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Highlights

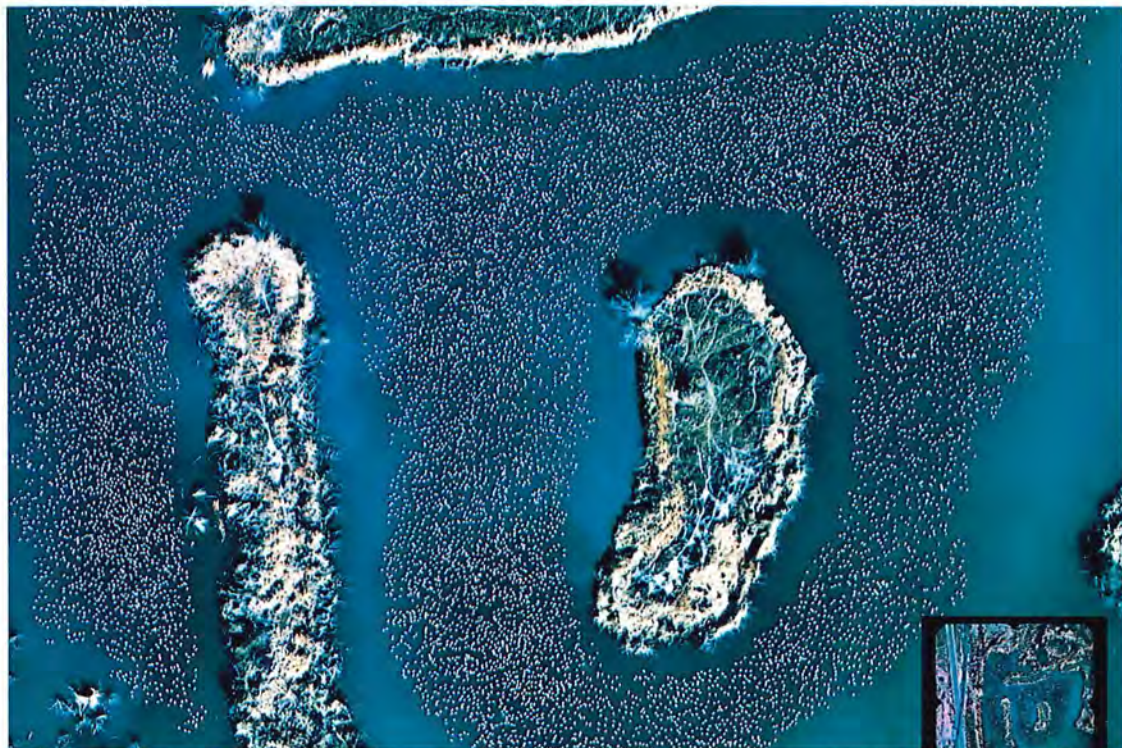
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INTERNATIONALE GESELLSCHAFT FÜR PHOTOGRAMMETRIE UND FERNERKUNDUNG
SOCIÉTÉ INTERNATIONALE DE PHOTOGRAMMÉTRIE ET DE TÉLÉDÉTECTION

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EDITOR-IN-CHIEF:
 Prof. Mauricio Araya F. (Director Editorial SELPER)
 Presidente Madero 795 (Ñuñoa). Santiago, Chile.
 Tel: (56.2) 696.7583; Fax: (56.2) 698.1474, 698.7194.
 E-mail: isprs@inach.cl

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COUNCIL 1996 - 2000



PRESIDENT Lawrence W. Fritz
Lockheed Martin Corporation
14833 Lake Terrace
Rockville, MD 20853-3632, USA
Tel: + 1-301-460-9046 or + 1-610-531 3205
Fax: +1-301-460-0021 or +1-610-962-2058
E-mail: LFritz@nva.lmco.com



1st VICE PRESIDENT Shunji Murai (Japan)
Chair Professor, Space Technology Application and
Research, STAR Program, Asian Institute of
Technology, P.O.Box 4, Klong Luang,
Pathumthani 12120, THAILAND.
Tel: +66-2-524.5599, Fax: +66-2-524.6147
E-mail: chiwa@shunji.iis.u-tokyo.ac.jp



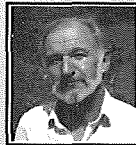
SECRETARY GENERAL John C. Trinder
School of Geomatic Engineering
University of New South Wales
Sydney, NSW 2052, AUSTRALIA
Tel: +61-2-9-385 5308 or 4197
Fax: +61-2-9-313 7493
E-mail: J.Trinder@unsw.edu.au



2nd VICE PRESIDENT Marcio Nogueira Barbosa
General Director, INPE
CP 515
Av. dos Astronautas 1758
12227 - 010 - São José dos Campos, SP, BRAZIL.
Tel: 55-123-25.6035; Fax: 55-123-22.9285
E-mail: mnbisprs@tid.inpe.br



CONGRESS DIRECTOR Klaas Jan Beek
Land Resources & Urban Sciences
ITC
PO BOX 6
NL-7500 AA Enschede, THE NETHERLANDS
Tel: +31-53-4874.214 or 511; Fax: +31-53-4874.200
E-mail: Beek@ITC.NL



TREASURER Heinz Ruther
Dept. of Surveying & Geodetic Eng.
University of Cape Town
Rondebosch 7700, SOUTH AFRICA
Tel: +27-21-650 3573
Fax: +27-21-650 3572
E-mail: Ruther@EngFac.UCT.ac.za

TECHNICAL COMMISSION PRESIDENTS 1996 - 2000



**COM. I - SENSORS, PLATFORMS
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President: George Joseph
Space Applications Centre
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Tel: + 91-79-642-3956; Fax: + 91-79-656-8073
E-mail: george@pac.ernet.in



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Dept. of Civil Engineering - Tokyo Denki University
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Tel. +44-171-380-7226; Fax: + 44-171-380-0453
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Tel/Fax: (home) 62-22-2504679
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470 Hitchcock Hall, 2027 Neil Avenue
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E-mail: Dieter.Fritsch@ifp.uni-stuttgart.de

FINANCIAL COMMISSION CHAIRMAN: Armin Gruen, Chair of Photogrammetry, Institute of Geodesy and Photogrammetry, ETH-Hoenggerberg, CH-8093 Zurich, Switzerland. Fax: (41.1) 633.1101. E-mail: agruen@geod.ethz.ch.
ISPRS JOURNAL EDITOR-IN-CHIEF: Emmanuel Baltsavias, Institute of Geodesy and Photogrammetry, ETH-Hoenggerberg, CH-8093 Zurich, Switzerland. Tel.: (41.1) 633.3042; Fax: (41.1) 633.1101. E-mail: manos@pigg.ethz.ch.
ISPRS WEBMASTER: André Strellein, Institute of Geodesy and Photogrammetry, ETH-Hoenggerberg, CH-8093 Zürich, Switzerland. Fax: (41.1) 633.1101. E-mail: andre@geod.ethz.ch.
ISPRS HIGHLIGHTS EDITOR-IN-CHIEF: Mauricio Araya F. (Director Editorial SELPER). Presidente Madero 795 (Ñuñoa). Santiago, Chile. Tel: (56.2) 698.7583; Fax: (56.2) 698.1474 or 698.7194. E-mail: isprs@inach.cl.

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SPECIAL CONTRIBUTORS TO THIS ISSUE

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EDITED BY: SELPER Ediciones:
Presidente Madero 795 (Ñuñoa), Santiago, Chile. Fax: (56.2) 698.1474, Tel: (56.2) 696.7583, E-mail: isprs@inach.cl.

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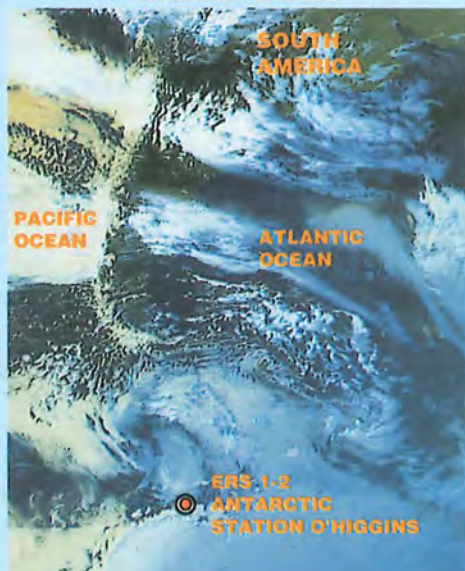
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SELPER/Venezuela, Lic. Ramiro Salcedo,
Instituto de Ingenieria, A.P. 40200,
Caracas 1040-A, Venezuela, Tel: (58.2) 943.2122
Fax: (58.2) 943.1011. E-mail: fii@conicit.ve



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CONTACT ADDRESSES:

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- German Embassy (for every country).
- Dr. Harald Mehl, University of Munich / DLR
E-mail: harald.mehl@dlr.de



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CONTACT ADDRESSES:

- Dr. Klaus Reiniger, DLR. Fax: (49) 8153-28.1443
- Mr. Antonio Mazzei, INACH. E-mail: pvicuna@inach.cl



EDITORIAL



Dear Colleagues:

It is my great honour to continue to contribute to the operation and advancement of ISPRS as First Vice President for the period of 1996-2000. I am very pleased to inform you that is the first time that Council members have come from six different continents. It tells us that ISPRS has become a really international Society. My major roles as First Vice President are to conclude the achievements of ISPRS in the 20th century, and to navigate a direction to be taken in the 21st century.

As the representative from Asia, it will be my task to recruit Asian leaders who will follow my endeavours to encourage and promote the advancement of photogrammetry, remote sensing and GIS as well as human networks in Asia. I still continue the position of General Secretary of Asian Association on Remote Sensing (AARS), a regional member of ISPRS, through which I can introduce new ideas to support ISPRS activities.

As First Vice President I am responsible for policy issues on ISPRS awards, and I have initiated the "Young Author's Awards" which have continued since the Washington Congress in 1992. I want to seek a more stable fund to encourage young and outstanding scientists to participate within the scope of ISPRS. I am sure that the two sessions at which the ten "Young Author's Awards" recipients presented their awarded papers, were one of the best sessions at Vienna Congress. I believe that such young scientists should share in the ISPRS Congresses and other activities. Otherwise the Society will be criticised as "the society of rich people" or "the society of seniors".

As a past President, I appreciate Mr. Lawrence W. Fritz, the President and his partner Prof. Dr. John Trinder, Secretary General for their energy and hard work, that has always been the tradition of ISPRS leaders. I take this opportunity to request all ISPRS members to support the Council in order to create "a good society". We, the Council should demonstrate the benefit of ISPRS membership. In this respect, the Council is now trying to improve information service to ISPRS members in the form of ISPRS Bulletin, "ISPRS Highlights", and its world wide web (WWW) page.

On behalf of the ISPRS Council, I thank Sustaining Members for their financial support. We try to return our thanks to the Sustaining Members by providing the latest information about highly advanced technologies through ISPRS Highlights, mid-term symposia and/or ISPRS congresses.

I hope that all of our readers will enjoy reading this ISPRS bulletin. Any positive and constructive comments would be most welcome.

With my best regards,

Shunji Murai
First Vice President,



TERMS OF REFERENCE (TOR) 1996-2000 ISPRS TECHNICAL COMMISSIONS (TC) AND WORKING GROUPS (WG)

COMMISSION I: SENSORS, PLATFORMS AND IMAGERY

President:

George JOSEPH
Space Applications Centre
Indian Space Research Organisation
Ahmedabad 380 053
INDIA
Tel: +91 79 642 3956
Fax: +91 79 656 8073
E-mail: george@sac.ernet.in

**Secretaries:**

A.K.S. GOPALAN
Space Applications Centre
Associate Director
Ahmedabad 380 053
INDIA
Tel: +91 79 656 8971
Fax: +91 79 674 1626
E-mail: george@sac.ernet.in

V. JAYARAMAN
ISRO Headquarters
Antariksh Bhavan
New Bel Road
Bangalore 560 094
INDIA
Tel: +91 80 341 6358
Fax: +91 80 341 5298
E-mail: vjay@isro.ernet.in

COMMISSION I.- TERMS OF REFERENCE:

- Planning for aerial and space missions
- Design, construction, testing, installation and calibration of analogue and digital imaging sensors
- Design and performance of data reception and pre-processing systems
- Geometric and radiometric properties of image data and quality standards, and factors (environmental and others) affecting data quality
- Technical systems for recording sensor data, film scanners and auxiliary data (time, position, attitude etc.) and media (film, magnetic, optical etc.)
- Pre-processing techniques to generate datasets suitable for analysis and measurements (radar image syn-

thesis, multi-sensor integration, radiometric and geometric corrections etc.)

**WG I/1.- SENSOR PARAMETER
STANDARDISATION AND CALIBRATION****Chair:**

Manfred SCHROEDER
Head, Optical RS Division
Institute of Optoelectronics
German Aerospace Research
Establishment
DLR, Postfach 11 16,
D-82230 Wessling
GERMANY
Tel: +49 8153-28-2790
Fax: + 49 8153-28-1444
E-mail: ms@zeus.oe.op.dlr.de

**Co-Chair:**

Alan BELDWARD
Joint Research Centre
Space Applications Institute
I-21828 Ispra (Va)
ITALY
Tel: +39-332-789298
Fax: +39-332-789536
E-mail: alan.belward@jrc.it

Secretary:

Wolfgang KORNUS
Institute of Optoelectronics
German Aerospace Research Establishment
DLR, Postfach 11 16,
D-82230 Wessling
GERMANY
Tel: +49 8153-28-2790
Fax: + 49 8153-28-1444
E-mail: ms@zeus.oe.op.dlr.de

WG I/1.- TERMS OF REFERENCE:

- Standardisation of definitions and measurement of various sensor specification related parameters, such as spectral resolution, radiometric sensitivity etc.

