

## ISPRS Society



### Meeting of ISPRS Council

London, 8 and 13 September 2001

By Ian Dowman, Secretary General ISPRS

#### Attendees

President	John Trinder (JT)
Secretary General	Ian Dowman (ID)
First Vice President	Lawrence Fritz (LF)
Second Vice President	Gerard Begni (GB)
Congress Director	Orhan Altan (OA)
Treasurer	Ammatzia Peled (AP)
Journal Editor (for item 5)	Manos Baltasvias (MB)

#### 3. Review of previous Council Meeting

Item 4 - raise profile. JT noted that FIG is doing this effectively through its newsletter. The ISPRS brochure is important and should be given high priority. More news with photographs of Council activities with Members should go into Highlights.

#### 4. Policy Discussion

##### 4.1 ISPRS Foundation

LF had produced revised Bylaws and documentation on necessary publicity material. Registration should give tax advantages to donors, but recognition may be required in each country for this to occur. Further action on registration is needed before this matter can be settled. Sponsorship was needed for a brochure.

4.2 Strategic Plan Actions - Council reviewed the actions. 1-7 Young author awards to be followed up at meeting of StMs at Intergeo in 2002

#### MINUTES

##### 1. Opening

JT welcomed Council and thanked ID and UK Committee for hosting the meeting.

##### 2. Approval of Agenda

At the opening, JT reviewed the agenda and noted the need to cover, on the first day of the meeting, certain items that were on the Agenda of the Joint meeting tomorrow.



Council and TCPs at the main gate of UCL (photo by Ziggy Williams).



*The Council and TCPs and the accompanying persons queued at the 0 meridian in Greenwich.*

4-3AP to co-ordinate drive for sustaining membership

6-3 Sustainable development indicators. ICSU application had been made but was unsuccessful; this would be reactivated when appropriate by JT.

7-2 Marketing Manager. Council reviewed the job description for the Marketing Manager prepared by JT. Council considered that there were two tasks involved: a Marketing Manager to develop plans and procedures and a PR person to execute the plan. Council decided to invite proposals for an ISPRS marketing plan.

Council reviewed the revised matrix of ISPRS activities with common keywords prepared by JT. These had been presented at the JBSIS. The matrices would be presented to TCPs at the JM who would be requested to use them in planning activities.

4.3 Developing contacts with IEEE-GRSS

JT introduced his paper and noted that he had been invited by the IGARSS President to develop joint activities. Vern Singhroy will organise an ISPRS meeting at IGARSS in Toronto and we should look for further opportunities for ISPRS sessions at IGARSS Meetings, such as in Toulouse in 2003

4.4 GB introduced his paper International Policies and Treaties. It is too late to prepare an ISPRS session at ICORSE in Buenos Aires in 2002, but we should be able to participate if a session is organised. EARSeL had set up a SIG on Multilateral Environmental Agreements and GB is to chair this. The SIG would be formally approved at the EARSeL Meeting in Prague 3-8/6 2002. It was decided to approach EARSeL and suggest a joint EARSeL/ISPRS SIG.

4.5 Raising the profile of Remote Sensing in ISPRS

It was agreed that we need to build on the relationship with ICORSE and IGARSS. We need to have further discussions with ICORSE officers and motivate them to act as part of ISPRS.

## 5. ISPRS Publications

5.1 Journal (MB in attendance)

Associate Editor

MB made the case for an associate editor on the grounds of reducing his workload (extra work was causing delays in handling papers); the need for somebody to be trained to eventually take over from him; and to give better thematic coverage. Several people had been approached without success. This item would be discussed further by Council and MB.

Book series

MB presented proposals, but gave no details regarding costs or returns. LF suggested that we have a publications committee.

5.2 Bulletin

This would be discussed at the JM.

It was essential to reduce wastage in distribution of Highlights. Council should increase the number of individuals on the mailing list and reduce the number to Members receiving bulk deliveries.

5.3 Archives

ID reported that the contact with GITC has been signed. A note on arrangements for distribution had been prepared for Highlights and the homepage.

#### Guidelines for publication

OA introduced 3 versions. It was agreed that 6 pages should be the length for standard papers, 12 pages for invited papers. The version proposed by LF would be adopted but with centred titles. TCPs should note that they might need to adapt the guidelines for specific production requirements.

#### 5.4 Home Page

Some points were noted: Flash pictures were a good idea but had limitations; It is important to have easy access to Symposia and Congress pages from the home page; the home page needs to be more friendly to new users. The possibility to include advertising should be kept under review.

#### 5.5 Blue Book and database

ID reported that he was still preparing the database with GITC. Updating of the mailing list should be helped by putting a card into Highlights annually and asking for responses. ID to request updates to Members' details. The number of individual members in each Member organisation should be included in the Blue Book. AP and RP presented a front end for the data base which was approved by Council.

#### 5.6 Orange Book

The Orange Book was reviewed and modified. This would not be printed again at the moment, but the master version and web version would be updated as required. Model contracts for Commission Symposia and the Congress will be added when they are finalised.

### 6. Congress Plans (OA)

#### 6.1 Review of planning for technical sessions

Plans for the technical session at the Congress were reviewed and proposals were made to OA for modifications.

#### 6.2 National reports

These will be called to 'Member' Reports. Members would be asked to submit a 'blank abstract' to indicate that a report will be submitted. Length of the report should be 8 pages for category 6-8, 6 for all other categories. The Member Reports would be published in Part 6 of the Archives.

### 7. Review of Technical Commissions

#### Review of Commission activities

Council reviewed the reports from the TCPs at the joint Meeting and generally expressed satisfaction with the level of activities of the Technical Commissions, and with the plans for the symposia in 2002. Some Working Groups were not as active as others and TCPs were asked to encourage more activity.

#### 7.2 Summary of discussions with TCPs

Council noted conclusions from the JM that TCPs should be elected at the beginning of Congress, possibly have a workshop for candidates before Congress, and another workshop after the congress to discuss ToRs of WGs. This item to be carried forward. Council prefers not to allow bids for Commissions and Congress.



*The Council (except Gerard) at the world clock at the prime meridian in Greenwich.*

Council noted that there was general satisfaction with the structure of the Commissions, but there was some discussion on the balance between science and applications. TCPVII will review the structure of his commission to see if there is scope for change.

Council felt that TCPs spent too much time presenting their reports to Council, written reports should be circulated in advance and we should concentrate on issues and problems at the meeting.

ID noted that there were a number of WG Commissioning forms missing.

## 8. ISPRS Membership (ID)

8.1 ID reported on status of membership.

8.2 Associate members  
 It was agreed that new members would not be accepted until their first subscription had been paid. It was agreed to accept NREM subject to payment of first subscription.

8.3 Sustaining members  
 It was agreed to have a drive on attracting new Sustaining members. We should target larger companies which were not already members.

ID reported that the ballot for increasing subscriptions of Sustaining Members had been approved. FR to change the information on the Home Page. Council approved membership of e-HD.com

## 9. Financial Affairs (AP)

AP outlined our current investments, Council agreed that these should be unchanged. Council agreed to be tough on Associate and Sustaining members in default on subscriptions. AP reported on expenditure and the budget. Council agreed that our financial state was generally healthy. Council noted that ISPRS had agreed to support the ISPRS workshop in Dar es Salaam, and that MB should provide an estimate of costs immediately and a statement of expenditure afterwards. Council discussed the ISPRS fund for scientific initiatives. AP would organise an announcement of opportunity for funding.

## 10. Inter-Organisational Activities

10.1 COPUOS  
 It was noted that GB and TS had agreed to be members of action teams to review UNISPACEIII recommendations. TS would lead one.

10.2 CIPA  
 Heinz Rüter had resigned as an Ordinary member of CIPA, Council are asked to suggest a new member.

10.3 CEOS  
 ID to follow up actions of JM to have better co-ordination of ISPRS/CEOS activities.

10.4 ICSU  
 ISPRS had been asked to contribute to ICSU Scientific Position Statements. IPAC could make input to topic 2, 'Access to Data and Databases' and Commission VII to topic 8, 'Sustainable Development'. The UNISPACE III statements could also be relevant to the topic on 'Access to Data and Databases' and the book on Global Databases by Shibasaki and Hastings could be relevant to 'Sustainable Development'

ISPRS Membership of ICSU was discussed at the JM and TCPs had agreed to solicit statements from their national representatives.

ISPRS had been invited to contribute to ICSU's preparations for the World Summit on Sustainable Development. It was agreed that we should participate, that ID will be the point of contact, and that he should seek input from TCPVII and ISAC.

