition and Georeferencing (Andre Streilein)
- Institute of Photogrammetry and Remote Sensing, TU Dresden

Scope

Airborne laser scanning (or lidar) has established itself as a standard method for the acquisition of precise and reliable digital elevation model data within very short time. Beyond the primary tasks in elevation model data capture and digital terrain model generation, laser scanning has also proven to be a very suitable tool for general 3-D object modelling tasks. The workshop, held at Dresden Technical University, will bring together an interdisciplinary of researchers, system developers, data providers and end users to discuss and demonstrate recent developments in laser scanner data processing, the potential of the technique and future trends in sensorics and data processing.

Terms of Reference
- Filtering, segmentation of point clouds
- Digital surface models, digital elevation models, 3-D city and landscape models
- 3-D building reconstruction
- Derivation of vegetation parameters
- Earth surface characterisation
- Calibration and validation, laser scanner strip adjustment
- Data fusion (integration of optical images, pulse reflectance, multi-pulse data, SAR data, map information)
- Applications (flood prediction, coastal mapping, urban planning, telecommunications planning, monitoring of power lines, noise and gas propagation, tax verification, real estate sales, ...)

First Announcement and Call for Papers

Program Committee

Bryan Blair (NASA/GSFC), Elmar Csaplovics (Dresden Technical University), Norbert Haala (University of Stuttgart), Karl Kraus (Vienna Technical University), Hans-Gerd Maas (Dresden Technical University), Toni Schenk (Ohio State University), Matthias Schardt (Johanneum Research, Graz), André Streilein (Swiss Federal Office of Topography), George Vosselman (Delft Technical University).

You are invited to submit papers on these topics or related fields. Papers selected in a double-blind review process will be contained in the workshop proceedings which will be published in the ISPRS Archives.

Deadlines

Paper submission: 15-5-03
Notification of authors: 15-6-03
Camera ready paper: 31-7-03

Paper Submission, Contact, Further Information

Prof. Dr. Hans-Gerd Maas, Institute of Photogrammetry and Remote Sensing, Dresden University of Technology, Helmholtzstr. 10, D-01069 Dresden, Germany, Tel. +49-351-4633 2859, E-mail hmaas@rcs1.urz.tu-dresden.de

The photograph shows from left to right: Messrs M. Orhan Altan, Ian J. Dowman, Ammatzia Peled and O. Kivanc. They promoted the ISPRS Congress 2004 which will be held in Istanbul, Turkey, at the Intergeo 2002, which was held in Frankfurt, Germany from 16-18 October this year.

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** Revised August 2002*