- Techniques and procedures for laboratory calibration of sensors
- In-flight calibration of sensors, including atmospheric correction and development of standard calibration sites and procedures
- Calibration of non-metric airborne sensors
- Calibration, characterisation and evaluation of image scanners
- Collaboration with organisations involved in the standardisation of imaging devices and components used in imaging, such as CEN, ISO, IEC, SPIE and CIE.
- Participation with the CEOS Working Group on Calibration and Validation

WG I/2.- PRE-PROCESSING ARCHIVAL AND DISSEMINATION OF IMAGE DATA

Chair:

Dan ROSENHOLM
GAF, Nordic Office
Ekvagen 4
S-195 44 Marsta
SWEDEN
Tel: +46 8 591 236 75
Fax: + 46 8 591 237 81
E-mail: dan.rosenholm@bahnhof.se

Co-Chair:

Jolyon THURGOOD
Director, International Business Development
Space Imaging
9351 Grant St, Suite 500
Thornton CO 80229-4360
USA
Tel: +1 303 254 2102
Fax: +1 303 254 2217
E-mail: jthurgood@spaceimage.com

WG I/2.- TERMS OF REFERENCE:

- Pre-processing algorithms, including platform modelling, noise removal, radiometric normalisation etc.
- Pre-processing algorithms and architectures for SAR (including Interferometric SAR)
- Data archival technology, including hardware, data compression technology etc.
- Data distribution and dissemination, especially for operational use with fast turn around time

WG I/3.- SENSORS AND PLATFORMS FOR TOPOGRAPHIC SURVEY

Chair:

Karsten JACOBSEN
Universitat Hannover
Niemburger Straße 1
D-30162 Hannover
GERMANY
Tel: +49 511-762-2485
Fax: +49 511-762-2483
E-mail: karsten@ipi.uni-hannover.de



Co-Chair:

T. NATARAJAN
Director
Institute of Remote Sensing
Anna University
Madras 600 025
INDIA
Tel: +91 44 235 1723
Fax: +91 44 235 2166
E-mail: annalib@sirnetm.ernet.in

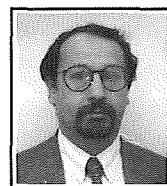
WG I/3.- TERMS OF REFERENCE:

- Specifications of missions (mode of stereo coverage, swath, orbital characteristics, spatial resolution, payload configuration etc.)
- Design and realisation of aerial and space-borne sensors for cartographic mapping
- On-board data processing
- Systems for position and attitude evaluation and control
- Processing techniques for multisensor data integration
- Interferometric SAR applications for DTM generation
- Design, realisation and calibration of airborne laser scanning systems

WG I/4.- MICROWAVE AND OPTICAL SENSORS FOR GEOSPHERE-BIOSPHERE STUDIES

Chair:

Jean Louis FELLOUS
Director, MEDIAS-FRANCE
CNES - Bpi2102
18 avenue Edouard-Belin
31401 Toulouse Cedex 4
FRANCE
Tel: +33 5 61 28 22 09
Fax: +33 5 61 28 29 05
E-mail: fellous@medias1.cst.cnes.fr



Co-Chair

John MILLER
Director, Earth Observations Laboratory
Institute for Space and Terrestrial Science
York University
4850 Keele St
North York, Ontario M3J 3K1
CANADA
Tel: +1 416 665 5407
Fax: +1 416 665 2032
E-mail: miller@eol.ists.ca

WG I/4. - TERMS OF REFERENCE

- Survey of developments of global observing optical and microwave systems for land and ocean
- Development of new technologies and techniques in microwave sensor design, including interferometric, polarimetric and multi-frequency SAR systems
- Assessment of an end-to-end radiometric calibration procedures of microwave imaging systems including error analysis and error reduction techniques



SENSORS, PLATFORMS
AND IMAGERY
COMMISSION I
1996 - 2000

ISPRS TECHNICAL COMMISSION I SYMPOSIUM "EARTH OBSERVATION SYSTEM FOR SUSTAINABLE DEVELOPMENT"

BANGALORE, INDIA
FEBRUARY 23 - 27, 1998

ORGANISED BY

- ISPRS Technical Commission I
Ahmedabad, INDIA
- Indian Society of Remote Sensing
Dehradun, INDIA

SPONSORED BY

- Indian Space Research Organisation (ISRO)
Bangalore, INDIA

CALL FOR PAPERS

Papers are invited for presentation at the Symposium. The important dates for the papers are as follows:

• Deadline for abstracts:	June 30, 1997
• Notification of acceptance:	Sept. 30, 1997
• Deadline for complete manuscript:	Nov. 15, 1997

Please send an extended abstract (about 2 A-4 size single spaced pages) to the Symposium Secretariat for evaluation and consideration for presentation at the Symposium. Instructions for authors will be mailed out together with notification of acceptance of the paper. The Proceedings of the Symposium will be published in the Archives Series of the ISPRS.

LANGUAGE

Papers may be presented in any of the three official ISPRS languages: English, French and German. The operating language of the Symposium will be English. Translation services will not be provided.

TECHNICAL SESSIONS

The Technical sessions will be arranged from Wednesday, February 25 to Friday, February 27, 1998. If necessary, sessions may be held in parallel.

TUTORIALS

The following two tutorials will be organised on February 23 and 24, 1998. Both the tutorials will be conducted parallelly.

a) Tutorial on Electro-Optical Sensors for Remote Sensing

This tutorial will cover various aspects of Electro-Optical Sensors including evaluation of sensor specifications, calibration techniques, inter-sensor calibration, hardware aspects, relation of sensor parameter and application potential, etc. Visits to ISRO Satellite Centre, Bangalore will be arranged on February 24, 1998, which will provide a glimpse of the satellites and sensors developmental activities in ISRO.

b) Tutorial on Image Pre-processing

The tutorial will cover pre-processing algorithm, platform modelling, noise removal, radiometric normalisation, data

product generation and dissemination, data archival, etc.

Visit to the Regional Remote Sensing Service Centre, Bangalore will be arranged on February 24, 1998, which will provide an overview of pre-processing and image analysis activities.

The final registration form will be mailed in September, 1997 to those who respond by sending the Pre-Registration form.

TOURIST INFORMATION

About Bangalore

Karnataka, in India is a state of charming contrasts with the modern blending harmoniously with the old. Here, bustling industries nestle comfortably with the easy going relaxed pace of life. No where is this seen better, than in Bangalore, the capital city of Karnataka. The beautiful garden city with temperature ranging from 16°C in winter to 32°C in summer, has today emerged as Asia's fastest growing metro. And with a population of 5.2 million and an area of 380 km²., makes it the fifth largest city in India. Connected as it is to all major cities of India and Singapore by Air, anywhere in the world by Air Cargo and major cities by rail and road. A striking example of perfect balance between modern lifestyle and traditional values.

The city for all seasons

Any time is a good time to be in Bangalore, the city for all seasons. See it in spring when the blooming flowers are at their brilliant best in the many parks and gardens. Enjoy the summer months when the city comes alive to festivals and fairs, races, exhibitions and bargain sales. You will surely fall in love with Bangalore in autumn, when the stately buildings of Bangalore take on a dream-like appearance and the morning mist at Cubbon Park has a mystic quality about it. Winter at Bangalore is like no other place. Not too cold to keep you indoors but cold enough to enjoy the outings in the sun. As the rainfall here is about 92 cm per year, it is all-weatherjoy. You can picnic under the Big Banyan Tree at Ramohalli or have a date with nature at Pearl Valley. Or drive up to Nandi Hills for a breathtaking view from the top. One could take a few days off and enjoy the Marvellous attractions of Mysore, Bellur, Halebeedu or more on to the neighbouring states each one again has a lot of unique attractions of its own. There is never a dull moment when you are at Bangalore.

ADDRESS FOR CORRESPONDENCE AND INQUIRIES TO SYMPOSIUM SECRETARIAT

Mr. V. Jayaraman, Dy. Director, EOS
ISRO HQ, Antariksh Bhavan
New BEL Road, Bangalore 560 094. INDIA
Tel No + 9180 3416358, Fax No. + 9180 3415298
Email vijay@.isro.ernet.in



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

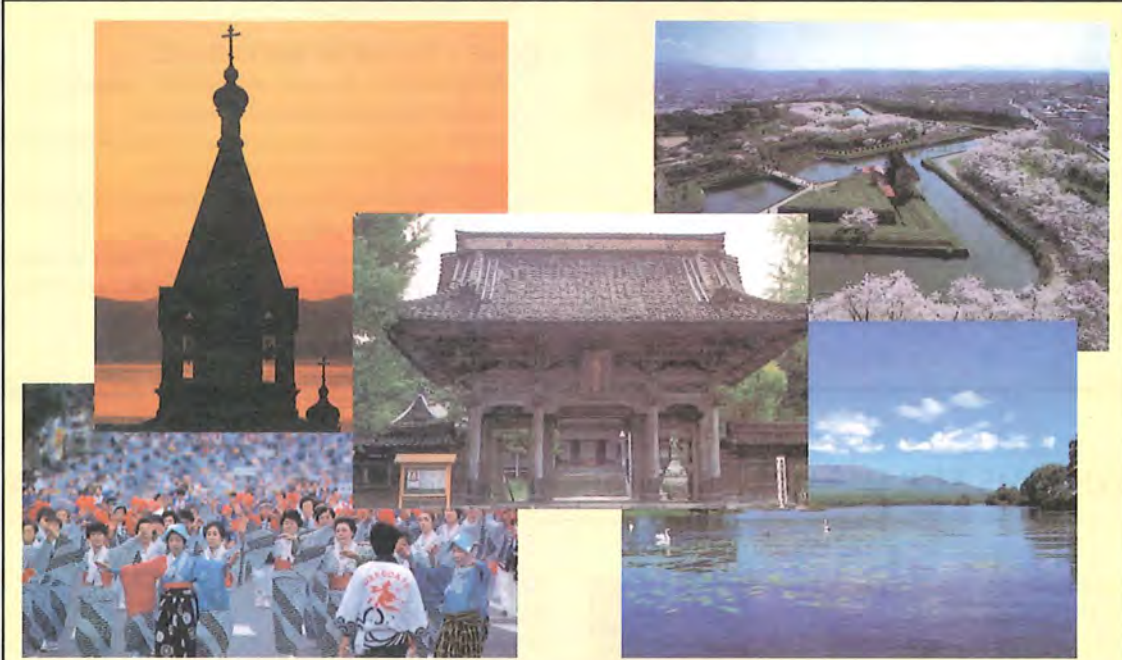
HAKODATE

International Symposium on

REAL - TIME IMAGING AND DYNAMIC ANALYSIS

Hakodate, Japan, June 2 - 5, 1998

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HAKODATE
館 漫



SYMPOSIUM TIMETABLE

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

ISPRS TECHNICAL COMMISSION V: CONTACT ADDRESS

President: Dr. Hirofumi Chikatsu. Dept. of Civil Engineering - Tokyo Denki University, Hatoyama, Saitama. 350-03. JAPAN.

Tel: +81-492-96-2911; Fax: +81-492-96-6501, E-mail: chikatsu@g.dendai.ac.jp.

Secretary ISPRS Commission V: Dr. Eihan Shimizu. Dept. of Civil Engineering, University of Tokyo, Hongo 7-3-1, Bunkyo - ku, Tokyo 113, Japan.

Fax: 81-5689-7290. E-mail for general inquiries: shimizu@planner.t.u-tokyo.ac.jp. E-mail for submission of Abstracts: abstract@planner.t.u-tokyo.ac.jp.

- Data normalisation for long term data comparison
- Optical-microwave data integration techniques

WG I/5.- ADVANCED PLATFORMS AND SENSORS

Chair:

Takashi MORIYAMA
Earth Observation Research Centre
(EORC)

National Space Development
Agency of Japan (NASDA)
1-9-9 Roppongi, Minato-ku
Roppongi First Building 13F
Tokyo 106
JAPAN

Tel: +81 3 3224 7053

Fax: +81 3 3224 7052

E-mail: moriyama@eorc.nasda.go.jp



Co-Chair:

K. TYAGARAJAN
ISRO Satellite Centre
Airport Road
Bangalore 560 017
INDIA

Tel: + 91 80 526 7784

Fax: +91 80 526 8544

E-mail: ktr@isac.ernet.in

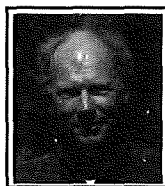
WG I/5 - TERMS OF REFERENCE:

- Small satellites for earth observation : complexity of satellite realisation, reliability and cost
- Platform guidance, navigation and positioning: integration of GPS and orientation systems
- High resolution imaging spectrometer for ocean colour, mineral exploration etc.
- Review of realisation of new sensors such as smart sensors, polarisation sensors, pollution monitoring, laser altimeter, rain radar

COMMISSION II: SYSTEMS FOR DATA PROCESSING, ANALYSIS AND REPRESENTATION

President:

Ian DOWMAN
Department of Photogrammetry
and Surveying
University College London
Gower Street
London WC1E 6BT
UNITED KINGDOM
Tel: +44 171 380 7226
Fax: +44 171 380 0453
E-mail: idowman@ps.ucl.ac.uk



Tel: +44 171 380 7226

Fax: +44 171 380 0453

E-mail: badams@geog.ucl.ac.uk

COMMISSION II - TERMS OF REFERENCE:

- Design and development of systems for measurement, processing, analysis, representation and storage of photogrammetric, remote sensing and GIS data
- Study and evaluation of system integration aspects for photogrammetry, remote sensing and GIS data processing
- Analysis of systems and their components for automated, semi-automated and manual digital processing systems
- Development of systems and technologies for radar data processing
- Study of real-time mapping technologies
- Standardisation of digital systems for photogrammetry, remote sensing and GIS

Secretary:

Ray HARRIS
Department of Geography
University College London
26 Bedford Way
London WC1H 0AP
UNITED KINGDOM
Tel: +44 171 380 7583
Fax: +44 171 380 7565
E-mail: rharris@geog.ucl.ac.uk

**WG II/1.- REAL TIME
MAPPING TECHNOLOGIES**

Chair:

Rongxing LI
Department of Civil & Environmental Engineering and
Geodetic Science
The Ohio State University
470 Hitchcock Hall
2070 Neil Avenue
Columbus, OH 43210-1275

Administrative Secretary:

Beverly ADAMS
Department of Photogrammetry and Surveying
University College London
Gower Street
London WC1E 6BT,
UNITED KINGDOM

USA
Tel: +1 614 292 6946
Fax: +1 614 292 2957
E-mail: li.282@osu.edu

Co-Chair:

Holger SCHADE
Leica AG
CH 9435 Heerbrugg
SWITZERLAND
Tel: +41 71 727 3239
Fax: +41 71 727 4691
E-mail: hschah@lah.leica.ch

Secretary:

Charles TOTH
Centre for Mapping
The Ohio State University
1216 Kinnear Road
Columbus, OH 43212
USA
Tel: +1 614 292 7681
Fax: +1 614 292 8064
E-mail: toth@cfm.ohio-state.edu

WG II/1.- TERMS OF REFERENCE

- Design and development of integrated real time mobile data collection systems and autonomous vehicle navigation systems including: techniques such as GPS, INS and wheel sensors and mapping sensors, such as CCD cameras, laser rangefinders and radar devices
- Research in real time processing of mobile mapping data
- Systems aspects related to sensor calibration, data reduction and optimisation, and sensor information processing
- Automation of information extraction from mobile mapping sensor data
- Integration of navigation and mapping sensors

WG II/2.- SOFTWARE AND MODELLING ASPECTS FOR INTEGRATED GIS**Chair:**

Manfred EHLERS
ISPA
University of Vechta
PO Box 1553
D 49364 Vechta
GERMANY
Tel: +49 4441 15423
Fax: +49 4441 15445
E-mail: mehlers@ispa.uni-osnabrueck.de

Co-Chair:

Mark GAHEGAN
Dept. of GIS
Curtin University of Technology
PO Box U 1987

Perth 6001 WA
AUSTRALIA
Tel: +619 351 3309
Fax: +619 351 2819
E-mail: mark@cs.curtin.edu.au

Secretary:

Magdalena GELHAUS
Environmental Sciences
University of Vechta
P.O. Box 1553
D-49364 Vechta
GERMANY
Tel: +49 4441-15420
Fax: +49 4441-15445
E-mail: mgelhaus@ispa.uni-vechta.de

WG II/2.- TERMS OF REFERENCE

- System design for integration of GIS and image analysis
- Determination of appropriate procedures for data exchange and interoperability through open GIS standards and intelligent interface design
- Data fusion within integrated GIS
- Development of new benchmark procedures for the whole range of integrated GIS functionality
- Visualisation techniques especially to support data quality assessment
- Interaction between humans and machines
- Low cost mapping and GIS integration systems
- Collaboration with others on spatial-temporal aspects of GIS

WG II/3.- SPATIAL DATA HANDLING TECHNOLOGIES**Chair:**

Henrik OSTERLUND
Centre for Earth Observation
Joint Research Centre
I-21020 ISPRA (VA)
ITALY
Tel: +39 332 785 252
Fax: +39 332 785 461
E-mail: henrik.osterlund@jrc.it

WG II/3.- TERMS OF REFERENCE

- Composition and transmission of raster data formats
- Vector data format and topological models
- Spatial data models
- Data base management systems for spatial data in a heterogeneous environment
- High volume storage media
- High performance I/O sub-systems
- Cataloguing and data dictionaries
- Data exchange between heterogeneous environments, hardware and software, use of WWW and other networks



2000 XIX ISPRS CONGRESS AND EXHIBITION "GEOINFORMATION FOR ALL"



The Netherlands Society for Earth Observation and Geoinformatics (NSEOG) has the honor to organize the 19th ISPRS Congress and Exhibition in the year 2000. For the Netherlands, a densely populated country with high demands on physical and scientific infrastructures, the geoinformation sciences and corresponding industry are vitally important. Early land reclamation dating back to the Tenth Century would not have been possible without a mastery of land surveying techniques. Throughout history, there has been an ever-increasing demand for accurate maps from the maritime user society at large. This earned Dutch cartographers such as Ortelius, Mercator and Blaeu an international reputation during the 16th and 17th century.