10.5 ICET/UATI  
 Council decided that ISPRS should withdraw from UATI.

10.6 ISO/OGC  
 See actions from JM

10.7 ICORSE  
 A planning meeting would be held in Buenos Aires, 18th-19th October. LF will attend and also discuss arrangements for a meeting with ICORSE Board, as well as for the ISPRS Council meeting to be held during the ICORSE conference. So far ISPRS sessions on Education (Commission VI) and on LIDAR (Commissions I and II) have been arranged. Further sessions on Global Data bases (Ryutaro Tateishi and David Hastings) and environmental issues (Sandra Maria Fonseca and Mark Imhoff) have been requested. JT, Tony Milne and others were suggested as speakers on Sustainability Indicators.

10.8 COSPAR  
 ISPRS had been requested to participate in and sponsor the COSPAR meeting during the World Space Congress, 10-19 October 2002. Council was unwilling to provide funding but we should look for someone who is willing/able to participate and sponsor a session.

10.9 Joint Board of Spatial Information Societies  
ID reported on the meeting held in Budapest.  
Council agreed to co sponsor an IUGG meeting in Sapporo and to give 2 or 3 young author awards.

#### 11. Reports from Council

Written reports were received from JT, LF, ID, GB.

#### 12. Review of Actions on Council

The action items were reviewed and updated.

#### 13. Other Business

Statutes and bylaws - JT reminded Council that these were the responsibility of 2VP, and an item should be included on the agenda of the next meeting.

#### 14. Next Council Meeting

The next Council meeting will be held in Buenos Aires during the ICORSE conference from 8-12 April, 2002.

#### 15. Close

JT closed the meeting with thanks to all for attending and for useful discussions.



## Report of the Second Meeting of the Committee on Development Information (CODI-2)

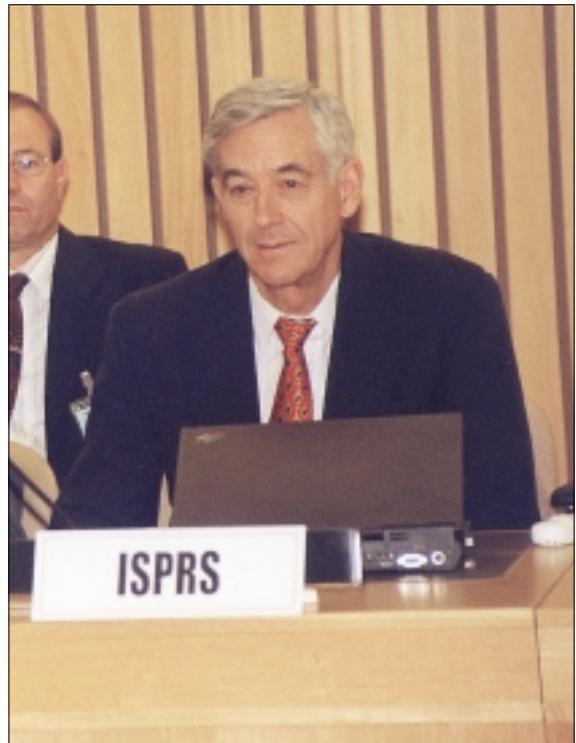
*At the UN Economic Commission for Africa (ECA) at Addis Ababa, Ethiopia, 4-7 September 2001*

*By John Trinder, ISPRS President*

The activities of the former UN Regional Cartographic Conferences in Africa are now undertaken in a Sub-Committee on Geoinformation of the Committee on Development Information (CODI) of the ECA in Ethiopia. ISPRS President John Trinder was invited to attend the meeting as an observer, together with representatives from other NGOs. He presented a paper on "Developments in the Acquisition of Spatial Data from Imagery".

The meeting comprised several plenary sessions, bringing together all representatives of CODI, while the Sub-Committees of CODI, including the Sub-Committee on Geoinformation, met for special sessions at other times. There were 22 National Members represented at the Sub-Committee on Geoinformation, while there were 21 observers, all of whom contributed to the presentations and discussions. The agenda included the following items: organisation of work and election of officers, progress reports, policy issues, technical issues, National Spatial Data Infrastructure, Applications – case studies, report of activities in the area of Geoinformation from 2000-2001, the program of work for the period 2002-2003, and resolutions.

The report of the Sub-Committee included amongst other matters, the following points:



ISPRS President J. Trinder at UN-ECA.

- There is a need to bring proper arguments to governments and policy makers in order to make geoinformation a central issue. The method by which technocrats should convince the decision makers was largely left unanswered.
- There is a need to co-ordinate development projects in a country and integrate geographic information components.
- Information provided at regional level is not sufficiently accurate to satisfy national and local levels
- Concerns were expressed on the management of regional information systems, since countries are facing enormous problems in managing their own problems
- Pricing policies and cost recovery are crucial for institutions in Africa, and they should be explored within the framework of SDI
- There is an urgent need for the funding and development of a national spatial data infrastructure

An excellent seminar, comprising five presentations, was given on SDI by representatives from GSDI/FGDC Steering Committee, the Permanent Committee for

Spatial Data Infrastructure for the Americas, Africover and UNEP.

Resolutions of the Geoinformation Sub-committee covered the following topics:

#### 1. Spatial Data Infrastructures

That Member States should establish their National Spatial Data Infrastructure (NSDI), and Member States should participate in the work of appropriate technical committees of ISO TC/211.

#### 2. Policy

That Member States should develop an integrated GI policy as an integral part of the National Information and Communications Policy and related actions.

#### 3. Capacity Building

That regional centres involved in GI training and education should be strengthened and resources improved to cope with the training and retraining of personnel, in co-operation with NGOs such as ISPRS.

## ISPRS Technical Commission VII

*Announces*

**International Symposium on Resource and Environmental Monitoring**

*Hyderabad, India, December 3-6, 2002*



Web-site: [www.commission7.isprs.org](http://www.commission7.isprs.org)



### **SIGNATURES AND MODELLING**

- Sustainable Agriculture
- Integrated Resource Management
- Human Settlement Analysis
- Disaster Management
- Global Change

### **INTER-COMMISSION SESSIONS**

- Sensor Calibration and Testing
- Spatial Data Infrastructure
- Global Environment Databases
- Internet Resource and Distance Learning

### **PRE-SYMPOSIUM TUTORIALS**

- Sustainable Agriculture
- Integrated Coastal Zone Management

### **CONTACT ADDRESS**

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## A New Web Database of Links on Geomatics

Are you looking for educational resources in ISPRS fields of interest accessible via the WEB? Working Group VI/1 "Education and Training" maintains on the web page <http://www.commission6.isprs.org/wg1> a user-friendly database of education-related documents, activities and links structured as follows:

- Educational material: tutorials, tutorials at ISPRS events, courses, glossaries and dictionaries of technical terms, acronym lists, CDs and movies, links and resources for elementary, secondary and life-long education, distance learning, on-line processing
- Educational and training opportunities
- Educational institutions
- Publications and bibliography: books, journals, proceedings, bibliographic and reference lists, reports, newsletters, publications on education, thesis, product literature and white papers, presentations
- Free software
- Commercial software systems
- Data
- Missions and instruments
- Education-related links

Links are divided into several categories (photogrammetry and remote sensing, spatial information systems, computer vision etc.) and include a short description of provided material. The database is still in progress and will be continuously updated. In the near future, we plan to develop an WEB-based and searchable database of publications on Geomatics.

If you wish to include your material in the database, please contact the WG secretary ([jana@geod.baug.ethz.ch](mailto:jana@geod.baug.ethz.ch)). In particular, we encourage lecturers to submit tutorials given at ISPRS events and thus make them further on available for educational purposes.

Jana Niederoest, WG VI/1 Secretary  
E-mail: [jana@geod.baug.ethz.ch](mailto:jana@geod.baug.ethz.ch)  
Web-site: <http://www.commission6.isprs.org/wg1>



International Society for Photogrammetry and Remote Sensing - ISPRS  
Commission III „Theory and Algorithms“ - Symposium 2002

### PCV'02 - Photogrammetric Computer Vision

September 9 - 13, 2002

Graz Congress, Graz, Austria

We invite you to attend the ISPRS-Commission III Symposium 2002, to present scientific work or to offer a tutorial. The Symposium will be organised by the 8 Working Groups of Commission III and one Inter-Commission-WG:

#### Working Groups

- III/1: Sensor Pose Estimation
- III/2: Surface Reconstruction from Images
- III/3: 3-D from Airborne Laser Scanner and InSAR
- III/4: Automated Object Extraction
- III/5: Algorithms for Industrial Vision
- III/6: Multi-Source Vision
- III/7: Modelling Large Scale Urban Environments
- III/8: Reliability and Performance of Algorithms
- IC V/III: Image Sequence Analysis

#### Topics to be addressed

We request submissions on the topics of the 9 Working Groups and on additional subjects relating to the Terms of Reference of Commission III, thus the Theory and Algorithms for Photogrammetry and Remote Sensing.