The ISPRS Congress was held in the Netherlands in 1948, when Professor Schermerhorn, geodesist and first Prime Minister after World War II, was president of ISPRS. For the Netherlands the important result of this Congress was the establishment of ITC, the International Institute for Aerospace Surveys and Earth Sciences, in 1950 upon the ISP's recommendation. ITC offers training for students mainly from developing countries and plays a leading role in the production of geographical information in these countries. In the year 2000 ITC will celebrate its 50th anniversary. Many of the almost 15,000 alumni of ITC are expected to attend both the ISPRS Congress and the ITC anniversary programme. Hence the motto of the Congress:

GEOINFORMATION FOR ALL

The 19th ISPRS Congress and Exhibition with the theme Geoinformation for All will be organized at the RAI International Exhibition and Congress Center in Amsterdam. Venue dates for the Congress are Sunday, July 16, 2000 until Sunday, July 23, 2000. The main body of the Congress will be preceded by tutorials (to be organized on location) on Friday, July 14, 2000 and Saturday, July 15, 2000 and followed by in-depth workshops starting Monday, July 24, 2000 and ending Wednesday, July 26, 2000. Thus the programme consists of three components: tutorials, the main body of the Congress and in-depth workshops

- Tutorials are refresher and advanced courses to upgrade knowledge in specific fields.
- Main body of the Congress is composed of technical and poster sessions, an exhibition, and General Assemblies.
- The in-depth workshops are held after the Congress and enable in depth discussion by experts on selected themes.

Total number of papers for the ISPRS 2000 Congress are:

700 Poster presentations
304 Papers in Technical sessions of which 76 invited papers
226 Papers in Workshops
4 General Assemblies

A major component of the 19th ISPRS Congress will be the commercial and scientific exhibition that will provide participants insight into up-to-date developments in photogrammetry and remote sensing. Amsterdam RAI has ample space for this exhibition adjacent to the meeting rooms.

A homepage with information about the 19th ISPRS Congress and Exhibition is presently under construction and presumed operational early 1997. Currently, information is available from the Congress secretariat at isprs@itc.nl e-mail address. For a coherent programme and to ensure a spirit of great international cooperation and solidarity pre- and post-Congress tourists visits as well as exiting social events will be organised.

Members organizing committee for the 19th ISPRS Congress and Exhibition are:

Prof. Dr. K.J. (Klaas-Jan) Beek, Congress Director, ITC; Prof. Dr. M. (Martien) Molenaar, Scientific Director, ITC; Dr. F.D. (Freek) van der Meer, Secretary, ITC; Mrs. S. (Saskia) Tempelman, Secretariat,

ITC; Ir. R. (Rob) Neleman, Treasurer, Cadastre; Ir. G.J.A. (Gerard) Nieuwenhuis, Member, DLO-SC

Abstract and manuscript deadlines and other communications scheduled are:

First announcement	January 1998
Exhibition Call Brochure	April 1998
Call for papers	March 1999
Second announcement	July 1999
Deadline for Abstracts	September 1999
Deadline for manuscripts	March 2000
Preliminary Programme	April 2000
Final Programme	July 2000
Exhibition Guidebook	July 2000
List of registrants	July 2000

AMSTERDAM RAI, INTERNATIONAL EXHIBITION AND CONGRESS CENTER

The 19th ISPRS Congress and Exhibition will be held in the Amsterdam RAI International Exhibition and Congress Center which is situated in one of Amsterdam's green and leafy suburbs, only 3 kilometer from the historic city center and 10 kilometers from Amsterdam Schiphol Airport. Over 1000 international meetings lasting anywhere from three days to several weeks have been successfully organized in Amsterdam RAI during the past 30 years. Annually the RAI welcomes over 2.5 million visitors to its exhibitions, trade fairs and congresses and hosts an average of 50 major international congresses and numerous smaller meetings and events. The RAI has 22 conference halls and meeting rooms with a seating capacity of 16 up to 1,750 persons surrounded by spacious lounges, located under one roof. A total of 11 multipurpose exhibition halls of 990 sq m up to 18,000 sq m will be the floor for a technical exhibition. The RAI has its own harbour from which boat trips through Amsterdam's ring of canals can be made.

PROFESSIONAL CONGRESS ORGANIZATION BUREAU

To ensure the best possible preparation and smooth running of the 19th ISPRS Congress, a professional Congress organizer, Holland Organizing Center (HOC), is involved. HOC was founded in 1958 and with a permanent staff of 20 handles 25-30 meetings per year.

AMSTERDAM: HISTORICAL AND CULTURAL CITY

Amsterdam, the capital of the Netherlands and location for the 2000 ISPRS Congress, was once the world capital for the production of maps and globes. Its richness in culture, theaters, museums and restaurants draws huge numbers of visitors from all over the world. The Netherlands is also the gateway to other tourist attractions in Europe. Amsterdam, with its 700,000 inhabitants is a city with a highly individual atmosphere created by its beautiful symmetrical rings of canals with over 1000 bridges, its sense of energy and purpose, and its cultural treasures. The 1987 Cultural Capital of Europe has 42 museums including the Rijksmuseum, the Van Gogh museum and the Municipal ('Stedelijk') museum. It also is home to the famous Royal Concertgebouw Orchestra, the Dutch National Ballet, the Dutch Dance Theater and the Dutch Opera.

Schiphol Amsterdam international airport is a modern airport which has direct scheduled flights to 220 cities in 94 countries by 85 airlines. The RAI Congress center has its own railway station providing direct (8 minute) service to the airport every 15 minutes. All hotels in the city center can be reached by train, tram, bus or metro in less than 20 minutes while several hotels are located in walking distance from the RAI.

MEET IN AMSTERDAM

WELCOME TO THE
XIX CONGRESS OF THE
INTERNATIONAL SOCIETY FOR
PHOTOGRAMMETRY AND REMOTE SENSING

“GEO-INFORMATION FOR ALL”

AMSTERDAM, THE NETHERLANDS
14TH - 26TH JULY 2000



ISPRS CONGRESS DIRECTOR: Prof. Klaas Jan Beek

Land Resources & Urban Sciences, ITC
PO BOX 6. NL-7500 AA Enschede, THE NETHERLANDS
Tel: +31-53-4874.214 or 511; Fax: +31-53-4874.200, E-mail: Beek@ITC.NL



**WG II/4.- SYSTEMS FOR
PROCESSING SAR DATA****Chair:**

Douglas CORR
Room 1004, A8 Building
Space Department
DERA, Farnborough
Hampshire GU14 0LX
UNITED KINGDOM
Tel: +44 1252 392 781
Fax: +44 1252 396 331
E-mail: d_g_corr@scs.dra.hmg.gb

Co-Chair:

David STANLEY
PCI Enterprises Ltd
50 West Wilmot Street
Richmond Hill
Ontario
CANADA L4B 1M5
Tel: +1 905 764 0614
Fax: +1 905 764 9604
E-mail: stanley@pci.on.ca

Secretary:

Dawn WILLIAMSON
Use address of Douglas Corr

WG II/4.- TERMS OF REFERENCE

- Integration of algorithms for processing SAR data, such as geocoding, stereoscopic matching, feature extraction, into accessible user systems
- Integration of SAR data with other data
- Provision of information on SAR to improve accessibility
- Promotion of user-friendly SAR software

**WG II/5.- SYSTEMS FOR INTEGRATED
GEOINFORMATION PRODUCTION****Chair:**

Charlotte GURNEY
National Remote Sensing Centre Ltd
Delta House
Southwood Crescent
Farnborough, Hants GU14 0NL
UNITED KINGDOM
Tel: +44 1252 362 000
Fax: +44 1252 375 016
E-mail: cgurney@nrsc.co.uk

WG II/5.- TERMS OF REFERENCE

- Design of systems for specific processes or applications which involve the use of multiple sensors and image processing techniques, for example, for monitoring crop growth
- Integration of techniques for correction and analysis
- Standards for systems
- Methods of design and of testing performance

**WG II/6.- INTEGRATION OF IMAGE
UNDERSTANDING INTO
CARTOGRAPHIC SYSTEMS****Chair:**

David McKEOWN
Digital Mapping Laboratory
School of Computer Science
Carnegie Mellon University
Pittsburg PA 15213-3819
USA
Tel: +1 412 268 2626
Fax: +1 412 681 5576
E-mail: dmm@cs.cmu.edu

Co-Chair:

Olivier JAMET
Laboratoire Matis
IGN
2 Avenue Pasteur
F-94160 St Mandé
FRANCE
Tel: +33 143 988 069
Fax: +33 143 988 581
E-mail: jamet@houat.ign.fr

Secretary:

Chris McGLONE
Digital Mapping Laboratory
School of Computer Science
Carnegie Mellon University
Pittsburg PA 15213-3819
USA
Tel: +1 412 268 2524
Fax: +1 412 681 5576
E-mail: jcm@cs.cmu.edu

WG II/6.- TERMS OF REFERENCE

- Semi automatic and automatic cartographic feature extraction, especially the system integration aspects
- Automatic extraction and exploitation of surface material information
- Integration of digital photogrammetric systems and computer graphics for visualisation and simulation
- Utilisation, verification and update of spatial data bases
- Integration of photogrammetric knowledge and techniques into computer vision algorithms and systems
- Application of computer vision algorithms to various sensor and acquisition geometries

**WG II/7.- PRACTICAL AND IMPLEMENTATION
ISSUES IN DIGITAL MAPPING****Chair:**

John THORPE
Analytical Surveys Inc
1953 Jamboree Drive
Colorado Springs

CO 80920
USA
Tel: +1 719 593 0093
Fax: +1 719 528 5093
E-mail: jthorpe@anlt.com

Co-Chair:

José COLOMER
Institut Cartogràfic de Catalunya
Parc de Montjuic
08038 Barcelona
SPAIN
Tel: +34 3 425 29 00
Fax: +34 3 426 74 42
E-mail: colomer@icc.es

Secretary:

Wolfgang SCHICKLER
Analytical Surveys Inc
1953 Jamboree Drive
Colorado Springs
CO 80920
USA
Tel: +1 719 593 0093
Fax: +1 719 528 5093
E-mail: wolfgang@anlt.com

WG II/7.- TERMS OF REFERENCE

- Establishment of a forum for exchange of information and ideas between manufacturers, researchers and users
- Discussion and determination of user requirements with manufacturers, and preparation of action plans for implementation
- Discussion and reporting on standard data transfer formats for digital systems
- Collaboration with other groups such as OEEPE and Open GIS Consortium (OGC)

**WG II/8.- DIGITAL SYSTEMS
FOR IMAGE ANALYSIS****Chair:**

Christian HEIPKE

Chair for Photogrammetry and Remote Sensing
TU Munich
Arcisstrasse 21
D 80333 Munich
GERMANY
Tel: +49 89 2892 2671
Fax: +49 89 2809 573
E-mail: chris@photo.verm.tu-muenchen.de

Co-Chair:

Tapani SARJAKOSKI
Finnish Geodetic Institute
Geodeetinrinne 2 (PL15)
FIN 02431 Masala
FINLAND
Tel: +358 9 2955 5206
Fax: +358 9 2955 5200
E-mail: tapani.sarjakoski@fgi.fi

Secretary:

Konrad EDER
Chair for Photogrammetry and Remote Sensing
TU Munich
Arcisstrasse 21
D 80333 Munich
GERMANY
Tel: +49 89 2892 2671
Fax: +49 89 2809 573
Email: konni@photo.verm.tu-muenchen.de

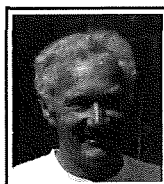
WG II/8.- TERMS OF REFERENCE

- Procedures and systems for automatic image orientation, generation of digital terrain models, and orthoimage generation from airborne and space-borne sensors
- Semi-automatic extraction of GIS and CAD data
- Procedures and systems for revision of spatial data bases
- Implementation and study of effects of data compression
- Integration of input and output devices such as image scanners and raster plotters
- Practical issues of digital photogrammetric systems including efficiency, quality control and economy

COMMISSION III: THEORY AND ALGORITHMS

President:

Toni SCHENK
Department of Civil and
Environmental Engineering and
Geodetic Science
The Ohio State University
470 Hitchcock Hall
2070 Neil Avenue



Columbus, OH 43210-1247
USA
Tel: +1 614 292-7126
Fax: +1 614 292-2957
E-mail: aschenk@magnus.acs.ohio-state.edu

Scientific Secretary:

Kim BOYER



RESOURCE AND ENVIRONMENTAL MONITORING

COMMISSION VII
1996-2000

ECO BP'98

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

Budapest, 1-4 September 1998



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SYMPOSIUM TIMETABLE

Deadline for Abstracts	October 15, 1997	Deadline for Originals	April 15, 1998
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For More Information Please Visit the ISPRS COMMISSION VII Website at <http://www.hegyi.com/isprs>
or Please Contact the Hungarian Secretariat at

Institute of Geodesy, Cartography and Remote Sensing
(FÖMI) Remote Sensing Centre. Attn.:
Peter. Winkler H-1149 Budapest Bosnyák tér 5, Hungary
Phones: 36 1 363-6669, 36 1 252-7898, Fax: 36 1 252 8282,
E-mail: peter.winkler@rsc.fomi.hu

or **Hegyí Geo Technologies International Inc.**
709-170 Laurier Ave. W., Ottawa Ont. K1P 5V5
Tel: +1 613 237 8055,
Fax: +36 1 202-6458,
E-mail: tnemeth@hegyi.com

Department of Electrical Engineering
The Ohio State University
452 Dreese Lab
2015 Neil Avenue
Columbus, OH 43210-1247
USA
Tel: +1 614 292-1757
Fax: +1 614 292-7596
E-mail: kim@ee.eng.ohio-state.edu

Administrative Secretary:

Ayman HABIB
Department of Civil and Environmental Engineering and
Geodetic Science
The Ohio State University
470 Hitchcock Hall
2070 Neil Avenue
Columbus, OH 43210-1247
USA
Tel: +1 614 292-6918
Fax: +1 614 292-2957
E-mail: habib.1@osu.edu

COMMISSION III - TERMS OF REFERENCE:

- Algorithms for geometric determination and analysis of photogrammetric data
- Feature extraction from multi-sensor, multi-resolution, multi-temporal imagery
- Image understanding
- Integrated sensor orientation
- Image sequence analysis
- Algorithms for digital photogrammetric systems and their GIS integration
- GIS concepts, with particular emphasis on integration of image data
- Merging theories from remote sensing and computer vision to interpret multi-sensor, multi-spectral and multi-resolution imagery
- Quality control, verification and performance measures of algorithms
- Theory and algorithms for synthetic aperture radar

WG III/1.- INTEGRATED SENSOR CALIBRATION AND ORIENTATION**Chair:**

Peggy AGOURIS
Dept. of Spatial Information Engineering
University of Maine
5711 Boardman Hall #348
Orono, ME 04469-5711
USA
Tel: +1 207 581-2180
Fax: +1 207 581-2206
E-mail: peggy@spatial.maine.edu

Co-Chair:

Ismael COLOMINA i Fosch
Institut Cartografic de Catalunya
Parc de Montjuic
08038 Barcelona
SPAIN
Tel: +34-3-425 2900
Fax: +34-3-426 7442
E-mail: ismael@icc.es

Secretary:

Anthony STEFANIDIS
Dept. of Spatial Information Engineering
University of Maine
5711 Boardman Hall #348
Orono, ME 04469-5711
USA
Tel: +1 207 581-2127
Fax: +1 207 581-2206
E-mail: tony@spatial.maine.edu

WG III/1.- TERMS OF REFERENCE:

- Single- and multi-sensor system calibration
- Automatic sensor orientation using GPS and INS information, and digital image processing techniques
- Automatic aerial triangulation
- Combination of sensor orientation and calibration algorithms with 3D scene reconstruction algorithms
- Multi-sensor information integration, e.g. aerial and satellite imagery, radar data, multi-spectral imagery, in conjunction with WG III/2

WG III/2.- ALGORITHMS FOR SURFACE RECONSTRUCTION**Chair:**

Amnon KRUPNIK
Department of Civil Engineering
Technion - Israel Institute of Technology
Haifa, 32000
ISRAEL
Tel: +972-4-8292661
Fax: +972-4-8234757
E-mail: krupnik@tx.technion.ac.il