#### Program

##### Tutorials:

9<sup>th</sup> of September, 2002. At Graz Technical University, Inffeldgasse 16.

##### Scientific Program:

10<sup>th</sup> to 12<sup>th</sup> of September, 2002. At Graz Congress, in the historic center.

##### Post-Symposium Tour:

13<sup>th</sup> of September, 2002. To be defined.

#### Call for Papers – important dates

For oral presentation, a full paper is to be submitted for a double blind peer-review.

For poster presentation, an extended abstract of about 1000 words suffices for a simplified review.

Submission deadline: **March 15, 2002**

Acceptance notification: **May 31, 2002**

Final manuscript due: **July 31, 2002**

All accepted papers will be printed in the proceedings and will be available at the Symposium.

#### Contact

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For up to date information see the symposium WWW-page:

<http://www.icg.tu-graz.ac.at/isprs>

## Report of ISPRS Workshop 'High Resolution Mapping from Space 2001'

Hanover, Germany, 19-21 September 2001

By Daniela Poli, Institute of Geodesy and Photogrammetry, ETH Zurich, Switzerland

The ISPRS Workshop on High Resolution Mapping from Space 2001 was successfully held in the University of Hanover, Germany, from 19th to 21st September 2001, following the OEEPE Workshop on Integrated Sensor Orientation (September 17-18, 2001). It was hosted by the Institute for Photogrammetry and GeoInformation and co-organised by the ISPRS Commission I (Working Groups I/2 'Sensor Calibration and Testing' and I/4 'Platform and Sensor Integration') and Commission IV (Working Group IV/7 'Data integration and digital mapping'). The Workshop came just few days after the terrible events that occurred in the United States. In a letter sent to all participants some days before the beginning of the Workshop, the organisers explained how they were 'faced with the difficult decision to either cancel the workshops or to continue with the preparations', knowing that the thoughts of the participants were 'focused on much more important things than science and technology'. Nevertheless, they decided that the workshop would take place, not allowing 'any group of extremists to completely disrupt everybody's life and to bring it to a standstill', hoping that this would be 'the right decision for science and technology'.

A total of 57 participants came from 16 countries. Unfortunately most of the expected scientists from America did not join the Workshop, bringing about small adjustments to the programme. One keynote speech and 32 oral presentations, divided into 9 sessions, reported the most recent developments concerning not only high resolution mapping from air and space with optical and radar instruments (including calibration aspects), but also topographic mapping, image processing, visualisation and semantic interpretation.

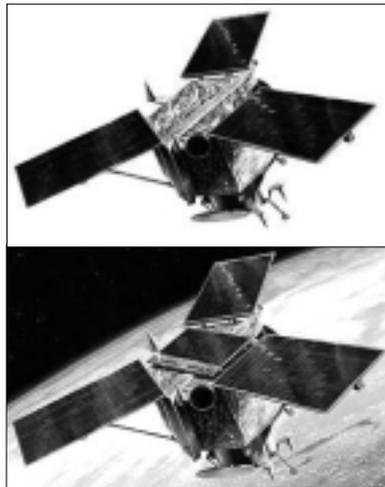
The opening ceremony, chaired by Christian Heipke, included welcome speeches by Peter Wriggers, the Dean of the Faculty of Civil Engineering and Surveying of the University of Hanover and John Trinder, ISPRS President. Subsequently, descriptions of objectives and terms of reference of the WGs involved in the Workshop were presented by the following Chairmen: Manfred Schroeder for WG I/2, Karsten Jacobsen for WG I/4 and Michael Hahn for WG IV/7. Ian Dowman, ISPRS General Secretary, gave

a very informative keynote address on the rapid development of high resolution data, its characteristics and possible applications. The technical papers covered the full spectrum of high resolution mapping. The following highlights their main features.

In the field of high-resolution sensors, great attention was addressed to the session, chaired by Gottfried Konecny, on the potential use of Ikonos, that combines very high resolution and multispectral data. The investigations on the radiometric and geometric characteristics of Ikonos GEO products, both conducted in ETH Zurich and the University of Melbourne, showed that, after an adequate pre-processing, this imagery can yield sub-metre geopositioning accuracy and provide orthoimages that satisfy the requirements for 3D building extraction. The potential of the Ikonos imagery was confirmed by the Canada Centre for Remote Sensing, who produced a high resolution DEM from the same kind of images.

The increasing use of CCD linear sensors, both for airborne and space platforms, was demonstrated in the 'Line Detector Camera' session, chaired by Michael Hahn. Airborne multi-line pushbroom scanners (ADS40 and HRSC-A) were described and two sensor models developed for this class of sensors (a new approach for indirect orientation, based on 3D free-form curves and a general sensor model for multi-line CCD sensors) were proposed. Matching and orthophoto generation were also investigated.

Concerning the sessions chaired by Ian Dowman and John Trinder on 'Current and Future Missions', we can mention: from DLR, the BIRD Payload Platform, which is planned to detect hot spot events using infra-red cameras, and the Shuttle Radar Topography Mission, that flew in February 2000 to provide DEM and image products with a global coverage. Moreover, RapidEye AG, also from Germany, is planning to launch a 4-medium resolution satellite constellation mainly for agricultural monitoring at the end of 2002. Another planned mission, the Pléiades from CNES, will consist of different types of satellites, including optical high-resolution and SAR-X components. The discussions



IKONOS Satellite.

about these missions were focused on the availability of data, mission and product costs, achievable accuracy and range of applications.

The 'Calibration' aspects were taken into account in the session chaired by Emmanuel Baltsavias, in which the specific cases regarding MOS and a TDI camera were investigated.

Different interesting 'INSAR' applications were presented in the session chaired by Manfred Schroeder. ERS-1/2 Tandem data were used to produce a large area digital elevation model over central Europe, to upgrade the elevation data over Australia and to detect some underground coal mining in the German Ruhrgebiet that caused significant surface movements.

Older sensors such as Corona KH4B and MOMS-2P were discussed in the 'Topographic Mapping' session, chaired by Frank Scholten. Even if these sensors are no more operational, a large amount of data is available and can be used for the extraction of DEMs and orthoimages.

The Workshop didn't deal only with image acquisition and photogrammetric processing, but also covered other complementary steps, like 'Image Processing and Visualisation' (session chaired by Karsten Jacobsen) and 'Interpretation/Semantic Applications' (session chaired by Christian Heipke). In these sessions an automatic method for digital image balancing, a 3D viewer for interactive visualisation of geodata and a method for object orientated classification, based on topological rules, were described. As concerns the interpretation topic, four applications were presented: extraction of remote sensing parameters for erosion control, monitoring of reed population, land cover classification and desertification monitoring.

The conference proceedings are available on CD and can be ordered at the Institute for Photogrammetry and Geoinformation of the University of Hanover (<http://www.ipi.uni-hannover.de>).

## ISPRS Official Symposium Dates 2002



July 09-12	Ottawa, Canada	TC IV Symposium
August 20-23	Xian, China	TC II Symposium
September 02-06	Corfu, Greece	TC V Symposium
September 09-13	Graz, Austria	TC III Symposium
September 16-18	Sao Jose dos Campos, Brazil	TC VI Symposium
November 08-15	Denver, USA	TC I Symposium
December 03-06	Hyderabad, India	TC VII Symposium



## Anatolia - The cradle of Civilisations

By M. Orhan Altan, ISPRS 2004 Congress Director

ISTANBUL

ISPRS  
2004

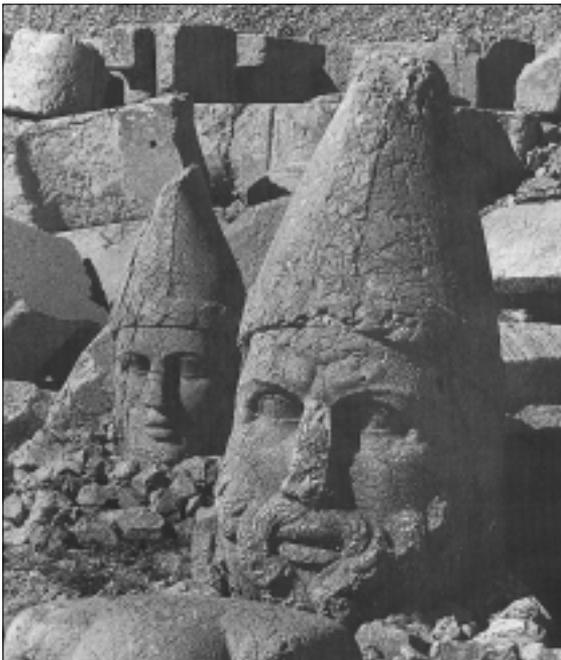


In ancient times three main tribes from the mainland of Greece migrated to the western shores of Anatolia, deeming the area to be richer in agricultural and commercial potential. The three tribes were the Ionians, the Aiolians and the Dorians. The part of Anatolia, which they divided among themselves, stretched all along the western shores and included both the hinterland and the offshore islands. Roughly speaking the archaeological excavations carried out in these areas revealed that the three tribes occupied an area stretching from Knidos in the southwestern corner of Anatolia, through Izmir or Smyrna, and north to just below the Hellespont. Though these tribes all originated from the same geographic region, they valued their independence fiercely and did not join in an administrative or military alliance, which meant that in the 13th century B.C. they all fell to the invading Persian hordes. They finally threw off the Persian yoke around 480 B.C. but then they were further weakened by the Peleponesian wars, which went on for about 25 years,

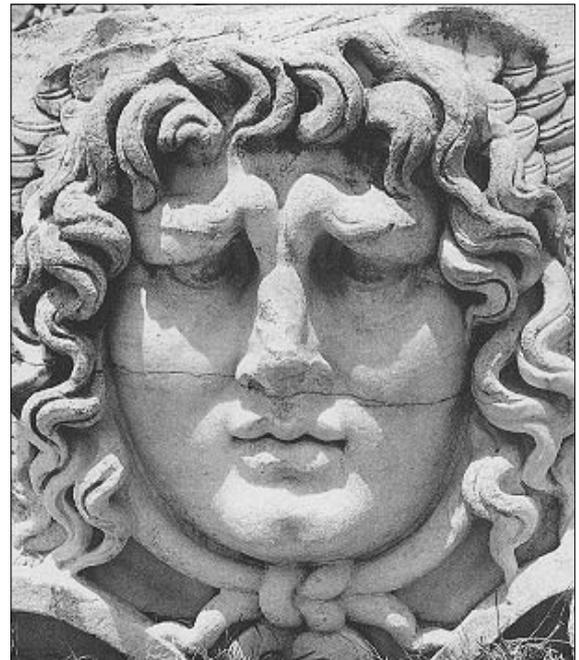


*Pergamon Asclepieion.*

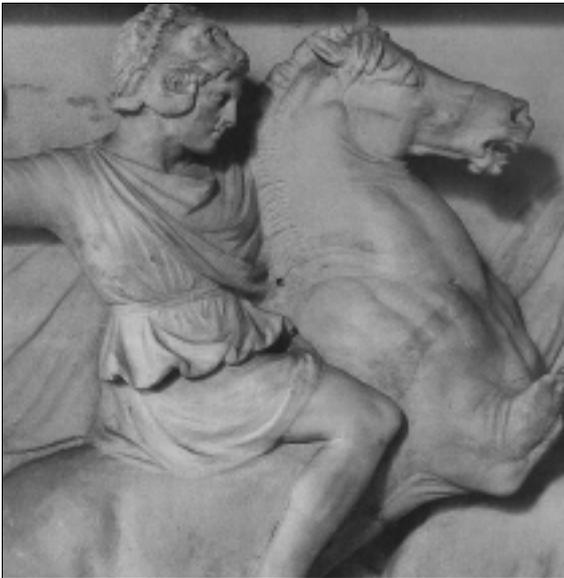
peace of a sort finally being established around 400 B.C. When the three tribes crossed the Aegean and settled in Anatolia, they brought with them their Hellenic culture and concepts of art which together with the prevalent Anatolian cultures developed side by side, so that Anatolia as a region finally surpassed Mesopotamia and Egypt as the prime centre of culture. To cite an example of the cross fertilisation of Anatolian and Hellenic cultures, we can refer to the cult of the mother goddess Cibebe, which was reincar-



*Nemrud, heads of Zeus and Antiochos.*



*Didima, head of Medusa.*



*Alexander the Great at war.*

nated as the goddess Artemis in Greek mythology. Members taking one of the pre or post congress tours can visit the temple of Artemis, which was one of the seven wonders of the ancient world at the site of Ephesus. The much-photographed statue of Artemis as the mother goddess is also on permanent display at the neighbouring museum of Selçuk.

While we are on the subject of the seven wonders of the ancient world, another of the wonders can be seen at the port and tourist resort of Halikarnassus known today as Bodrum. It was here that the ruler of Caria, Mausolos built a burial temple for his much loved wife, queen Artemisia which covered an area of roughly 5000 sq. meters while the main edifice rose to a height of nearly 50 meters which was a great achievement for those times. The edifice was called a Mausoleum, after its perpetrator and the word has since passed into nearly all the western languages.

Together with its architectural remains, both religious and secular, Anatolia has had more than its fair share of world famous scholars and erudite persons who have influenced the sciences. We would like to mention but a few of these household names, as space rather restricts our list.

THALES of Karia, a renowned geometrician who among other achievements foretold the total eclipse of the sun for the 28th of May 585 B.C.

ANXIMANDROS of Miletos, natural scientist, scholar of physics and geographer.

APOLLONIOS of Cappadocia, whose religious teachings would have replaced Christianity had the power and influence of Rome not been so powerful.

ANAXAGORAS: The first sophist thinker who also detailed the workings of solar and lunar eclipses. Also known for the earliest experiments on anatomy.

APOLLONIUS of Perge. Mathematician who pioneered research into the mathematics of cones.

AGATHARCHIDES of Knidos. Historian and geographer, author of the 10 volume History and Geography of Asia.

ARANIUS of Nicia, author of the history of Alexander the Great. His opus on Gordias, the Frigian and King Midas are still source material.

ASCLEPIADES of Bruse, the greatest medic of ancient times, the word ASCLEPION or hospital is named after him.

CTESIAS of Knidos, based on Persian archives his historical writings clash with those of Herodotus of Halikarnassus.

DIOGENES of Sinope, philosopher and thinker. Known for his wanderings in the port carrying a lighted lantern in broad daylight. When asked to explain, he replied, "I am looking for an honest man."

PLATO. No need to say anything about this scholar as any schoolboy will have learnt about him!

EUDUXOS of Knidos. Geographer and astronomer who developed two calendars based on solar reckonings. GALENOS of Pergamon, one of the greats in medical science in ancient times.

HERADOTOS of Halikarnassus whose opus on history also reflects much on the social life of the period.

HOMEROS of Smyrna, known for his Iliad. Need we say more?

LUCIANOS of Samsat, a literary giant whose sarcasm was greatly renowned.

HERECLITOS of Ephesus, a leading thinker of his time remembered for his dictum, "Panta Rhei"- translated as "All Flows".

PAVSANIAS of Manissa, traveller who described all the ancient temples.

PROTOGENES, his paintings looked so real that it is said that birds used to land on the branches of the trees he painted.

STRABON of Ameseia, considered to be the father of geography with his 17 volumes of GEOGRAPHILIA. Also author of historical works, containing great social and religious details.



*Report of TC VI-WG 1 & 3 Seminar 'Education and Technology Transfer in Photogrammetry, Remote Sensing and Spatial Information Systems in Latin America'*

**By Tania Maria Sausen, Technical Commission VI President**

The TC VI-WG 1 & 3 Seminar 'Education and Technology Transfer in Photogrammetry, Remote Sensing and Spatial Information Systems in Latin America' was held in Porto Alegre, Rio Grande do Sul State, Brazil, in the PUC University Convention Centre on 8-10 October 2001. This seminar was held together with the XIX Brazilian Cartography Congress and organised in partnership with the Brazilian Cartography Society. Around 150 people have attended the seminar.

The seminar was divided into two technical sessions, one tutorial, one special session, one panel session, and one poster session:

- Opening session: ISPRS and UN Activities on Education: ISPRS Activities in general and in Latin America; TC VI Activities in general and in Latin

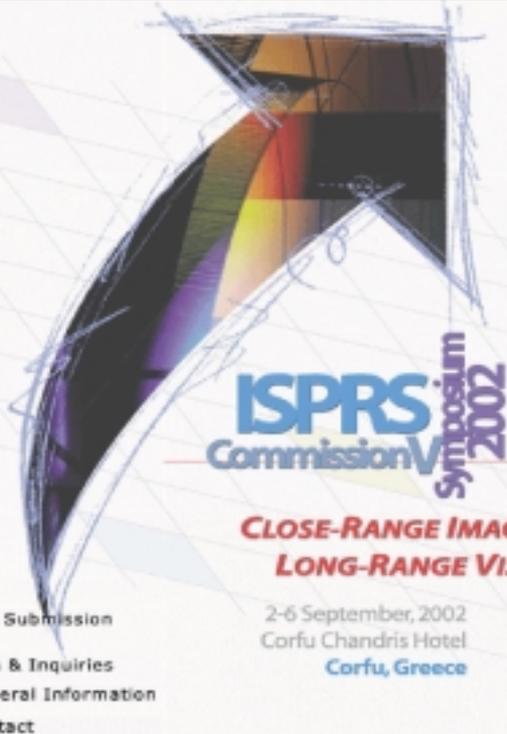


ISPRS Trinder addressing the seminar.