Co-Chair:

Charles TOH
Center for Mapping
The Ohio State University
1216 Kinnear Road
Columbus, OH 43212
USA
Tel: +1 614 292-7681
Fax: +1 614 292-8062
E-mail: toth@ra.cfm.ohio-state.edu

Secretary:

Maxim FRADKIN

Technion-Israel Institute of Technology
Department of Civil Engineering
Haifa 32000
ISRAEL
Tel: +972-4-8292660
Fax: +972-4-8234757
E-mail: fradkin@tx.technion.ac.il

WG III/2.- TERMS OF REFERENCE:

- Algorithms for surface reconstruction from different cues, such as stereo, shading, shadows, texture, and spectral properties
- Integration of information from different sources, including aerial and satellite imagery, radar data, range data, multiple images, and GIS data
- Automatic verification and quality control of reconstructed surfaces
- Interrelations between matching and interpolation
- Role of surface reconstruction in automatic scene analysis

WG III/3.- FEATURE EXTRACTION AND GROUPING

Chair:

Heinrich EBNER
Chair for Photogrammetry
and Remote Sensing
Technical University Munich
D-80290 Munich,
GERMANY
Tel: +49-89-2892 2671
Fax: +49-89-280 9573
E-mail: ebn@photo.verm.tu-muenchen.de



Co-Chair:

Ram NEVATIA
Institute for Robotics and Intelligent Systems
University of Southern California
Los Angeles, CA 90089-0273
USA
Tel: +1-213-740-6428
Fax: +1-213-740-7877
E-mail: nevatia@iris.usc.edu

Secretary:

Helmut MAYER
Chair for Photogrammetry and Remote Sensing
Technical University Munich
D-80290 Munich
GERMANY
Tel: +49-89-2892-2688
Fax: +49-89-2809573
E-mail: helmut@photo.verm.tu-muenchen.de

WG III/3.- TERMS OF REFERENCE:

- Segmentation of images into meaningful features, such as points, edges, and regions

- Investigation of the impact of geometric and radiometric image formation on image segmentation
- Aggregation of features by iterated grouping methods
- Verification of global consistencies by optimization techniques
- Investigation of the potential of performing grouping processes in 3D under special consideration of object space constraints, precision and reliability
- Evaluation of the performance of feature extraction and grouping algorithms in cooperation with similar efforts in computer vision

WG III/4.- IMAGE UNDERSTANDING/ OBJECT RECOGNITION

Chair:

Wolfgang ECKSTEIN
Institute of Computer Science
Munich University of Technology
Orleanstr. 34
D-81667 Munich
GERMANY
Tel: +49 89 4809 5117
Fax: +49 89 4809 5203
E-mail: eckstein@informatik.tu-muenchen.de

Co-Chair:

Eberhard GUELCH
Institute of Photogrammetry
University Bonn
Nussallee 15
D-53115 Bonn
GERMANY
Tel: +49-228-732904
Fax: +49 228 732712
E-mail: ebs@ipb.uni-bonn.de

Secretary:

Carsten STEGER
Institute of Computer Science
Munich University of Technology
Orleanstr. 34
D-81667 Munich
GERMANY
Tel: +49 89 4809 5211
Fax: +49 89 4809 5203
E-mail: stegerc@informatik.tu-muenchen.de

WG III/4.- TERMS OF REFERENCE:

- Theoretical/conceptual investigations in 3D object recognition and image understanding
- Spatial modelling of human-built and natural objects like buildings, roads, or vegetation (geometric modelling, semantic modelling)
- Theory and algorithms for automation of 3D object recognition and object extraction
- Knowledge engineering with emphasis on knowledge encapsulation, knowledge representation and manipulation

- Integration of multiple sources (DTM, GIS, colour, etc.) in cooperation with WG III/5
- Performance characterization of algorithms (quality control, test procedures) jointly with WG III/3

WG III/5.- REMOTE SENSING AND VISION THEORIES FOR AUTOMATIC SCENE INTERPRETATION

Chair:

DeLiang WANG
Department of Computer and Information Science
The Ohio State University
2015 Neil Avenue
Columbus OH 43210-1277
USA
Tel: +1 614 292 6827
Fax: +1 614-292-2911
E-mail: dwang@cis.ohio-state.edu

Co-Chair:

Beata CSATHO
Byrd Polar Research Center
The Ohio State University
108 Scott Hall
1090 Carmack Road
Columbus, OH 43210
USA
Tel: +1 614 292-6641
Fax: +1 614 292-4697
E-mail: csatho@ohglas.mps.ohio-state.edu

Secretary:

Erzsebet MERENYI
Department of Planetary Sciences and
Lunar and Planetary Laboratory
University of Arizona
PO Box 210092
Tucson, Arizona 85721-0092
USA
Tel: +1 520 621 4073
Fax: +1 520 621 4933
E-mail: erzsebet@pirl.lpl.arizona.edu

WG III/5.- TERMS OF REFERENCE:

- Merging theories from remote sensing (classification) and computer vision for Object Recognition/Image Understanding (OR/IU), to analyze and interpret multi-spectral, multi-sensor imagery
- Exploration of the potential of scale space theory on multi-spectral and hyper-spectral imagery; extending the theory by including the spectrum
- Combination of modelling efforts of real world objects in GIS, digital photogrammetry and computer vision
- Investigation of the possibility of constraining the 3D image understanding and object recognition problem by GIS information, in cooperation with IC WG IV/ III.2 and WG VII/4

WG III/6.- THEORY AND ALGORITHMS FOR SAR**Chair:**

Laurent POLIDORI
Aerospatiale
100 bld du Midi
F-06322 Cannes La Bocca Cedex
FRANCE
Tel: +33 492 92 78 86
Fax: +33 492 92 76 60
E-mail: laurent.polidori@cannes.aerospatiale.fr

Co-Chair:

Soren MADSEN
Electromagnetics Institute
Technical University Denmark
DK-2800 Lyngby
DENMARK
Tel: +45 25 3846
Fax: +45 93 1634
E-mail: snm@emi.dtu.dk

WG III/6.- TERMS OF REFERENCE:

- Theory and algorithms for SAR, particularly for interferometry and feature extraction
- Establishment of state-of-the art radar mapping
- Geometric relationships in processing and interpreting SAR data
- Quality control aspects of radar images and derived products, such as radar maps and DTMs

COMMISSION IV: MAPPING AND GEOGRAPHIC INFORMATION SYSTEMS

President:

Dieter FRITSCH
Institute of Photogrammetry
University of Stuttgart
Keplerstrasse 11



D-70174 Stuttgart

GERMANY

Tel: +49 711 121 3386

Fax: +49 711 121 3297

E-mail: Dieter.Fritsch@ifp.uni-stuttgart.de

Technical Secretary:

Monika SESTER
Institute of Photogrammetry
University of Stuttgart
Keplerstrasse 11
D-70174 Stuttgart
GERMANY
Tel. +49 711 121 3384
Fax: +49 711 121 3297
E-mail: Monika.Sester@ifp.uni-stuttgart.de

Administrative Secretary:

Markus ENGLICH
Institute of Photogrammetry
University of Stuttgart
GERMANY
Tel. +49 711 121 3385
Fax: +49 711 121 3297
E-mail: Markus.Englich@ifp.uni-stuttgart.de

COMMISSION IV.- TERMS OF REFERENCE

- Analogue and digital mapping procedures and products
- Revision of topographic maps and map databases
- Data acquisition, data processing, analysis of data and visual representation in GIS
- Application of GIS to land related record management (e.g. multipurpose cadastre and utility mapping) and decision making tasks
- Radar and planetary mapping
- Digital terrain models
- Conceptual and logical spatial data modelling for storage and retrieval in spatial data bases

**INTER-COMMISSION (IC)
WG IV/III.1.- GIS FUNDAMENTALS
AND SPATIAL DATA BASES**

Chair:

Martien MOLENAAR
International Institute for Aerospace and Earth Sciences
Hengelosestraat, PO BOX 6
7500 AA Enschede
THE NETHERLANDS
Tel: 0031 4874 444
Fax: 0031 4874 335
E-mail: molenaar@ITC.NL

Co-Chair:

Y.C LEE
Department of Land Surveying and Informatics
The Hong Kong Polytechnic University
Hung Hom

Kowloon, HONG KONG
Tel: +852 2766 5968
Fax: +852 2330 2994
E-mail: lsyclee@polyu.edu.hk

IC WG IV/III.1.- TERMS OF REFERENCE:

- Conceptual GIS data modelling with regard to vector, raster and attribute data structures, including 3D aspects
- Multiscale representations of spatial data to investigate aggregation and generalisation techniques
- Integration of uncertainty measures in spatial data structures
- Investigation of kinematic and dynamic spatial data structures to manage spatio-temporal phenomena in GIS
- Development of hybrid data structures to integrate vector data, raster data and imagery of all kinds

**INTER-COMMISSION (IC)
WG IV/III.2.- INTEGRATION OF
IMAGE ANALYSIS AND GIS**

Chair:

Emmanuel BALTSAVIAS
Institute of Geodesy and Photogrammetry
ETH- Hönggerberg
CH - 8093 Zürich
SWITZERLAND
Tel: +41 1 633 3042
Fax: +41 1 633 1101
E-mail: manos@geod.ethz.ch

Co-Chair:

Michael HAHN
Until June 1997
Space Centre for Satellite Navigation
Queensland University of Technology
GPO Box 2434
Brisbane, QLD 4001
AUSTRALIA
Tel. +617 386 42458
Fax +61 7 386 41361
E-mail: m.hahn@qut.edu.au
From July 1997
Institute of Photogrammetry
University of Stuttgart
Keplerstr. 11
D-70174 Stuttgart
GERMANY
Tel +49 711 121 3386
Fax +49 711 121 3297
E-mail: Michael.Hahn@ifp.uni-stuttgart.de

Secretary:

Dirk STALLMANN
Institute of Photogrammetry
University of Stuttgart
Keplerstrasse 11
D-70174 Stuttgart
GERMANY
Tel: +49 711 121 3387
Fax: +49 711 121 3297
Email: Dirk.Stallmann@ifp.uni-stuttgart.de

IC WG IV/III.2.- TERMS OF REFERENCE:

- Use of GIS data and models to support image analysis
- Matching of image features and GIS objects for change detection and database revision
- Reconciliation of object modelling used in image analysis and GIS
- Investigation and development of techniques for fusion of geocoded multi-sensor data
- Use of image analysis techniques for extracting height information for 2D geo-databases
- Integration of image analysis techniques with GIS for querying, analysis and representation of spatial data
- Treatment of uncertainties, generalisation, and scale and temporal differences of GIS and image derived data

**WG IV/1.- DATABASE DESIGN
AND SPATIAL DATA ACCESS****Chair:**

Lutz PLUEMER
Institute für Informatik III
Universität Bonn
Römerstrasse 164
D-53117 Bonn
GERMANY
Tel: +49 228 734 538
Fax: +49 228 734 382
E-mail: lutz@uran.informatik.uni-bonn.de

Co-Chair:

Max EGENHOFER
National Center for Geographic Information & Analysis
(NCGIA)
Boardman Hall
University of Maine
Orono, ME 04469 - 5711
USA
Tel: +1 207 581 2114
Fax: +1 207 581 2206
E-mail: max@spatial.maine.edu

WG IV/1.- TERMS OF REFERENCE:

- Logical GIS data modelling for mapping of conceptual spatial data structures
- Investigation into the suitability of relational database management systems (RDBMS) for storage and retrieval of vector data, raster data, imagery and attributes
- Use of structured query languages for retrieval of geo-referenced data with special emphasis on recent developments such as SQL3 and GeoSQL
- Storage and retrieval of imagery in standard database systems
- Investigations into the potential of object oriented database systems and object oriented modelling techniques
- Use of distributed heterogeneous spatial databases to link digital topographic data and imagery (eg Open GIS)

**WG IV/2.- DIGITAL TERRAIN MODELS,
ORTHOIMAGES AND 3D GIS****Chair:**

Roy WELCH
Center for Remote Sensing and
Mapping Science (CRMS)
The University of Georgia
Athens, GA 30602 - 2503
USA
Tel: +1 706 542 2359
Fax: +1 706 542 2358
E-mail: gvickery@risc.crms.uga.edu

**Co-Chair:**

Klaus TEMPFLI
International Institute for Aerospace and Earth Sciences
(ITC)
Hengelosestraat
PO BOX 6
7500 AA Enschede
THE NETHERLANDS
Tel. +31 53 4874 444
Fax +31 53 4874 335
E-mail: Tempfli@ITC.nl

Secretary:

Marguerite REMILLARD
Center for Remote Sensing and Mapping Science (CRMS)
The University of Georgia
Athens, GA 30602 - 2503
USA
Tel. +1 706 542 2379
Fax +1 706 542 2358
E-mail: rite@risc.crms.uga.edu

WG IV/2.- TERMS OF REFERENCE:

- Use of DTM data sets for regional, national, and global modelling
- Applications of DTMs for topographic and thematic mapping, terrain visualisation and ortho-image generation
- Investigations into 3D digital surface modelling (DSM) techniques
- Integration of DTMs and ortho-images in GIS
- Applications of 3D modelling and 3D visualisation
- Investigations into suitable data structures for 3D GIS

WG IV/3.- TEMPORAL ASPECTS AND TOPOGRAPHIC DATABASE MAINTENANCE

Chair:

Jun CHEN
Deputy Director
National Geomatics Center of China
No. 1, Baishengcun, Zhizuyan
100044, Beijing
P.R. CHINA
Fax: +81 10 6842 4101
E-mail: jchen@gps.ceis.gov.cn

Co-Chair:

Fabio CROSILLA
Istituto di Urbanistica et Pianificazione
Universita degli Studi di Udine
Via Larga, 42
I - 33100 Udine
ITALY
Tel: +39 432 504128
Fax: +39 432 294928
E-mail: crosilla@dgt.uniud.it

WG IV/3.- TERMS OF REFERENCE:

- Documentation of the status of world mapping, and requirements for maps and database revision techniques
- GIS data homogenisation using statistical and image matching techniques for database maintenance
- Implementation of kinematic and dynamic spatial data structures for historical management in GIS
- Investigations for improving methodologies of change detection of cultural details and natural features, using aerial photographs, satellite images and other data sources
- Techniques for the revision of maps and GIS databases, including superimposition of maps and images, and the automated detection, extraction and classification of new features

WG IV/4.- MAPPING POTENTIAL OF HIGH RESOLUTION SATELLITE IMAGERY

Chair:

Gottfried KONECNY
Institute of Photogrammetry
and Engineering Surveys
University of Hannover
Nienburger Str. 1
D-30162 Hannover
GERMANY
Tel: +49 511 762 2481
Fax: +49 511 762 2483
E-mail: gko@ipi.uni-hannover.de



Co-Chair:

Donald LIGHT
Eastman Kodak Company
900 Lee, Bldg. 642
Rochester, New York 14652-4134
USA
Tel: +1 716 588 3311
Fax: +1 716 588 3306

WG IV/4.- TERMS OF REFERENCE:

- Status and technical definition of high resolution satellite systems for topographic and thematic mapping
- Mapping potential of existing high resolution satellite imagery
- Accuracy and information requirements for topographic and thematic maps, and for GIS databases, generated from high resolution satellite imagery
- Investigations into the synergy of simultaneously acquired stereoscopic and multi-spectral satellite image data

WG IV/5.- EXTRATERRESTRIAL MAPPING

Chair:

Jan-Peter MULLER
University College London
Department of Photogrammetry and Surveying
Gower Street
London WC1E 6BT
UNITED KINGDOM
Tel: +44 171 380 7227
Fax: +44 171 380 0453
E-mail: jpmuller@ps.ucl.ac.uk

Co-Chair:

Randy KIRK
US Geological Survey
2255 N. Gemini Drive

Flagstaff, AZ 86001
USA
Tel: +1 602 556 7015
Fax: +1 602 556 7014
E-mail: RKIRK@iflag2.wr.usgs.gov

Secretary:

Karl MITCHELL
Planetary Science Research Group
Environmental Science Division
Institute of Environmental and
Biological Sciences
Lancaster University
Ellel, Lancaster LA1 4YQ
UNITED KINGDOM
Tel: +44 1524 593975
Fax: +44 1524 593985
E-mail: k.l.mitchell@lancaster.ac.uk

WG IV/5.- TERMS OF REFERENCE:

- Status and technical definitions of satellite systems for extraterrestrial mapping
- Documentation of data sources, mapping techniques and products, of current and future activities in extraterrestrial mapping
- Development of new techniques for data acquisition and extraterrestrial mapping

WG IV/6.- GLOBAL DATABASES SUPPORTING ENVIRONMENTAL MONITORING**Chair:**

Ryutaro TATEISHI

Chiba University
Center for Environmental Remote Sensing
1-33 Yayoi - cho Inage - ku
Chiba 263
JAPAN
Tel. +81-43-290-3850
Fax: +81-43-290-3857
Email: tateishi@rsirc.cr.chiba-u.ac.jp

Co-Chair:

David HASTINGS
NOAA National Geophysical Data Center
325 Broadway
Boulder CO 80306
USA
Tel. +1-303-497-6729
Fax: +1-303-497-6513
Email: dhastings@ngdc.noaa.gov

WG IV/6.- TERMS OF REFERENCE:

- Global databases for mapping and monitoring natural resources and the environment, with special emphasis on availability and quality
- Establishment of comprehensive metadata for availability on the Internet and the World Wide Web
- Development of mapping and modelling techniques appropriate for environmental applications
- Stimulation of cooperation between international and national organisations involved in resource management and inventory, in cooperation with WG VII/5

COMMISSION V: CLOSE-RANGE TECHNIQUES AND MACHINE VISION

President:

Hirofumi CHIKATSU
Tokyo Denki University
Department of Civil Engineering
Hatoyama, Saitama, 350-03
JAPAN
Tel: +81-492-96-2911
Fax: +81-492-96-6501
E-mail: chikatsu@g.dendai.ac.jp



Fax: +81-3-5689-7290
E-mail: shimizu@planner.t.u-tokyo.ac.jp

COMMISSION V.- TERMS OF REFERENCE

- Close-range and microrange measurements
- Recording and monitoring of objects in motion and under deformation
- Optical and integrated close-range sensor systems
- Digital systems and time constrained solutions in close-range applications
- Image analysis and image synthesis algorithms in close-range applications
- Object related processing techniques in automatic, semi-automatic and manual mode in close-range applications
- Modelling for visualization and virtual reality (VR)
- Interface of CAD/CAM and information systems with close-range measurement systems

Secretary:

Eihan SHIMIZU
University of Tokyo
Department of Civil Engineering
Bunkyo-ku, Tokyo, 113
JAPAN
Tel: +81-3-3812-2111



WG V/1.- CLOSE-RANGE IMAGING AND METROLOGY

Chair:

Clive FRASER
University of Melbourne
Department of Geomatics
Parkville VIC 3052
AUSTRALIA

Tel: +61-3 9344 6806

Fax: +61-3 9347 2916

E-mail: c.fraser@engineering.unimelb.edu.au



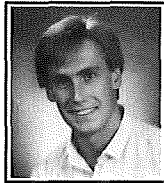
Co-Chair:

Horst BEYER
IMETRIC SA
Technopole
CH-2900 Porrentruy
SWITZERLAND

Tel: +41-32 465 9365

Fax: +41-32 465 9360

E-mail: imetric@dial.eunet.ch



WG V/1.- TERMS OF REFERENCE

- Off-line and on-line systems for metrology
- Development of digital imaging systems
- Sensor and system calibration
- Mathematical models and algorithms for vision metrology
- System performance evaluation
- New areas of application for vision metrology

WG V/2.- INTEGRATION OF PHOTOGRAMMETRIC SYSTEMS WITH CAD/CAM

Chair:

Juergen PEIPE
Bundeswehr University, Munich
Institute for Photogrammetry
and Cartography
D-85577 Neubiberg
GERMANY

Tel: +49-89-6004-3454

Fax: +49-89-6004-4090

E-mail: j-k.peipe@unibw-muenchen.de



Co-Chair:

Scott MASON
University of Cape Town
Department of Surveying
and Geodetic Engineering
ZA-Rondebosch 7700
SOUTH AFRICA

Tel: +27-21-650-3574

Fax: +27-21-650-3572

E-mail: mason@engfac.uct.ac.za



WG V/2.- TERMS OF REFERENCE

- Survey of existing CAD/CAM systems (functionality, data formats etc)

- Development of methodologies and tools for the integration of photogrammetric systems with CAD/CAM
- Development of CAD/CAM based object-oriented measurement procedures
- The transfer of photogrammetric technology to the industrial design, engineering and manufacturing sector

WG V/3.- SCENE MODELLING FOR VISUALIZATION AND VIRTUAL REALITY

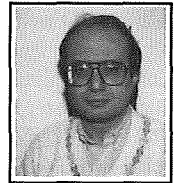
Chair:

Sabry EL-HAKIM
National Research Council
Institute for Information Technology
Ottawa, Ontario K1A 0R6
CANADA

Tel: +1-613 991 6381

Fax: +1-613 952 0215

E-mail: Elhakim@iit.nrc.ca



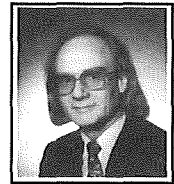
Co-Chair:

Wolfgang FÖRSTNER
University Bonn
Institut für Photogrammetrie
Nussallee 15
D-53115 Bonn
GERMANY

Tel: +49-228 7327 13/14

Fax: +49-228 7327 12

E-mail: wf@ipb.uni-bonn.de



WG V/3.- TERMS OF REFERENCE:

- Creation of accurate virtual reality (VR) models from real scenes and objects
- Integration of VR models and tools with close-range photogrammetry
- Improvement of performance aspects of close-range photogrammetry, such as speed and automation
- Sensor fusion for complete model creation
- Seeking new VR applications requiring high precision 3-D models based on photogrammetric techniques

WG V/4.- HUMAN MOTION AND MEDICAL IMAGE ANALYSIS

Chair:

Thomas LEEMANN
Institute of Biomedical
Engineering and Medical
Informatics
ETH Zurich

Gloriastrasse 35

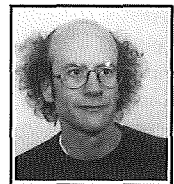
CH-8092, Zürich

SWITZERLAND

Tel: +41-1 632 4565

Fax: +41-1 632 1193

E-mail: tommy@biomed.ee.ethz.ch



Co-Chair:

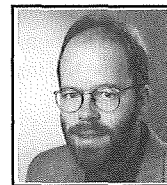
Masako TSURUOKA
Murai Laboratory, Institute
of Industrial Science
University of Tokyo
7-22 -1 Roppongi, Minato-ku,
Tokyo 106
JAPAN
Tel: +81-3-3402-6231
Fax: +81-3-3479-2762
E-mail: masako@shunji.iis.u-tokyo.ac.jp



- Active promotion of the use of digital photogrammetric recording methodologies and products

INTER-COMMISSION (IC)**WG V/III.- IMAGE SEQUENCE ANALYSIS****Chair:**

Hans-Gerd MAAS
Institute of Geodesy and Photogrammetry
Swiss Federal Institute of Technology
ETH - Hoenggerberg
CH - 8093 Zürich
SWITZERLAND
Tel: +41-1 633 3058
Fax: +41-1 633 1101
E-mail: gerd@geod.ethz.ch

**WG V/4.- TERMS OF REFERENCE:**

- Development of medical real-time imaging systems
- Dynamic analysis of human motion
- 3D medical imaging for anthropometry
- 3D representation and visualization
- Fostering cooperation between photogrammetry and medicine committee

WG V/5.- WORLD CULTURAL HERITAGE**Chair:**

Petros PATIAS
Department of Cadastre,
Photogrammetry & Cartography
The Aristotle University
of Thessaloniki
Univ. Box. 473
GR-54006 Thessaloniki
GREECE
Tel: +30-31 996 116
Fax: +30-31 996 116
E-Mail: patias@olymp.ccf.auth.gr

**Co-Chair:**

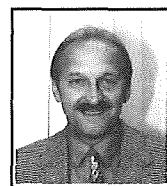
Osamu MURAKAMI
CORE Corp
3-4-15-903 Mita, Minato-ku
Tokyo,108
JAPAN
Tel: +81-3 3456 1911
Fax: +81-3 3453 4167
E-mail: osam-mu@mxh.meshnet.or.jp

**IC WG V/III.- TERMS OF REFERENCE**

- Matching strategies in image sequences
- Algorithmic aspects of the combination of stereo imagery and tracking
- Error modelling and propagation of uncertainty
- Construction and representation of local spatial data
- Spatial data interpretation for motion planning
- Devices for image sequence acquisition and storage
- Realtime image sequence processing hardware
- Fusion of multi-sensor information

**COMMISSION V - SPECIAL INTEREST
WORKING GROUP ON "ANIMATION"****Chair:**

Armin GRUEN
Institute of Geodesy and Photogrammetry
Swiss Federal Institute of Technology
ETH - Hoenggerberg
CH - 8093 Zürich
SWITZERLAND
Tel: +41-1-633-3038
Fax: +41-1-633-1101
E-mail: agruen@geod.ethz.ch

**Co-Chair:**

Wenhao FENG
School of Remote Sensing and
Information Engineering
Wuhan Technical University of
Surveying and Mapping
39 Louyu Road, Wuhan,430070
P. R. CHINA
Tel: +86-27 787 8317
Fax: +86-27 786 5973

**WG V/5.- TERMS OF REFERENCE**

- Application of photogrammetry and spatial information system technology to the recording, mapping and visualization of structures and items of the World Cultural Heritage
- Incorporation of innovative technologies for data acquisition, data processing, information management, development of new products, and visualization
- Development of low-cost digital systems for the recording and documentation of the World Cultural Heritage
- Fostering close cooperation with national and international groups

Co-Chair:

Shunji MURAI
University of Tokyo
Institute of Industrial Science
7-22 -1 Roppongi, Minato-ku
Tokyo 106
JAPAN



Tel: +81-3-3402-6231
Fax: +81-3-3479-2762
E-mail: murai@shunji.iis.u-tokyo.ac.jp

Since May '97 to April '99:
Chair Professor,
Space Technology Application and Research,
STAR Program, Asian Institute of Technology,
P.O.Box 4, Klong Luang, Pathumthani 12120
THAILAND.
Tel: +66-2-524.5599, Fax: +66-2-524.6147
E-mail: chiwa@shunji.iis.u-tokyo.ac.jp

**SPECIAL INTEREST WORKING GROUP
ON "ANIMATION" - TERMS OF REFERENCE:**

- Encouragement of collaboration with the computer animation community for the exchange of knowledge, techniques and applications
- Exchange of technology and application oriented knowledge through active participation in each other's conferences
- Promotion of application-specific technology through cooperation with related ISPRS WGs

**COMMISSION VI :
EDUCATION AND COMMUNICATIONS**

President :

Klaas J. VILLANUEVA
Jurusan Teknik Geodesi FTSP
Institut Teknologi Bandung
Jalan Ganesha 10
Bandung 40132
INDONESIA
Tel: +62-22-250-1116
Fax: +62-22-250-1116
Tel/Fax: (home) +62-22-2504679
E-mail: klaas@melsa.net.id



- Development and dissemination of standards with ISO and other standards organizations

WG VI/1.- EDUCATION

Chair :

Tania Maria SAUSEN
Instituto Nacional de
Pesquisas Espaciais (INPE)
Divisao de Sensoriamento Remoto
Av. dos Astronautas, 1758 -
Jardim da Granja
12227-010 Sao Jose dos Campos, SP,
BRAZIL
Tel: +55 12 345 6862
Fax: +55 12 345 6870/6460
E-mail: tania@ltid.inpe.br



Scientific Secretary:

Riadika MASTRA
BAKOSURTANAL
(National Mapping of Indonesia)
Jalan Raya Jakarta - Bogor Km 46
PO BOX 46/CBI
Cibinong
INDONESIA
Tel./Fax : +62-21-8292101



Co-Chair:

Walter SCHUHR
Technical University of Magdeburg
Faculty for Civil Engineering
Department for Geomatics
Brandenburger Str.9
D 39104 Magdeburg
GERMANY
Tel: +49 391 67 16 213
Fax: +49 391 67 16 212
E-mail: walter.schuhr@bauwesen.fmagdeburg.de

Communication Secretary:

Fahmi AMHAR
BAKOSURTANAL
Jalan Raya Jakarta - Bogor Km 46
PO BOX 46/CBI
Cibinong
INDONESIA
Tel./Fax : +62-21-8292101

COMMISSION VI.- TERMS OF REFERENCE

- Promotion of education and training in photogrammetry, remote sensing, GIS and related sciences
- Development of computer assisted teaching and training; support and coordination with regional activities through development of courses and course materials

WG VI/1.- TERMS OF REFERENCE:

- Identification and promotion of educational and training opportunities, taking account of regional needs
- Promotion and organization of multi-lingual and multi-media educational material
- Identification of channels for international technical cooperation in education

- Development of guidelines for curricula for undergraduate education

WG VI/2.- COMPUTER ASSISTED TEACHING**Chair:**

Kohei CHO
Tokai University
Research & Information Center
2-28-4 Tomigaya, Shibuya-ku
Tokyo 151
JAPAN
Tel: +81 3 3481-0611
Fax: +81 3 3481-0610
E-mail : kcho@keyaki.cc.u-tokai.ac.jp

Co-Chair:

Joachim K. HÖHLE
Aalborg University
Department of Development and Planning
Fibigerstraede 11, DK 9220 Aalborg
DENMARK
Tel: +45 98 15 85 22
Fax: +45 98 15 65 41
E-mail : jh@i4.auc.dk

WG VI/2.- TERMS OF REFERENCE

- Collection, analysis, dissemination and promotion of materials, software and data (hard copy and/or soft copy) for computer assisted teaching
- Investigation of the role of computer assisted teaching in modern education and training

WG VI/3.- INTERNATIONAL COOPERATION AND TECHNOLOGY TRANSFER**Chair :**

Luigi MUSSIO
D.I.I.A.R. - Politecnico di Milano
Piazza Leonardo da Vinci, 32
20133 Milan
ITALY
Tel: +39-2-2399 6501
Fax: +39-2-2399 6530
E-mail : luigi@ipmtf2.topo.polimi.it

**Co-Chair:**

Mojca KOSMATIN
Institute of Geodesy, Cartography and Photogrammetry
Jamova 2
1000 Ljubljana
SLOVENIA
Tel: +386-61-1250672
Fax: +386-61-1250677

Secretary:

Bruno CRIPPA
D.I.I.A.R. - Politecnico di Milano
Piazza Leonardo da Vinci, 32
20133 Milan
ITALY
Tel: +39-2-2399 6501
Fax: +39-2-2399 6530
E-mail: Bruno@ipmtf4.topo.polimi.it

WG VI/3.- TERMS OF REFERENCE:

- Foster relationships between Regional Member organisations and the relevant WGs
- Development of connections with international organisations to urge the wider promotion and use of photogrammetry, remote sensing and GIS
- Promotion of the general understanding of our profession and improvement of public relations for our discipline

WG VI/4.- INTERNET RESOURCES AND SPATIAL DATA SHARING**Chair:**

Tuan-chih CHEN
13-1, Lane 12, Yen-Ping Road
TAOYUAN 330,
TAIWAN
Tel: + 886-3-362-5089
Fax: + 886-2-754-2733
E-mail: profchen@linux.cjctc.edu.tw
or profchen@cc.cjctc.edu.tw

Co-Chair:

John FELKNER
Harvard University
Graduate School of Design
48 Quincy Street
Cambridge, MA 02138
USA
Tel: +1 617 493-4883 (home)
Fax: + 1 617 495-2943
E-mail: gsd97jjf@gsd.harvard.edu

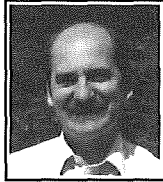
WG VI/4.- TERMS OF REFERENCE:

- Promotion of standards and efficient design of information rich homepages, including Member Reports
- Identification and reporting of sources of geospatial data, and forms of storage and accessibility
- Promotion of spatial data sharing
- Identification and recommendation of guidelines for spatial data standards and sharing policy

COMMISSION VII: RESOURCE AND ENVIRONMENTAL MONITORING

President:

Gabor REMETEY-FÜLÖPP
Department of Lands and Mapping,
Ministry of Agriculture
(Location: Budapest V. Kossuth tér 11)
H-1860 Budapest 55 P.O.Box 1
HUNGARY
Tel: +36 1 301 4052
Fax: +36 1 301 4691
E-mail: gabor.remetey@f-m.x400gw.itb.hu

**Secretaries:**

Peter WINKLER
FOMI Remote Sensing Centre
1149 Budapest XIV Bosnyak tér 5
HUNGARY
Tel: +36 1 163 6669
Fax: +36 1 202 6458
E-mail: 102615.3722@compuserve.com
or tmemeth@hegyi.com

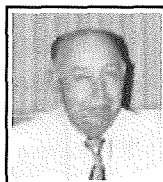
Frank HEGYI
Hegy GeoTechnologies
International Inc.
709-170 Laurier Ave. W.,
Ottawa Ont. K1P 5V5
CANADA
Tel: +1 613 237 8055
Fax: +36 1 202-6458
E-mail: 102615.3722@compuserve.com

**COMMISSION VII.- TERMS OF REFERENCE:**

- Methodology of visual image interpretation
- Methodology of computer-aided analysis of sensor data
- Spectral, spatial and temporal radiation properties of objects
- Environmental studies, resources inventories, and interpretative aspects of thematic mapping as applied in studies of vegetation, forestry, agriculture, soils, land and water use, geology, geomorphology, hydrology, oceanography, coastal zones, snow and ice, atmospheric sciences, archaeology, human settlements and engineering
- Integration of remote sensing and GIS techniques for the monitoring of resources and environment

**WG VII/1.- FUNDAMENTAL PHYSICS
AND MODELLING****Chair (until 1998):**

Gerald GUYOT
Unit de Bioclimatologie INRA
Domaine St.Paul, Site Agroparc
84914 Avignon Cedex 9
FRANCE
Tel: +33 4 90 31 60 90
Fax: 33 4 90 89 98 10
E-mail: guyot@avignon.inra.fr

**Co-Chair (until 1998), Chair (from 1998):**

Karl STAENZ
Canada Centre for Remote Sensing
Geomatics Canada
588 Booth Street
Ottawa, Ontario K1A 0Y7
CANADA
Tel: +1-613 947 1250
Fax: +1-613 947 1383
E-mail: Karl.Staenz@CCRS.NRCan.gc.ca

Secretary (Co-Chair from 1998):

Jan CLEVERS
Wageningen Agricultural University
Department of Geographic Information Processing and
Remote Sensing (GIRS)
Hesselink van Suchtelenweg 6
P.O.Box 339,
NL-6700 AH Wageningen
THE NETHERLANDS
Tel: +31 317 482 902
Fax: +31 317 484 643
E-mail: jan.clevers@staff.girs.wau.nl

Secretary (from 1998):

Phil TEILLET
Canada Centre for Remote Sensing
Geomatics Canada
588 Booth Street
Ottawa, Ontario K1A 0Y7
CANADA
Tel: +1-613 947 1250
Fax: +1-613 947 1383
E-mail: Karl.Staenz@CCRS.NRCan.gc.ca

WG VII/1.- TERMS OF REFERENCE:

- Physical measurements and modelling related to remote sensing
- Studies of spectral measurements and calibration at different spatial scales
- Standardisation and harmonisation of experimental methods and procedures in remote sensing
- Remote sensing of minor constituents of the atmosphere
- Spectral, spatial and temporal radiation and polarisation properties of objects

**WG VII/2.- APPLICATION OF REMOTE SENSING
AND GIS FOR SUSTAINABLE DEVELOPMENT****Chair:**

Dasika RAO
National Remote Sensing Agency
Department of Space, Government of India

Balanagar, Hyderabad
500 037
INDIA
Tel: +91-40-278360
Fax: +91-40-277210
E-mail: dpr@nrsa-hyd.globemail.com

Co-Chair:

Vernon SINGHROY
Canada Centre for Remote Sensing
Geomatics Canada
588 Booth Street
Ottawa, Ontario K1A 0Y7
CANADA
Tel: +1-613 947 1215
Fax: +1-613 947 1385
E-mail: vern.singhroy@ccrs.nrcan.gc.ca

**WG VII/2.- TERMS OF REFERENCE:**

- Development of concepts for sustainability indicators
- Promotion of applications in environmental and natural resource management
- Monitoring and assessment of environmental hazards and disasters
- Monitoring environmental changes including socio-economic factors

WG VII/3.- THEMATIC APPLICATIONS OF HIGH SPATIAL RESOLUTION SATELLITE IMAGERY**Chair:**

Bruce FORSTER
School of Geomatic Engineering
The University of New South Wales
Sydney NSW 2052
AUSTRALIA
Tel: + 61 2 9 385 4172
Fax: +61 2 9 313 7493
E-mail: b.forster@unsw.edu.au

**Co-Chair:**

Tina CARY
EOSAT
4300 Forbes Boulevard
Lanham MD 20706-9954
USA
Tel: +1 301 552 0546
Fax: +1 301 794 4243
E-mail: cary@eosat.com

**WG VII/3.- TERMS OF REFERENCE:**

- Data integration for urban planning and management
- Applications for improved rural management, including precision farming
- Support of local environmental impact studies

WG VII/4.- COMPUTER ASSISTED IMAGE INTERPRETATION AND ANALYSIS**Chair:**

Barbara KOCH
Albert-Ludwigs Universität Freiburg
79098 Freiburg i.Br. Werderring 6
GERMANY
Tel: +49 761 203 3694
Fax: +49 761 203 3701
ferninfo@ruf.uni-freiburg.de

**Co-Chair:**

Alois SIEBER
EC JRC Institute for Space Research
Unit of Advanced Techniques
21020 Ispra (Varese)
ITALY
Tel: +39 332 785 339
Fax: +39 332 785 468
E-mail: alois.sieber@jrc.it

WG VII/4.- TERMS OF REFERENCE:

- Integration of remote sensing with geospatial data
- Multi-spectral, multi-resolution, and multi-sensor data for image interpretation
- Knowledge encapsulation for purposes of automatic image analysis
- Investigation of performance of advanced classification techniques

WG VII/5.- GLOBAL MONITORING**Chair:**

Shintaro GOTO
Environmental Information
Research Laboratory
Kanazawa Institute of Technology
7-1 Ohgigaoka Nonnoichi
Ishikawa 921
JAPAN
Tel: +81 762 94 6710
Fax: +81 762 94 6711
E-mail: got@env.kanazawa-it.ac.jp

**Co-Chair:**

Mark IMHOFF
NASA Goddard Space Flight Center
Biospheric Sciences Branch
Code 923 Greenbelt MD 20771
USA
Tel: +1 301 286 5213
Fax: +1 301 286 0239
E-mail: mimhoff@ltpmail.gsfc.nasa.gov

Secretary:

Ake ROSENQVIST
Swedish Space Corporation
P. O. Box 4207
171 04 Solna
SWEDEN
Tel: +46-8-627 6200
Fax: +46-8-98 70 69
Email: ake@ssc.se

**WG VII/5 TERMS OF REFERENCE:**

- Identification of the remote sensing data requirements for models to support global change studies
- Seek affiliations with organisations and programs involved in global change studies such as the IGBP/HDP (International Geosphere Biosphere Program/ Human Dimension Program) programs for: land use cover change (LUCC); biospheric aspects of the hydrological cycle (BAHC); global change and terrestrial ecosystems (GCTE); International global change atmospheric chemistry program (IGAC); global terrestrial observing system (GTOS); and global ocean observing system (GOOS)
- Modelling of global change processes from long term data and indicators
- Collaboration with WG IV/6 (Global Databases and Monitoring)

WG VII/6.- RADAR APPLICATIONS**Chair:**

Tony MILNE
Office of Postgraduate Studies
The University of New South Wales
Sydney NSW 2052
AUSTRALIA
Tel: +61 2 9 385 2731
Fax: +61 2 9 385 3733
Email: t.milne@unsw.edu.au

Co-Chair:

Jürg LICHTENEGGER
Exploitation Department
ESRIN, European Space Agency
Via Galileo Galilei Casella Postale 64
00044 Frascati
ITALY
Tel: +39-6 9418 0626
Fax: +39-6 9418 0622
E-mail: juerg.lichtenegger@esrin.esa.it

**WG VII/6.- TERMS OF REFERENCE:**

- Extension of the use of multi-wavelength and multi-polarimetric radar data in investigations on earth surface characteristics and environmental analysis

- Provision of information on, and assessment of the suitability of, airborne and satellite radar systems for earth surface analysis
- Development of case studies of applications of radar data in: land cover classification; biomass estimation; forest inventory; wetland mapping; agricultural crop monitoring; urban analysis; and sea state conditions
- Provision of a network for collaboration between researchers involved in developing radar models from backscatter information, capable of predicting selected geophysical parameters such as soil moisture and biomass
- Investigation of the potential of applications of combined radar and optical data

WG VII/7.- NON-RENEWABLE RESOURCES AND GEOTECHNICAL APPLICATIONS**Chair:**

Tsheaie WOLDAI
International Institute for AeroSpace Survey & Earth Sciences (ITC)
Hengelosestraat 99
7514 AE, Enschede
THE NETHERLANDS
Tel.: +31-53 4874279
Fax: +31-53 4874336
E-mail: woldai@itc.nl

Co-Chair:

James TARANIK
Desert Research Institute
7010 Dandino Blvd.
P.O.Box 60220
Reno, Nevada 89506-0220
USA
Tel: +1-702 673 7312
Fax: +1-702 673 7421
E-mail: jtaranik@maxey.dri.edu

**WG VII/7.- TERMS OF REFERENCE:**

- Application of remote sensing digital image processing and analysis techniques, to mineral and petroleum exploration, geotechnical and geological applications
- Use of high spectral resolution sensor data from aerial photography and satellite sensors for earth resource surveys, with special emphasis on mineral classification and geotechnical characterisation of rocks and soils
- Multi data integration, including geophysical images

REPORTS ON SPECIAL EVENTS OF INTEREST FOR ISPRS

REPORT ON 1997 OPEN MEETING ON HUMAN DIMENSIONS OF GLOBAL CHANGE RESEARCH COMMUNITY

12-14 JUNE 1997, LAXENBURG - AUSTRIA

This meeting is a follow-up of the First Open Meeting of the Human Dimensions of Global Change Research Community held at Duke University in 1995. It was sponsored by IIASA (International Institute for Applied Systems Analysis) in Laxenburg, Austria (about 15km from Vienna) and the Social Science Research Council (SSRC), together with a number of co-sponsors. The purpose of the meeting was to bring together the growing human dimensions research community to promote exchanges of information on current research, teaching and outreach, to encourage networking in this new field, and to attract social scientists, humanists, and others not previously involved in human dimensions work. While the meeting is not directly related to the scientific activities of ISPRS, several working groups of ISPRS have identified global change in their terms of reference. In addition, WG VII/5 arranged a session on remote sensing and a WG meeting during the conference. Unfortunately, none of the papers at the meeting were printed and hence there is no official record of the conference. However, there was a significant range of literature available at the meeting on various aspects of global change.

The conference brought together a diverse range of experts. Invited presentations included topics such as: impacts of the environment on health; attitudes and behaviour; industrial transportation/business and trade; integrated assessment; environmental governance; environmental security. Parallel sessions were held on these and other topics, including deforestation and regrowth in the Brazilian rain forest; socializing the pixels; remote sensing and GIS in support of HDP; and land use cover/change. These sessions included discus-

sions on the application of remote sensing, as well as field surveys, to determine the human land use dynamics, land cover dynamics, and regional and global modelling of the behaviour of people in the area. The Brazilian study revealed the characteristics of deforestation, and the factors that appear to lead to clearing of primary and secondary forest growth. Studies in other parts of the world investigated the patterns of land use from space images and related them to the sociological aspects of the population.

Developing relationships between the information being analysed by remote sensing and GIS experts and the sociological aspects of human behaviour in the region, is a new approach for experts in ISPRS who tend to concentrate on the technology of remote sensing. Benefits can be gained from closer cooperation between experts in these fields. It is hoped that ISPRS will be able to maintain contact with these scientists and develop a closer working relationship with them.

The ISPRS WG VII/5 meeting, organized by the WG Chair, Dr Shintaro Goto and Co-Chair Dr Marc Imhoff, involved presentations on the status of ISPRS and ISPRS Commission VII, remote sensing and GIS in support of HDP, development of global databases, and global land use studies.

J. C. Trinder
ISPRS Secretary General

REPORT OF THE FORTIETH SESSION OF U.N. COPUOS (COMMITTEE FOR THE PEACEFUL USES OF OUTER SPACE)

9-11 JUNE 1997, VIENNA - AUSTRIA

The UN Office for Outer Space Affairs (OOSA) is responsible for the operation of the Committee for the Peaceful Uses of Outer Space. COPUOS includes representatives of national UN members as well as observers. ISPRS has Observer status in COPUOS and is normally represented at the Science and Technical Subcommittee meeting of COPUOS in February of each year, and the Committee in June. A statement is always read by the ISPRS representative at both meetings.

On this occasion the statement, read by Secretary General Professor John Trinder, identified the following issues:

- The signing of a Memorandum of Understanding (MoU) between the Director of the Office of Outer Space Affairs (OOSA), Dr Jasentuliyana, and ISPRS President Fritz. In summary, the terms of the MoU commits both parties to:
 - Promote and conduct activities of mutual interest to the UN Space Applications (UNSAF) of OOSA
 - Jointly aim to sponsor an event annually
 - Jointly coordinate schedules, events, topics and/or specialist needs in pre-planning related activities
 - Jointly seek financial support and identify specialists and lecturers for UN led events which require photogrammetric, remote sensing and Geographic Information Systems expertise
 - Have ISPRS incorporate formal opportunities within the framework of UNSAF to be included in the quadrennial ISPRS Congress and the relevant Quadrennial ISPRS Commission Symposia and Working Group activities
 - Request ISPRS to provide scientific and technological expertise through reviews, evaluations and recommendations on space-related matters of remote sensing

There are no financial implications of this agreement for the UN or ISPRS. ISPRS welcomes the signing of this agreement, and will do all within its resources to ensure that the terms of the agreement are fulfilled.

- Recent developments in the Society, including the willingness of ISPRS to participate in education and training programs of the planned UNISPACE III conference in 1999.
- The support of ISPRS for a further conference in USA on spin-offs benefits of Space Exploration for developing countries.
- New scientific developments in remote sensing

The discussions at the Fortieth Session of COPUOS included the following items:

- Ways and means of maintaining outer space for peaceful purposes

- The Report of the Scientific and Technical Subcommittee including: the significant list of workshops, training courses and seminars planned for 1997 in many countries around the world, under the auspices of the UN; matters relating to remote sensing of the Earth by satellites, including those related to developing countries; use of nuclear power sources in outer space; space debris; space transport systems; aspects of geostationary orbits; and space activities related to life sciences.

- Report of the Legal Subcommittee
- Report of the Preparatory Committee for the UNISPACE III Conference

Since ISPRS has indicated its willingness to participate in this conference, it is relevant to provide further description of this conference.

UNISPACE III is a follow-up from the UNISPACE II Conference held in 1982. This conference will be held from 19 to 30 July 1999 in Vienna, Austria. The suggested theme of the conference is 'Space Benefits for Humanity in 21st Century'. Items that will be discussed at the conference include: enhancing the use of space-based information and communications technology in order to strengthen operational global observing systems to become more efficient for the 21st century; and promotion of a wider use of space technologies in the prevention and mitigation of the effects of natural and technological disasters and provision of relief, as well as the monitoring of the environment change at the global level. Background papers will be prepared on: the Earth and its environment in space; disaster prediction, warning and mitigation; management of Earth's resources; satellite navigation and location systems; space communications and applications; basic science and its benefits; commercial aspects of space exploration including spin-offs; information systems for research and applications; small satellite missions; education and training in space science and technology. Each background paper will cover economic and social benefits and relevant aspects of international cooperation. Regional meetings for UNISPACE III will be organised by the OOSA prior to UNISPACE III, to ensure that the objectives of the meeting will be achieved.