America: CIPA 2003 Antalya and ISPRS 2004 Istanbul Congress Announcements; UN Regional Centres for Space Science CSSTE-AP for meeting the challenges of knowledge based society



Information from Imagery  
[www.isprs.org](http://www.isprs.org)



**ISPRS  
Commission V  
Symposium  
2002**

**CLOSE-RANGE IMAGING  
LONG-RANGE VISION**

2-6 September, 2002  
Corfu Chandris Hotel  
Corfu, Greece

Find at [www.erasmus.gr/isprs/](http://www.erasmus.gr/isprs/):

- President's Invitation
- Committees
- Symposium Topics
- Abstract & Papers Submission
- Important Dates
- Information & Inquiries
- General Information
- Contact

**Deadlines**

Extended Abstract (750-1000 words):	15 Feb. 2002;	Notification for acceptance:	15 April 2002
Young Authors Paper Award:	01 June 2002;	Submission of camera-ready paper:	15 June 2002

- Educational Opportunities, Post-graduation Level, in Photogrammetry, Cartography, Remote Sensing and GIS: UNESP- Cartografia and Geodesy Master and Doctor-Brazil; Master Course in Photogrammetry and Remote Sensing; INPE Doctor and Master Course in Remote Sensing; ITC courses in RS, GIS and photogrammetry; Postgraduate studies in Geomatics in Switzerland; Doctor and Master program in photogrammetry and RS in University of Karlsruhe
- Tutorial: Mapping updating (1:50.000 and 1:25.000) using medium and high resolution RS data and GIS
- Technology Transfer and Education: Technology Transfer in Remote Sensing, Photogrammetry and GIS in Africa ; SEIRA: an Iberoeca co-operation project between Brazil and Spain, Remote Sensing and image processing teaching: an approach by internet; Remote Sensing Education: Activities in undergraduate and high school in Provincia de San Juan, Argentina; Master Course in Geodesic Science and Geoinformation Technology in Pernambuco federal University, Brazil.
- Special session: Geotechnologies for urban studies and GIS in urban areas: examples
- Panel session: Education and Technology Transfer-Exploring Opportunities for networking with similar groups
- POSTER Session: there were presented 15 papers about education in photogrammetry, remote sensing and GIS for grammar, high school and university levels.

#### Change of Officer

The Co-Chair for the WG-VIII/6 on 'Monitoring and modelling global change' has been changed.  
The present Co-Chair is Dr. Vinay K. Dadhwal. His address is as follows:

Dr. Vinay K. Dadhwal,  
Agricultural Resources Group, Remote Sensing Applications Area, Space Applications Centre (ISRO)  
Ahmedabad -380 015, India, Tel: +91-79-6761188 / 6740256, Fax: +91-79-6748813  
E-mail: dadhwalvk@hotmail.com

#### Change of Name

The National Research Council of Thailand has been replaced by the Geo-Informatics and Space Technology Development Agency.  
The address and contact person remains the same but the telephone and e-mail change as follows:  
Tel: +91-662-940-6420-9, E-mail: info@gisda.or.th

## 2<sup>ND</sup> ANNOUNCEMENT AND CALL FOR PAPERS

Joint International Symposium on GEOSPATIAL THEORY, PROCESSING AND APPLICATIONS

ISPRS COMMISSION IV SYMPOSIUM - 10th SPATIAL DATA HANDLING - 95th CIG CONFERENCE  
8-12 July 2002, Ottawa, Canada

#### IMPORTANT DATES

10th Spatial Data Handling:	Deadline for paper submission (extended):	15 October 2001
ISPRS Commission IV:	Deadline for extended abstracts:	15 November 2001
Canadian Institute of Geomatics:	Deadline for abstracts:	15 November 2001

For document submission and further information visit the Symposium's web site  
<http://www.geomatics2002.org>  
or  
[http://www.geomatics2002.org/submissions/index\\_e.asp](http://www.geomatics2002.org/submissions/index_e.asp) (document submission form)

**International Society for Photogrammetry and Remote Sensing  
Internationale Gesellschaft für Photogrammetrie und Fernerkundung  
Société Internationale de Photogrammétrie et de Télédétection**

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<http://www.isprs.org>

## **REQUEST FOR PROPOSAL TO DEVELOP A MARKETING PLAN FOR ISPRS**

The International Society for Photogrammetry and Remote Sensing (ISPRS) is a non-governmental international organisation, devoted to the development of international co-operation for the advancement of knowledge, research, development, education and training in the photogrammetry, remote sensing and spatial information sciences, their integration and applications, to contribute to the well-being of humanity and the sustainability of the environment. The ISPRS membership comprises 121 national organisations and professional Societies representing 112 nations and regions covering the Americas, Europe, Asia, Africa, Australia and Oceania; plus 49 Sustaining Members which represent corporations and research institutions. Established in 1910, ISPRS is the oldest international umbrella organisation in its fields which may be summarised as addressing "information from imagery."

### **To achieve its aims, the Society:**

- (a) facilitates excellence in research and development in the photogrammetry, remote sensing and spatial information sciences;
- (b) convenes international Congresses, symposia and other meetings;
- (c) ensures wide international circulation of the results of research and the records of discussion in an international journal, a bulletin, and other communications;
- (d) stimulates the formation of national and regional Societies of the photogrammetry, remote sensing and spatial information sciences and promote exchanges between such Societies;
- (e) encourages interaction of the Society and its members with the community at large;
- (g) encourages recognition and administers awards to honour the achievements of individuals or groups.
- (h) represents the photogrammetry, remote sensing and spatial information sciences in relevant international forums;
- (h) promotes and facilitates education, training, and technology transfer of the photogrammetry, remote sensing and spatial information sciences;
- (i) promotes other appropriate actions to enhance the Society's mission.

### **ISPRS seeks proposals from appropriately qualified professionals to develop a Marketing Plan to:**

- publicise the activities and achievements of ISPRS worldwide
- raise the profile of ISPRS with relevant NGOs, governments and with industry
- enhance the achievement of the Society's mission and aims
- develop a job description of an ISPRS public relations consultant and suggest possible persons to fulfil the role

The proposal should include costs of development of the Marketing Plan, details of expected outputs, expected commencement and completion dates, conditions of the contract to undertake the task, and qualifications and experience of the consultant.

It is expected that the development of the Marketing Plan will be completed within three months of signing the letter of appointment. Members of ISPRS Council will be available to explain in greater detail the aims and modus operandii of ISPRS.

Any questions relating to the preparation of the proposal should be made to The President or Secretary General of ISPRS.

The proposal should be delivered to The President of ISPRS by 15 March 2002.

John C. Trinder  
President

President:  
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## Report of OEEPE/ISPRS Workshop: From 2D to 3D – Establishment and Maintenance of National Core Geospatial Databases

Hanover, Germany, 8-10 October 2001

By Prof. Dr. Stephan Nebiker, FHBB Basel University of Applied Sciences, Switzerland

National mapping agencies and private geodata providers are experiencing an increasing demand for 3D geodata. They are consequently faced with the challenges of establishing regional or national geospatial databases and of defining new business models in order to finance the effort. The workshop on this topic was jointly organised by OEEPE Commissions 2 'Image analysis and information content' and 4 'Core geospatial databases', ISPRS Inter-Commission Working Group II/IV 'Systems for automated geospatial data production and update from imagery' and ISPRS Commission Working Group IV/3 'Data generalisation and data mining'.

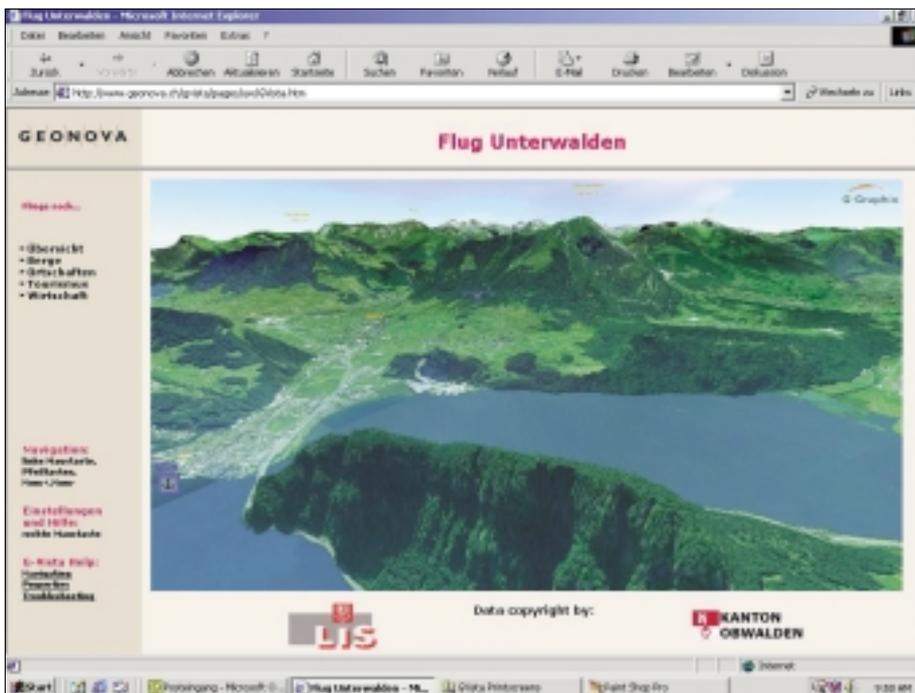
The three-day workshop was held at LGN Landesvermessung + Geobasisinformation Niedersachsen (State Mapping Agency of Lower Saxony) and was jointly hosted by the Institutes of Photogrammetry and Geoinformation (IPI) and Cartography and Geoinformatics (ikg) of the University of Hanover and the LGN.

The meeting was attended by more than 60 participants from 12 different countries with a well-balanced participation from national and state mapping agencies, universities and private industry. Invited experts from research,

administration, software developers and data users covered the aspects of user requirements, data acquisition, data management and visualisation, activities at NMAs, database revision and data integration in a total of six technical sessions. These sessions were interleaved with break-out sessions and a guided tour through LGN.

In his keynote address on '3D data: markets and business opportunities' Prof. Andre Frank reflected on the potential of geoinformation, on geodata markets and on factors responsible for the success or failure of a new technology. He critically pointed out that geodata markets are limited and highly specialised and that geodata itself is not the market driver. He used an inspiring example to show that the main growth can rather be expected from (3D) GI applications and products addressing specific, well defined problems.

In the first session on 'requirements and applications of 3D geospatial data', it became clear that most NMAs in Europe are currently occupied with establishing their 2D core databases. The third dimension is primarily addressed by providing more precise digital terrain models, an increasingly important issue, particularly in flat countries



Web-based visualisation of a nation-wide 3D landscape model of Switzerland (Copyright: GEONOVA AG, [www.geonova.ch](http://www.geonova.ch)).

and coastal areas. In an interesting presentation on 3D car navigation, it was shown that Japan is leading the way in this field with first operational systems available on the market.

In the second session on 'acquisition of 3D geospatial data' several semi- and fully automatic approaches for 3D building extraction from aerial imagery, airborne laser scanning and SAR were presented. There was a consensus that the integration of different data sources will be the key towards a greater level of automation and a higher level of reliability. One presentation highlighted the benefits of a direct link between the photogrammetric system and a 3D-GIS.

The first session on the second day covered the topic of '3D geospatial databases and visualisation'. It included presentations of new 3D data models and of projects aiming at managing and visualising nation-wide landscape and city models. Several of the presentations emphasised the key role of multi-representation and levels of detail (LOD) in a 3D context. A life presentation of the dilas (Digital Landscape Server) project from Basel University of Applied Sciences demonstrated the feasibility of web-based management and visualisation of nation-wide 3D landscape models. A presentation of the Atlas of Switzerland highlighted the trends in interactive hypermedia cartography towards on-line contents and dynamic 3D visualisations.

In the following session several European mapping agencies presented their strategies and solutions for database revision and refinement. The Institut Cartogràfic de Catalunya reported on their ongoing move from a map-oriented data model to an object-based topographic databases (DLM) and on the difficulties involved which eventually led to a completely new acquisition using digital photogrammetry. In

a paper by the Swiss Federal Office of Topography the vision of a national 3D TLM (topographic landscape model) was outlined together with its foreseeable impact on production procedures and with an interesting co-operation model including so-called reference partners.

The first session on the third day of the workshop was dedicated to concepts, algorithms and systems for geospatial database revision. Topics covered included architectures for the distributed data acquisition and update, the automated verification and updating of the topographic database ATKIS from imagery and a project in Israel for photogrammetric 3D updating of 2.5D maps. The workshop was concluded with a session on 'aspects of data integration: time, scale and geometric dimension'. The first presentations were focussed on multi-representation databases and the tasks of automatically deriving different representations and of automatically propagating changes in such frameworks.

The conclusions of the workshop can be summarised as follows:

- The establishment, maintenance and web-based visualisation of regional or national 3D core geospatial is technically feasible
- Among the major technical challenges are the aspects of multi-representation, automatic generalisation of 3D objects and data models supporting the integration of 2D and 3D geodata
- Key factors in making 3D geoinformation an economical success will be the identification of new 3D GI applications and business models for the mass markets
- Future 3D applications will require the integration of outdoor and indoor data
- There is strong need for standardisation of 3D geodata

## Highlight your Business



Contact GITC's Marketing Manager, Janpiet Broersma (E-mail: [janpiet.broersma@gitc.nl](mailto:janpiet.broersma@gitc.nl)) for advertising details in ISPRS Highlights

**GITC**

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## Symposium Announcement of ISPRS Commission VI

'New Approaches for Education and Communication', São Paulo, Brazil, 16-18 September 2002

### First Announcement and Call for Papers

New Approaches for Education and Communication, 16 – 18 September 2002

PROMENADE – Enterprise Hotel Convention Center, São José dos Campos, São Paulo, Brazil

[www.commission6.isprs.org](http://www.commission6.isprs.org)

### Working Groups Involved:

WG VI/1	Education and Training	WG VI/2	Computer Assisted Teaching
WG VI/3	International Co-operation and Technology Transfer	WG VI/4	Internet Resources and Distance Learning

### For further information contact:

Dr. Tania Maria Sausen, President ISPRS/TC VI, National Institute for Space Research, Av. Dos Astronautas, 1758 – Jardim da Granja  
Caixa Postal 515, 12201-970- São José dos Campos, SP – Brazil, Tel: +55-12-345 6862, Fax: +55-12-345 6870, E-mail: [tania@ltd.inpe.br](mailto:tania@ltd.inpe.br)

Deadline for extended abstracts (750 – 1000 words)

15 January 2002

Notification of acceptance

15 March 2002

Deadline for submission of final papers

15 May 2002



## Scope and Objectives of the ISPRS Commission IV Symposium "Geo-Spatial Theory, Processing and Applications" 8-12 July 2002, Ottawa, Canada

Considering the tag-line of ISPRS, Information from Imagery, there is need to better define, understand and further investigate and develop the relations between image features and the corresponding spatio-temporal databases. The flow has been mainly image-driven, via operator-supported feature extraction processes, to spatial databases. We have also observed the incorporation of imagery not only as one of the most important thematic layers in the geographic information systems but also in integrated 3D dynamic representations of the landscape engaging also the cognitive processes. On the other hand geographic information systems are evolving from 3D to 4D modelling and representation, where imagery and other sensors (i.e., SAR, LIDAR) significantly contributes through its multi-view/sensor geometry (3D) and through its multi-temporal coverage (4D).

Therefore there is need to automate the processes for feature extraction, need to investigate database-based driven processes, need to transparently integrate imagery in spatial information systems including image-based databases and content-based image retrieval, need to provide rapid specialised representations of data and information as well as to determine measures of their quality. The image-database relations and integration are influenced as well by the impact of the technological developments such as of the availability of high resolution imagery, the availability of both panchromatic, multi-spectral and hyper-spectral bands, the 4D GIS modelling, the inter-operable and distributed environments, the significant volume of data generated, the Internet and web developments, the vertical and horizontal data integration/fusion, the telematic GIS applications, the integrated sensor systems, the InSAR and LIDAR technologies, the continuing interest in extraterrestrial exploration and the advanced data visualisation aspects.

Today geo-information is used in many areas and in many ways both locally and globally. Its use has been expanded beyond traditional spatial applications and mapping. We see it being used to support sustainable development, in geo-spatial infrastructures, resource management, environmental databases and assessments, location based services, tourism, agriculture, disaster relief, communications, insurance, real estate, and entertainment just to mention few, while issue-oriented approaches are gaining momentum. Activities such as change detection and database updating are high in the agenda as they do not solely serve revision operations but monitoring purposes as well.

At the same time the complexity of spatial applications has significantly increased requiring knowledge-based solutions, while it is becoming apparent that the separation between geo-spatial applications from their theoretical aspects is not leading to optimal solutions.