ISPRS has agreed to provide workshops and training sessions at the UNISPACE III Conference, and will be approaching experts in appropriate fields to contribute to these activities.

J. C. Trinder
ISPRS Secretary General

REPORT OF THE 14TH U.N. REGIONAL CARTOGRAPHIC CONFERENCE IN ASIA AND PACIFIC

3-7 FEBRUARY 1997, BANGKOK, THAILAND

I attended the conference as the representative of ISPRS, which was invited as a Non Governmental Organization (NGO). About 160 experts from 30 countries from Asia and also western countries joined to present details of cartographic activities in each country and the NGOs, as well as to summarize recommendations of three committees on Land Resources and Environmental Management, Applied Technology, and Policy and Management.

I am pleased to report that ISPRS honorary member Professor Dr. Gottfried Konecny participated in the conference as an advisor of Germany, while several key persons in Asia, for example Dr. Paul Suharto, BAKOSURTANAL, Indonesia, Dr. Shaffert, National Cartographic Center, Iran, Mr. Kim, National Survey Department, Mr. Nonomura, Geographic Survey Institute, Japan also attended.

As a NGO member, I presented two papers, with co-author ISPRS President Mr. Lawrence W. Fritz:

- Integration of 3S Technologies, Remote Sensing, GIS and GPS, presented verbally
- ISPRS Activities, distributed to the participants.

The following presentations were of significant interest:

- China proposed a GPS geodetic control network for all of China and Asia.
- Japan proposed a world digital map of 1:1,000,000 scale or 1 Km grid interval, based on international cooperation, with sponsorship from the Japanese Government.
- Germany reported that digital photogrammetric technology is to be applied to stereoscopic satellite imagery such as MOMS, and US commercial satellite data of one meter resolution and other data.

- USA stressed the importance of data/information sharing based on an open data policy to promote international/national information infrastructure.

I believe that cartography cannot survive without the support of remote sensing, GIS and GPS, ie the so-called 3S technologies. Also the conventional disciplines such as surveying, cartography, photogrammetry, remote sensing etc should be integrated into geomatics or geoinformatics disciplines.

The following recommendations were proposed by three committees and agreed to with some corrections.

- Establishment of a foundation for spatial data infrastructure project.
- Promotion of a GPS geodetic network in Asia and Pacific.
- Maintenance of quality for digitized map data.
- Standardization of digital map database.
- Promotion of an earth map with the support of Japanese Government.
- Establishment of permanent committee on GIS infrastructure in Asia and Pacific.
- Participation of ASEAN FLAG at the UN Conference on Surveying and Mapping as an NGO.
- Participation of NGOs for development of cadastre survey.
- Integration of cadastre mapping and topographic mapping in a comprehensive spatial information infrastructure.

The next UN Regional Cartographic Conference in Asia and Pacific will be held in 2000, possibly in Philippines.

Shunji Murai
ISPRS First Vice President

SIXTH "SYNERGY OF REMOTELY SENSED DATA" WORKSHOP

17-18 FEBRUARY 1997, ENSCHEDE, THE NETHERLANDS

The sixth and final 'Synergy of Remotely Sensed Data' Workshop took place at the International Institute for Aerospace Survey and Earth Sciences (ITC), Enschede, The Netherlands on the 17 and 18 of February 1997. It was co-organised by the European Commission's European Scientific Research Network on Synergy of Remotely Sensed Data, and the International Society for Photogrammetry and

Remote Sensing (ISPRS), Commission VII Working Group 7 - Non-Renewable Resources and Geotechnical Applications. More than twelve scientific papers were presented by the Synergy Network Members and more than 30 participants attended the full two day sessions. This final workshop was co-hosted by the International Society of Photogrammetry and Remote Sensing (ISPRS), Commis-

sion VII, Working Group 7 on Non Renewable Resources and Geotechnical Applications.

Prof. John Van Genderen, as Research Network Coordinator and as Chairman of the Workshop welcomed the participants and outlined the progress so far achieved by the European Scientific Research Network on "Synergy of Remotely Sensed Data". He also outlined the importance of the ISPRS commission VII, Working Group 7 in co-organizing the workshop. With his introductory message the workshop was open for various speakers.

As a first speaker, Christine Pohl discussed the influence of geometric distortions and correction of remotely sensed data on the results of pixel based digital image fusion in relation to map updating. A comparison of the geometric integrity of terrain-geocoded and radiometrically enhanced imagery from SPOT, ERS-1 and JERS-1 SAR data fused applying colour transformation techniques as well as statistical or arithmetical method was fully explained using the example of Sumatra in Indonesia. The result of the various techniques and image combinations applied were evaluated for their capability to overcome the cloud problem often faced in humid tropics and for updating Indonesian topographical maps at a scale of 1:100,000.

The current state of the research into the thermal modelling of underground coal fires in northern China was discussed by Craig Cassells. The extensive set of surface temperature and borehole temperature data acquired for two fires in Ningxia, China will be used to test the dip angle and spherical models and in the development of more sophisticated numerical models. His approach to the remote sensing based fire detection and modelling scheme was outlined.

A paper on the quality assessment of SAR Interferometric data was given during the Workshop by Rudiger Gens who discussed an error propagation model and data processing of SAR data. His talk focused on the registration of single look complex (SLC) images, formation of the interferogram, phase unwrapping and reconstruction of the digital elevation model. Rudiger Gens also explained his ongoing research on the use of coherence image for land use classification in the Flevoland area (The Netherlands); glacier movements in Antarctic Peninsula and gas exploration leading to land subsidence in Groningen (The Netherlands). His research in the comparison of different classification algorithms and synergistic use of coherence image with other data sets was also emphasised during his talk.

Thomas Kremmers and Barbara Koch's paper emphasized the capabilities of a time series of ten ERS-1.SAR.PRI images for forestry purposes under the Central European forestry conditions. Their work assessed the approach undertaken to obtain a synthetic RGB colour composite and class separability (between forested and non forested areas, different tree types and tree ages) using statistical analysis.

A paper on the analysis of wavelet-compressed ERS1-SAR-PRI imagery of tropical Guyana was given by Rob

Verhoeven and Christoph Schneider. Their work was based on a subset of 1024 by 1024 pixels of the SAR data. Compression ratio from 4 to 64 has been applied to the data. Their research shows, even after compressing the image at a rate of 32, most relevant information, including the detection of logging activities is preserved in the image. Besides, wavelet compression reduces speckle significantly. Their conclusion was that the wavelet transform can be employed for the purpose of both data reduction and speckle reduction, incorporated into one processing step.

The second day of the Workshop started with the contribution of papers of the Network members of SYNERGY I Program; Schneider, Gossmann, Wunderle and Saurer, all from the Department of Physical Geography of the University of Freiburg, Germany. The first part of the talk focused on the application of data compression algorithms whereby the theoretical background to the wavelet compression procedure as applied to IPG was discussed. The second part discussed the application of interferometry for glaciological problems. Flow directions and velocity at the surface of two glaciers at 68° South on the west coast of the Antarctic Peninsula was investigated using interferometric techniques and a pair of single look complex images from the 15th and 16th October 1995 acquired during the tandem phase of the ERS-1 and ERS-2 satellites. The third part was to deal with the meteorological measurements in China for heat flux modelling. Unfortunately, the presentation was cancelled due to the absence of the speaker. Instead, the Schneider et al. paper on the 'Compression of NOAA/AVHRR Data with a Wavelet Transform' was presented. The speaker looked into the unsupervised classification, brightness temperatures, NDVI, BT4-BT5 and fractal dimension of the images and demonstrated by means of examples the various results of the research.

Cracknell's paper on 'Synergy In Remote Sensing — What's in a Pixel' was presented by Craig Cassells of ITC. The paper reviews the question of calibration of the detectors in an instrument and of the intercalibration of nominally identical members of a series of instruments; the effects of different methods of interpolation considered as well as the consequences of resampling in relation to the classification of an image. Several other topics were also considered and these include: the achievement of geometrical rectification, data compression or upscaling, mixed pixels and the study of sub-IFOV size objects.

The paper on 'Forestry information from microwave and optical remote sensing' was given by Tares. The study looked into the synergy of optical imaging spectrometer (AVIRIS) and polarimetric microwave (AIRSAR) data for forest resources assessment and also dealt with the development of an approach for feasible processing of large hyperspectral datasets. The synergy results showed the combined use of AIRSAR/AVIRIS data to improve the predictions significantly. In synergy with optical data, the improvement in performance of using the existing spaceborne SAR channels was stated minor.

The Tuesday afternoon session was devoted to an extended presentation of Munro on the activities of the West European Union Satellite Centre (WEUSC) in Spain and to the prototype SAR Geophysical Processor (GPROC) developed under the European Airborne Remote Sensing Capabilities Program (EARSEC, 1991-1994) of the Commission of The European Community coordinated by ESA. The latter was presented by Tares.

The talk on WEUSC included:

- An introduction to new sensors
- Preparation for multi-sensor, multi-temporal image analysis approaches for rapidly evolving crises including, the verifications of arms control agreements, crisis monitoring and management, maritime and environmental surveillance.

- Operational methodology development
- Image archive resources.

GPROC is targeted for scientific users of SAR data and with the introduction of the software package some

basic demonstration on the geophysical processor was given. Tares commented that a large software package for SUN Unix OS/Motif environment will be made available to the Synergy Network in the next few months.

The Workshop was officially closed at about 15.00 hours Tuesday by the Chairman. After the Workshop, the Network Members spent considerable time in reviewing the past three years collaboration, proposing improvement for "Synergy II" and planning further bilateral and multilateral researches cooperation between network members now that "Synergy I" research network has completed its tasks.

Proceedings of the final (Sixth) scientific workshop on the "Synergy of Remotely Sensed Data" is available in ITC. For more information, please call Mr. Craig Cassells, ITC, P.O.Box 6, 7500 AA, Enschede, The Netherlands. Tel. +31-(0)53-874 254, Fax.: +31-(0)53-874 336; EMail: Cassells@itc.nl

*Tsehaie Woldai
Enschede, The Netherlands*

REPORT ON ICORG '97 (INTERNATIONAL CONFERENCE ON REMOTE SENSING AND GIS)

18-21 JUNE 1997, HYDERABAD, INDIA.

The ICORG '97 was organised by **Professor MuraliKrishna**, from the Jawaharlal Nehru Technological University, Hyderabad India. It is the third in a series of conferences, the previous two being organised in 1992 and 1995. The conference attracted a number of international visitors and exhibitors, as well as many scientists and exhibitors from India. ISPRS was represented by the Secretary General, Professor John Trinder, who also acted as Technical Program Chair. The opening session included presentations by the Minister of Technical Education from the state of Andhra Pradesh, the Vice Chancellor of the Jawaharlal Nehru Technological University and other dignitaries. The keynote address was given by Dr DP Rao, the Director of the National Remote Sensing Agency (NRSA) in Hyderabad India. In his presentation he referred to the developments of space technology in India, including its own vehicle, and the planned launch of 4 additional remote sensing satellites by the year 2000. These include two new satellites, one called 'Cartosat' with a pan camera with 1 or 2.5 m resolution with fore and aft stereo, and the other a 'resource sat' with 3 band multi-spectral camera.

The technical sessions of the conference commenced with a plenary session, in which invited review papers were given on the state-of-the-art of remote

sensing and GIS and developments from industry. The presented papers were given in two parallel sessions on topics such as Micro-level Planning, Digital Image Processing, GIS/GPS, Land Resources, Water Resources, Integrated Surveys, and Marine Resources. They generally described case studies of the applications of remote sensing and GIS to various projects in India. The papers were generally of a high standard and there were robust discussions on many papers. It is clear that many Indian scientists have a good knowledge of these fields. Plenary sessions covered amongst other matters, presentations by exhibitors, international and national, on the details of their products. In addition, an invited talk was given on digital image processing by the former Director of NRSA, Professor Deekshatalu, who is now Director of the UN affiliated CSSE-Asia and the Pacific in Dehradun, India.

The proceedings, which were prepared as a hard copy edition prior to the conference, included 122 papers totalling about 600 pages. It is proposed to include a selected set of conference papers in a special edition of the International Journal of Remote Sensing. The Proceedings can be obtained from **Professor I.V. MuraliKrishna**, Jawaharlal Nehru Technological University, Hyderabad 500 028 AP, India, FAX +91 40 397 648.

REPORT ON THE SIXTH UNITED NATIONS REGIONAL CARTOGRAPHIC CONFERENCE FOR THE AMERICAS

2-6 JUNE 1997. U.N. HEADQUARTERS, NEW YORK, U.S.A.

The sixth UN Regional Cartographic Conference for the Americas convened during the first week of June at the headquarters of the United Nations in New York in accordance with the UN Economic and Social Council (ECOSOC) decision of 12 July 1993. ISPRS is a Non-Governmental Organization (NGO) in consultative status with ECOSOC. The primary objective of the Conference is to provide a regional forum where government officials, planners, scientists and experts from the Americas and other regions can meet to address common needs, problems and experiences in the field of surveying and mapping, cartography, hydrography, remote sensing, land and geographical information systems, including educational and training aspects, scientific and technological requirements, implementation issues and benefits. Additional specific and related objectives are to report on: (a) the implementation of the resolutions of the Fifth UN Regional Cartographic Conference for the Americas, and (b) the contribution of surveying, mapping and charting to support the implementation of Agenda 21.

At the Opening Beatrice Labonne, Director of the UN Division for Economic and Social Development and Natural Resources Management (DESDNRM) and Executive Secretary of the Conference, welcomed the participants and gave an opening statement which stressed how recent changes in technology and communication are making it feasible for cartography and its related fields to be used as a tool needed for national, regional and global sustainable development. The officers of the Conference were then elected with Dr. Carlos M. Jarque of Mexico as President, Ing. Roberto Lopez Meyer of El Salvador as Vice President and Mr. Peter Parkinson of the UK as Rapporteur. Three technical committees on relevant topics were established to consider issues, review papers, draft resolutions and provide summary reports: "Land Resources and Environment Management" chaired by Mr. Santiago Borrero of Colombia; "Enabling Technologies" chaired by Mr. Costas Armenakis of Canada; and "Data Storage, Standardization and Presentation" chaired by Manuel Garcia Perez of Spain.

The scientific program began with Country Reports followed by sessions to review the latest technology in cartographic data acquisition, manipulation, storage and presentation, with special emphasis on potential applications in developing countries. During the week, papers were presented in sessions on the following eight areas of interest: (a) Automated mapping projects, (b) GIS, (c) Surveying and mapping, geodesy, map updating and gen-

eralization, (d) Cadastral surveying and land reform, (e) Remote sensing in cartography, (f) Thematic mapping of natural resources development and environment, (g) Hydrographic surveying and nautical charting, and (h) Aeronautical charting. Two ISPRS papers co-authored by 1st VP Shunji Murai and President Lawrence Fritz were presented by L. Fritz on "Activities of the International Society for Photogrammetry and Remote Sensing" and on "Integration of the 3S Technologies — Remote Sensing, GIS and GPS."

Some of the major points and issues raised during the sessions and discussions included: emphasis on the importance of these activities to address impacts and effects of major changes in the world's demographics, economics, ecology and use of technology; the uneven advancement of technological use around the world; efforts to implement cadastral reform; open access to global mapping data; the value of satellite imagery data to support national and regional planning and management programs; the need for geospatial frameworks for sustainable development; the value of standards and specifications in development of spatial data infrastructures; the desire for a permanent committee in the Americas to address GIS use and infrastructure issues; the role of NGO's, such as ISPRS, in addressing these issues; and issues related to assist member States in the region to fully utilize opportunities provided by the cartographic technologies and applications.