Commission IV's Symposium is expected to address these issues by contributing to the following active research developments and applications areas:

- ✗ Generation and maintenance of spatial databases from airborne and space-borne new multi-resolution / spectral / temporal imagery, InSAR and LIDAR data and their potential in providing geometric and thematic data
- ✗ Fundamentals of the spatio-temporal spaces, image-based geo-spatial databases, 3D GIS modelling and analysis, multi-dimension and multi-scale models, generalisation, data mining and quality estimation
- ✗ Design and access of heterogeneous geo-databases for efficient geo-processing, interoperability, design and implementation of geo-spatial data infrastructures, global environmental databases, multimedia methods, Internet and web-based developments and applications
- ✗ Multi-sensor integration and data fusion for enhanced datasets, quality digital mapping, landscape modelling, virtual reality and advanced visualisation for 2/3/4-D mapping tasks, and location based services
- ✗ Extraterrestrial mapping of Mars, Venus, the Moon, and the small bodies Eros and Borely, and results from the Galileo mission

Commission IV and its Working Groups co-operate with other spatial societies, such as the IGU Commission Geographic Information Science Commission, the ICA, FIG, CEOS and CIPA. Thanks to the ground work of Prof Dr Marien Molenaar the 10th Spatial Data Handling will be held jointly with the Symposium of Commission IV. This collaborative event, which also includes the Annual Conference of the Canadian Institute of Geomatics, will foster closer relations and provide opportunities for greater interaction among the geomatics communities involved in research, development, application or management of geo-spatial data and information.

The challenge is to provide a forum, where theoretical concepts, data and information processing and flow for geo-related issues, all work harmonious to provide solutions and understanding to complex geo-spatial problems and applications. We hope that the joint Symposium on Geo-Spatial Theory, Processing and Applications will contribute in meeting these scientific and technical challenges.

## Symposium Announcement of ISPRS Commission I

*'Integrating Remote Sensing at the Global, Regional and Local Scale', Denver, CO, USA, 8-15 November 2002*

The ISPRS Commission I Mid-Term Symposium and the 15th William T. Pecora Memorial Remote Sensing Symposium/Land Satellite Information IV Conference will be held jointly in Denver, Colorado, USA.

The Commission I technical programme will consist of sessions, workshops and tutorials focusing on Working Group subjects including: Defining Sensor parameters; Sensor Calibration and Validation; Active Sensor Systems; Advanced Sensor Systems; Platform and Sensor Integration; and Airborne Optical Sensor Systems. In addition, the ISPRS programme will have integrated sessions with the Pecora/Land Satellite tracks, including natural resources, forestry, agriculture, environment, national security and policy issues, transportation, and disasters, hazards, and emergency response. These integrated sessions will extend the topics of Commission I into the Pecora Symposium by providing technical background on sensors and platforms.

The conference will also feature posters, exhibits, technical tours, social events, and an award programme including the ISPRS best poster award and young authors award, and the William T. Pecora Award.

An official call for presentations is forthcoming. The deadline for abstracts will be May 2002.

### Attention Exhibitors

Exhibit space is limited. Interested exhibitors should contact Truby Chiaviello, Exhibit and Advertising, by email at [potompub@aol.com](mailto:potompub@aol.com) or by phone at 1-202-333-1421.

Information on the Commission I Mid-Term Symposium can be found at <http://www.commission1.isprs.org>. Information on the Pecora/Land Satellite Symposium can be found at <http://www.asprs.org>.

### Conference Organisers

Conference Co-Organiser: Transportation Research Board (TRB)

Sponsors: U.S. Geological Survey, U.S. Department of Agriculture, National Imagery and Mapping Agency, the National Aeronautics and Space Administration, the Environmental Protection Agency, the Department of Transportation, the Federal Geographic Data Committee and the National Oceanic and Atmospheric Administration.

Co-operating Organisations: ERIM International and the National States Geographic Information Council.



## Symposium Announcement of ISPRS Commission II

*'Integrated System for Spatial Data Production, Custodian and Decision Support', Xi'an, China, 20-23 August 2002*

### Organiser

- ISPRS Technical Commission II (Systems for Spatial Data Processing, Analysis and Representation)
- Chinese Society of Geodesy, Cartography and Photogrammetry
- State Bureau of Surveying and Mapping of China

### Sponsors

- The Ministry of Science and Technology of China
- National Natural Science Foundation of China
- China Association of GIS
- National Geomatics Center of China
- Shaanxi Bureau of Surveying and Mapping

### Invitation

You are cordially invited to participate in the International Symposium and Exhibition of Technical Commission II, International Society for Photogrammetry and Remote Sensing (ISPRS)

During the past few years, systems for spatial data production from digital imageries are becoming more operational and easier to use. There have been increasing demands in the development of systems for spatial data custodian and delivery. More and more attention is now paid to value-added products and services. With this background, the Integrated Systems for Spatial Data Production, Custodian and Decision Support is chosen as the theme of the mid-term symposium of ISPRS Com. II during the period 2000-2004. It covers such topics as

systems for automated geo-spatial data production and updating from imagery, real-time mapping technologies, systems for SAR and LIDAR processing, integrated systems for information services, image data standards, design and operation of spatial decision support systems, spatial analysis and visualization systems.

This symposium will serve as an interdisciplinary forum for leading researchers in the related areas to present the latest development and applications, to discuss the cutting-edge technology, to exchange research ideas, and to promote international collaboration in this field. You can contribute to this important international exchange by delivering a paper and by participating the midterm symposium.

You are welcome to Xi'an.

## ISPRS Journal of Photogrammetry and Remote Sensing

### CALL FOR PAPERS

#### THEME ISSUE: 'Challenges in Geospatial Analysis and Visualization'

**Guest editors:**

Marguerite Madden, Center for Remote Sensing and Mapping Science, University of Georgia, USA and Jochen Schiewe, Institute for Environmental Sciences, University of Vechta, Germany

**Planned publication date:  
December 2002**

This issue of the ISPRS Journal of Photogrammetry and Remote Sensing is focused on the use of innovative techniques for geospatial data analysis and visualisation. As an outgrowth of a Joint ISPRS Working Group Workshop held in Athens, Georgia in October of 2001, topics of the theme issue are related to the resolutions of ISPRS WG IV/3 (Data Generalisation and Data Mining), WG IV/5 (Image-Based Geospatial

Databases) and WG IV/6 (Landscape Modelling and Visualisation). Specific topics emphasised for this theme issue include:

- Scale issues in image analysis and spatial databases for interpretation/visualisation
- Data mining, spatial data retrieval and location-based services
- Image-based geospatial databases and multimedia in integrated spatial information systems
- Integration of multi-sensor data (e.g., optical imagery and laser/radar interferometry) in landscape modelling/visualisation
- Applications in virtual reality and advanced visualisation for 2-D, 3-D and 4-D mapping tasks

The paper must be an original contribu-

tion, not published or submitted for publication to other journals or conference proceedings, and must follow the instructions for authors described in [www.photogrammetry.ethz.ch/journal](http://www.photogrammetry.ethz.ch/journal). Please submit the full manuscript in electronic form (Word or Latex) to the email address below by January 31, 2002.

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## ISPRS Journal of Photogrammetry and Remote Sensing

### CALL FOR PAPERS (Deadline 15-01-02)

#### Special Issue 'Geomatics in Mountainous Areas - The International Year of the Mountains 2002'

**Guest editors:**

A. Gruen (ETH Zurich, Switzerland)  
S. Murai (University of Tokyo, Japan)

**Planned publication date:  
Autumn 2002**

Mountains play a special role in Earth's ecosystem and face particular problems. This special issue of the ISPRS Journal of Photogrammetry and Remote Sensing is focused on applications of Geomatics techniques (Photogrammetry, Remote Sensing, GIS, Cartography, Visualisation) in mountainous areas. The topics of submitted papers should conform to the aims and scope of the ISPRS Journal (see [www.elsevier.nl/locate/isprsjprs](http://www.elsevier.nl/locate/isprsjprs)) and deal with mountainous areas in any part of the world. Nonexclusive topics include:

- Use of remote sensing technologies from various sensors (optical, Lidar, SAR etc.) for topographic and thematic data acquisition
- Disaster management/mitigation/mapping, e.g. landslides, volcanoes, earthquakes, avalanches (natural hazards)
- Applications involving ice and glaciers
- Mountain cartography
- Visualisation and simulation
- Applications regarding protected and recreational areas (national parks, moors and lakes, ski areas, climbing)
- Forestry applications
- Applications referring to flora and fauna
- GIS applications

The paper must be an original contribution, not published or submitted to other journals, and must follow the instructions for authors described at

[www.photogrammetry.ethz.ch/journal](http://www.photogrammetry.ethz.ch/journal). Please submit the full manuscript preferably in electronic form (Word or Latex) to the e-mail address below or if the file is large by anonymous ftp by 15th January 2002.

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FTP  
ftp 129.132.26.4  
username: anonymous  
password: your e-mail address  
cd pub/manos/journal/incoming

## First Announcement for the Joint OEEPE/ISPRS Workshop on Spatial Data Quality Management

21- 22 March 2002, Istanbul

The purpose of this Workshop is to exchange information on spatial data quality issues to start a new OEEPE Project aiming

- To exchange experience about national implementations of international quality standards CEN/TC 287 and/or ISO/TC 211 through developing a spatial data quality management system which will comprise a data quality model, quality check and evaluation procedures, spatial data sampling algorithms, quality representation and utilization techniques
- To handle and accompany contracts with different partners, which work at the same time on the same job with different methods in order to get at the end a homogeneous and quality defined result

Papers covering the following topics are invited for presentation

- Priorities for data quality world
- Managing data quality experience and perspective from national mapping agencies
- How do quality issues for digital mapping data differ from those for paper maps
- Industry perspectives on spatial data quality

### Deadlines

Abstracts (1 page) due	15 January 2002
Papers due	15 February 2002
Registration due	15 February 2002
	(see the registration form)
Cancel the registration due	15 February 2002
	(see the registration form)

The abstracts should be submitted in electronic form via email as MS-Word (\*.doc or \*.rtf) to the htastan@hgk.mil.tr (Dr. Hayati TASTAN). Instructions for the paper submission will be sent together with the notification about the paper acceptance.

### The venue

The workshop will be hosted by the General Command of Mapping and Division of Photogrammetry, Istanbul Technical University and will be held at the Grand Hotel Tarabya in Istanbul.

### Registration & accommodation and further information

The compact fee for registration and accommodation is:

- 824 USD for two persons in a double room
- 505 USD for one person in a single room

Organised by



and includes

- 3 nights accommodation at the Grand Hotel Tarabya (five stars) on the Bosphorus
- 3 breakfasts, 2 lunches and 3 dinners at the Grand Hotel Tarabya
- Transfers between Airport–Hotel– Airport
- Welcome drink, 4 meeting breaks with coffee, tea and cookies
- A digital version of the proceedings in CD-ROM

### Prices for extra accommodation

Single Room (bed & breakfast): 66 USD

Double Room (bed & breakfast) for two persons: 77 USD  
 (All prices include 18% VAT)

### Workshop and accommodation location

Grand Hotel Tarabya  
 Kefeliköy cad. Tarabya – İstanbul  
 Tel : 0212 262 10 00 (10 hat)  
 Fax : 0212 262 22 60  
 Web : www.tarabyaotel.com  
 E-mail : tarabya@tarabyaotel.com

### Pay Attention

1. For any questions concerning the registration and accommodation please contact  
 Mr. Mustafa KARTOPU (Magister Tours Inc.)  
 Phone: +90-212-230 00 00 (pbx), Fax: +90-212-248 40 30  
 E-mail: congress@magister.com.tr  
 Web: www.magister.com.tr
2. For any questions concerning the abstracts & papers, and technical program please contact  
 Prof. Dr. M. Orhan ALTAN  
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## Report on OEEPE Workshop 'Integrated Sensor Orientation'

*Hanover, Germany, 17-18 September 2001*

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The OEEPE Workshop on 'Integrated Sensor Orientation' has been held in Hanover from Monday 17 to Tuesday 18 September 2001. About 40 participants from 11 countries, coming from universities, national mapping agencies, private companies and research institutes, attended the event, hosted by the Institute of Photogrammetry and GeoInformation of the University of Hanover (IPI), to discuss the test results. The restrictions and difficulties to air travel in the aftermath of the 11th September limited the expected participation from overseas, but by no means the discussions and the great interest on the topic.

The workshop dealt mainly with the results of a nearly completed OEEPE test of the same name. One key note and 17 presented papers were delivered during the two days. Besides the fundamental interest in gaining more empirical evidence on the accuracy of direct geo-referencing with IMU/DGPS the test had two main objectives: to compare calibration methods and their effectiveness based on the accuracy of direct geo-referencing and to explore the potential benefits of a combined adjustment of aerial triangulation and IMU/DGPS (inertial measurement unit/differential global positioning system) observations. Phase I of the test was devoted to calibration: the participants received image coordinates (two blocks, with different image scales, overlapping), the object coordinates of some ground control points (GCP) and the IMU/DGPS data at the exposure times. They had to return the calibration parameters and the exterior orientation parameters of the images, in order for the pilot centre to be able to compute by forward intersection the object coordinates of the tie points.

In Phase II the image coordinates of another block and a single strip were given with the IMU/DGPS data only: the participant were supposed to apply the calibration parameters, return the exterior orientation parameters and, additionally, execute a combined adjustment of both AT and IMU/DGPS data, perhaps including additional parameters, returning the corresponding exterior orientation parameters, evaluate the improvement in accuracy and reliability of the ground coordinates. More details on the test results can be found in the workshop proceedings, which also contain most of the presented papers (available from the workshop organisers at <http://www.ipi.uni-hannover.de>).

Overall, the test confirmed the impressive potential of IMU/DGPS, which is capable of sub-decimetre accuracy at image scales 1:5000. On the other hand, from an operational standpoint, it also highlighted its dependency on the

GPS constellation: indeed, due to a delay caused by bad weather, one of the flights of Phase II was partly executed with poor PDOP and the accuracy of IMU/DGPS data clearly degraded. For the time being, therefore, GPS may be seen as the limiting factor, putting additional constraints on the flight schedule; this may indeed change with the advent of GPS III and Galileo. Though not in the test objective, the influence of the GPS ground stations distribution was also addressed: in this respect, reference network stations seem to provide a viable and operational solution.

Perhaps the hottest discussion topic was calibration, whose accuracy is obviously of primary importance to avoid systematic errors in direct geo-referencing. Calibration is performed with the help of a photogrammetric block: it is therefore of primary concern, to provide truly reference data for the exterior orientation parameters, designing a suitable block configuration and avoiding undetected systematic errors from the photogrammetric block in order not to bias the estimates of the calibration parameters. As far as block configuration is concerned, it has been claimed that even a single short strip, flown twice in opposite directions and with only 6 GCP can deliver the calibration parameters.

Calibration methods where no GCP are required have also been presented; they assume that interior orientation parameters are correct: otherwise, at least two different image scales or a ground control point should be used, to allow a reliable estimate of the focal length, which is critical to control height errors. It has also been suggested that calibration should be, like self-calibration, repeated in every mission. The choice of the best suited reference system for the calibration (map coordinates or a local tangential system) has also been addressed, noticing that, lacking ground control, corrections should be applied to the IMU/DGPS orientation data.

Indeed, the key question which has been raised is: how reliable are the estimates of the interior and exterior orientation parameters provided by a self-calibrating bundle block adjustment. While accuracy on ground is good, correlations between the interior and the exterior orientation and additional parameters may lead to biased estimates, which will systematically affect direct geo-referencing. This does not happen, it has been underlined, in conventional aerial triangulation because the GCP put a limit to deformations so that plotting can be considered an interpolation process. With direct geo-referencing, on the other hand, no independent control is available

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because of the lack of redundancy. This demands a deep understanding of any systematic disturbance (e.g. image deformation) which may violate the collinearity principle; setting up a proper physical model, its mathematical description and an effective way to estimate the related parameters should be a priority, if the accuracy potential of such systems is to be fully exploited.

Much the same must be said for modelling and understanding the error behaviour of IMU/DGPS, which is necessary for a full acceptance of the new technology; currently, the manufacturer consider that the way they process GPS and IMU observations as confidential information, but this 'black box' should be opened up; users should be able to evaluate quality parameters of the survey.

Lack of information on the accuracy of IMU and GPS data was in fact one of the remarks by many test participants, something which also affects the set up of the calibration procedure and the extended model for the combined adjustment of IMU/DGPS and image data. Indeed, a gross error in the attitude of one image and systematic shifts in consecutive images of a strip have been reported for IMU/DGPS data of one of the test block.

Though the computations on the check points were not yet fully completed and therefore, empirical accuracy figures were not available, the theoretical accuracy of the combined adjustment seems to actually offer a significant gain in accuracy. Indeed, the accuracy of tie points by direct geo-referencing with IMU/DGPS turned out to be around 3 times worse than conventional aerial triangulation; with the combined adjustment, where no GCP are used, the accuracy is again approaching that of conventional aerial triangulation.

IMU/DGPS are ideal for orthophoto production and are bound to replace AT very soon in all but the most accurate applications. As far as stereo plotting is concerned, though, the percentage of model parallaxes exceeding 20 micrometers in the test was relatively high and may require a preliminary relative and absolute orientation, actually performed by using collinearity and the IMU/DGPS data as pseudo-observations with weights. This may also be one way to address the lack of reliability of the system.

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