The essences of these and other items were summarized and formed the basis for the following 10 formal Resolutions resulting from the Conference. **A summarization of the Conference Resolutions is:**

1.- Seventh United Nations Regional Cartographic Conference (RCC) for the Americas

Recommends that ECOSOC approve that the 7th RCC for the Americas be convened no later than early 2001, and **further recommends** that with the assistance of some member states of the region, the Secretary-General promote an on-going dialogue between the member states and other stakeholders to ensure the implementation of the resolutions of the 6th UN RCC for the Americas.

2.- Establishment of a Working Group of delegates and experts to define the mission and focus of the Seventh United Nations Regional Cartographic Conference for the Americas

Recommends the convening of a special working group from all UN RCC's and members states of the UN Economic Commission for Europe to re-engineer the operation of the conference to ensure that it is relevant to regional and global needs and addresses issues of importance to users of spatial data and land related information in the 21st century; and **further recommends** that (a) the working group develop a generic template for member states to report status and activities including relevant national indicators, and (b) investigate timing the UN RCC's to ensure that the conferences in Africa, Asia and Pacific, and the Americas are repeated by 12 month intervals followed by an inter-regional UN RCC at which they share global experiences and bring a global perspective in policy and decision making; and **also recommends** that the generous offer of Mexico to host the special working group of delegates and experts be pursued.

3.- Permanent Committee on GIS Infrastructure for the Americas

Recommends that member states take definite actions towards the establishment of a Permanent Committee for GIS Infrastructure for the Americas (PCGISIA), within one year, and invitations to participate be extended to all member states of the region, and **further recommends** that future reports by the PCGISIA be submitted for consideration to the UN RCC for the Americas.

4.- Spatial Data Infrastructure

Recommends that the UN, through this resolution, encourages all member states in the Americas to consider establishing a national spatial data infrastructure (NSDI), and **also recommends** that the UN encourages all member states in the Americas to consider participating in the work of the proposed PCGISIA and in the work of the International Organization for Standardization (ISO) Technical Committee 211 on Geographic Information/Geomatics, and **further recommends** that the UN encourages the proposed PCGISIA to endeavor to link the Americas Spatial Data Infrastructure into the Global Spatial Data Infrastructure.

5.- The role of the cadastre in spatial data infrastructure

Recommends that member states and appropriate stakeholders convene through the proposed PCGISIA, and with the assistance of the UN Secretary-General, a special working group to determine the role of cadastre in spatial data infrastructures within the context of a wider NSDI, and **further recommends** that the deliberations and recommendations be reported to the 7th UNRCC for the Americas, and **also recommends** that the special working group assess applicability to the Americas of the Bogor Declaration on cadastral reform and the need for guidelines.

6.- Development of the Global Map

Recommends that members of the Global Map project create a Global Mapping Forum of data providers and users to facilitate the development of the Global Map Network, with Internet or other means to facilitate communication and interaction, and **recommends also** establishing points of contact within National Mapping Organizations in facilitating the creation of such a forum, and **further recommends** the strengthening efforts and new initiatives between Global Mapping and those of various national and regional spatial data infrastructures.

7.- Enabling technologies

Recommends, that the Secretary-General with the support of member states and international scientific organizations, promote enabling geomatics technologies within all countries of the Region, by educating and regularly informing the community on their capabilities and progress, and **further recommends** making enabling technologies and relevant data more accessible, easy to use and understand while ensuring their sustainability and affordable cost.

8.- Inter-American Biodiversity Information Network

Recommends that member states of the region and non-governmental organizations consider joining and participating in the Inter-American Biodiversity Information Network (IABIN).

9.- Regional workshops and seminars on the benefits of advanced satellite imaging systems

Recommends that the United Nations within available resources, collaborate with International Scientific Organizations such as ISPRS to arrange for regional workshops and seminars on the benefits occurring from advanced satellite imaging systems capabilities for decision-makers and high level managers.

10.- Vote of thanks

To Conference hosts, organizers, Secretariat, officers, staff, et al.

The Conference was attended by 86 representatives of 37 countries and specialized agencies, intergovernmental and international scientific organizations. Most (51) of the presentations and related documentation was distributed and ISPRS can obtain copies for Members upon request. In the closing sessions the Conference discussed, modified and approved draft reports of the technical committees and resolutions. A final report will be issued by the UN.

Lawrence W. Fritz
ISPRS President



PROFILE OF ISPRS SUSTAINING MEMBERS

**ADAM TECHNOLOGY**

Attn: Mr. Michael E. Goble-Garratt
Enterprise Unit 1, Technology Park
P.O. Box 380
Bentley, Western Australia 6102
Australia
Tel: +61-9-470-2322
Fax: +61-9-470-2303

AERIAL

Attn: Pierre Gallot
670 Avenue Jean Perrin
13851 Aix en Provence
Cedex 3
France
Tel: +33-42-60-05-45
Fax: +33-42-24-26-04

AERO ASAHI CORPORATION

Attn: Kokichi Kimura
32nd Fl. Sunshine 60 Bldg.
1-1 Higashi-ikebukuro, 3 chome
Toshima-ku, Tokyo 107
Japan
Tel: +81-3-3988-6811
Fax: +81-3-3988-4578

AEROFOTO CRUZEIRO S.A.

Av. Almirante Frontin 381
Bonsucesso,
Rio de Janeiro - RJ
Brazil

AGFA-GEVAERT N.V.

Attn: Frans Peeters ext. 4160
Septestraat 27
B-2640 Mortsel
Belgium

ASIA AIR SURVEY CO. LTD.

Attn: Masataka Fuchimoto
2-18 Shinjuku-4, Shinjuku-ku
Tokyo 160
Japan
Tel: +81-3-5379-2151
Fax: +81-3-5379-2158

CARL ZEISS

Attn: Dr. H.-J. Hellmeier
Postfach 1380
D-73446 Oberkochen
Germany
Tel: +49-7364-203889
Fax: +49-7364-204730

**DLR - (GERMAN AEROSPACE
RESEARCH ESTABLISHMENT)**

Attn: M. Schroeder
Postfach 11 16
D-82230 Wessling
Germany
Tel: +49-8153-282790
Fax: +49-8153-281444
E-mail: MS@zeus.oc.op.dlr.de

EARTHWATCH, INCORPORATED

Attn: Cathy Williams, Director,
Marketing of Business Services
1900 Pike Road
Longmont, CO 80501
USA
Tel: +1-303-682-3800
Fax: +1-303-682-3848
E-mail: CWilliams@digitalglobe.com

EASTMAN KODAK COMPANY

Aerial Systems, CM & S
Attn: Leonard LaFeir
1447 St. Paul Street
Rochester, NY 14653-7128
USA
Tel: +1-716-253-1855
Fax: +1-716-253-0705
E-mail: <http://www@aerial.com>

EURIMAGE

Attn: Marcello Maranesi
Via E. D'Onofrio 212
00155 Rome
Italy
Tel: +39-6-40-69-41
Fax: +39-6-40-69-42-32
E-mail: info@eurimage.it

**FINNMAP FM-
INTERNATIONAL OY**

Attn: Paavo Martinmaa
P.O. Box 14
FIN-00511 Helsinki
Tel: +358-9-229-3060
Fax: +358-9-148-1711
E-mail: paavo.martinmaa@fminter.inet.fi

**GEOCARTO
INTERNATIONAL CENTRE**

Attn: K. N. Au
G.P.O. Box 4122
Room 217, Wah Ming Centre
421 Queen's Road West
Hong Kong
Tel: +852-2546-4262
Fax: +852-2559-3419
E-mail: geocarto@hkstar.com

GITC bv

Attn: Johan Boesjes
Nieuwedijk 43
8531 HK Lemmer
The Netherlands
Tel: +31-514-56-1854
Fax: +31-514-56-3898

**HUNTING
AEROFILMS LIMITED**

Attn: Peter D. O'Connell, Managing
Director Gate Studios Station Road
Borehamwood, Hertfordshire WD6 1EJ
United Kingdom
Tel: +44-81-207-0666
Fax: +44-81-207-5433
E-mail: 106233,3603@compuserve.com

INPHO GmbH

Attn: Manfred Sigle
Smaragdweg 1
D-70174 Stuttgart
Germany
Tel: +49-711-228810
Fax: +49-711-2288111
E-mail: inpho@inpho.de

**Interbranch Association
"SOVINFORMSPUTNIK"**

Attn: Victor N. Lavrov
47, Leningradshy prospect
125167 Moscow
Russia
Tel: +7-095-943-0757
Fax: +7-501-943-0585

INTERGRAPH CORPORATION

Attn: Phil Kern
Mail Stop IW17B6
Huntsville, AL 35894-0001
USA
Tel: +1-205-730-1827
Fax: +1-205-730-6750

KAMPSAX GEOPLAN

Attn: Peter N. Hansen
Stamholmen 112
DK-2650 Hvidovre
Denmark
Tel: +45-36-39-09-00
Fax: +45-36-77-24-21

KIMOTO CO., LTD.

Attn: Y. Endo, System Sales Group
BYGS Bldg
2-19-1, Shinjuku, Shinjuku-ku,
Tokyo 160
Japan
Tel: +81-3-3350-0641
Fax: +81-3-3350-4900

KOKUSAI KOGYO CO., LTD.

Attn: Susumu Horibe
3-6-1 Asahigaoka
Hino-city, Tokyo 191
Japan

LEICA AG

Photogrammetry & Metrology
Attn: David Hughes
Head, Marketing PGS/LIS
Monchmattweg 5
CH-5035 Unterentfelden
Switzerland
Tel: +41-62-737-6767
Fax: +41-62-723-0734
E-mail: hdw@pmu.leica.ch

**LOCKHEED
MARTIN CORPORATION
Management & Data Systems**

Attn: John Baran
P.O. Box 8048-13 E18
Philadelphia, PA 19101
USA
Tel: +1-610-531-6000
Fax: +1-610-962-2153

MATRA CAP Systèmes

Attn: Michel Mariton
6 rue Dewoitine, BP 14
F-78142 Velizy-Villacoublay Cedex
France
Tel: +33-1-34 63 76 01
Fax: +33-1-34 63 74 44

**NATIONAL INSTITUTE FOR
SPACE RESEARCH (INPE)**

Attn: Thelma Krug
Avenida dos Astronautas 1758
Jardim da Granja
12227-010 - Sao Jose dos Campos, SP
Brazil
Tel: +55-12-325-6450 - +55-12-341-1868
Fax: +55-12-325-6460
E-mail: thelma@ltid.inpe.br

**NATIONAL
REMOTE SENSING AGENCY**

Attn: B. L. Deekshatulu, Director
Department of Space
Government of India
Balanagar, Hyderabad - 500 037
India
Tel: +91-40-278360
Fax: +91-40-277210 & 278648
E-mail: bld%nrnsa-hyd@uunet.in

OPEN GIS CONSORTIUM

Attn: Lance McKee
35 Main St., Suite 5
Wayland, MA 01778
USA
Tel: +1-508-655-5858
Fax: +1-508-655-2237
E-mail: dschell@opengis.org

PASCO CORPORATION

Attn: Shigeaki Yomoda
Office of Technology Development
No. 1-2,1 chome, Higashiyama
Meguro-ku, Tokyo 153
Japan
Tel: +81-3-3715-1615
Fax: +81-3-3715-6600
E-mail: D/J/153ka/41

SAAB SURVEY SYSTEMS

Attn: Birgitta Edquist Karlsson
PO Box 1017
S-SSI 11 Jonköping
Sweden
Tel: +46-36-194800
Fax: +46-36-194588
E-mail: birgitta.edquist@survey.combitech.se

SCOT CONSEIL

Attn: Gérard Bégni
1, rue Hermès
Parc du Canal
31526 Ramonville Cedex
France
Tel: +33-61-39 46 07
Fax: +33-61-39 46 10

**SHIN GIJUTSU
CONSULTANT CO., LTD.**

Attn: Yoshito Miyatsuka, Tokyo Br. Mgr.
988, Bessho, Hachioji-City
Tokyo 192-03
Japan

SISCAM

Attn: Giancarlo Capanni
Via Masaccio 87
50132 Florence
Italy
Tel: +39-55-2476.020
Fax: +39-55-2347.760
E-mail: SISCAM@ats.it

SPACE IMAGING INC.

Attn: Alba Gillis
9351 Grant St.
Suite 500
Thornton, CO 80229
USA
Tel: +1-800-693-4454 or +1-303-254-2107
Fax: +1-303-254-2215

SPOT IMAGE

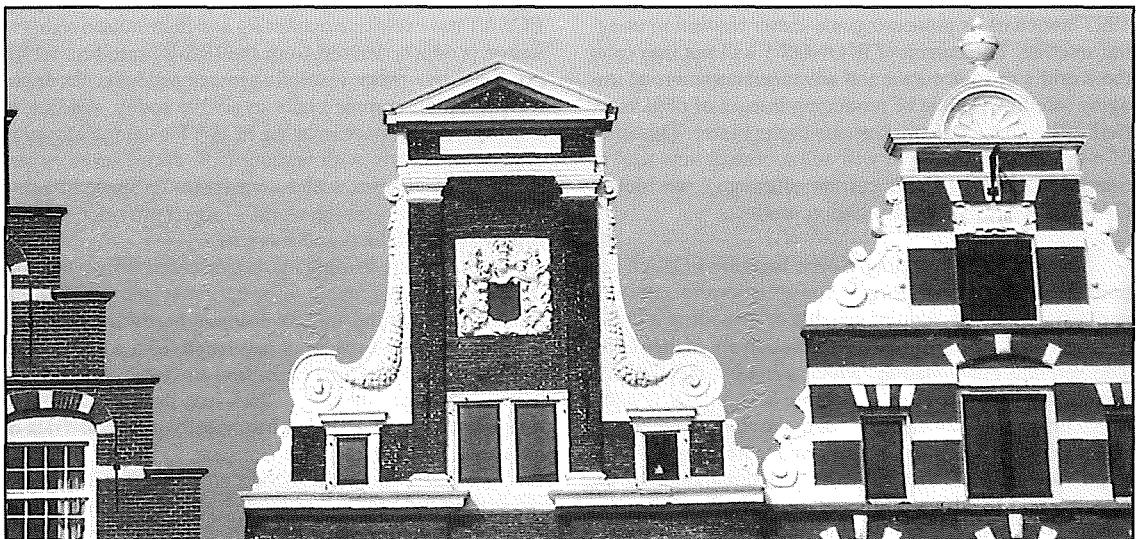
Attn: Jacques Mouysset
5 rue des Satellites
BP 4359
F-31030 Toulouse Cedex 4
France
Tel: +33- 5 62-19-4040
Fax: +33- 5 62-19-4011

**VISION INTERNATIONAL,
a division of AUTOMETRIC INC.**

Attn: Janine Hussey
5301 Shawnee Road
Alexandria, VA 22312
USA
Tel: +1-703-658-4076
Fax: +1-703-658-4021

ACKNOWLEDGEMENTS

We have also received the profiles of **KARL ZEISS** (Germany), **INPHO GmbH** (Germany), **SPOT IMAGE** (France) and **MATRA Systemes & Information** (France). This information will be included in the next ISPRS Highlights.





3D VISUALIZATION, IMAGE PROCESSING, AND SYSTEM DEVELOPMENT

From its founding in 1957, Autometric has become a market leader providing information systems and services in 3D visualization, reconnaissance, and remote sensor imagery-related areas. With the creation of Vision International, Autometric has become the premier provider of photogrammetric, spatial data system, and geographic information system (GIS) software to the mapping community. Today, as an employee-owned company, Autometric draws upon a wealth of professional talent and technological resources.

The company offers products and information services in four related areas:

- Remote Sensor Image Processing, Interpretation, and Analysis
- Digital Mapping and Spatial Data Systems

- Visualization, Modeling and Simulation Systems
- High-End Systems Integration/Engineering

From theater combat to space operations, from interactive terrain visualization to a geographically enhanced transportation system, Autometric has changed the way decision makers look at the world around them. In an increasingly competitive environment, Autometric allows you to make informed decisions at the earliest possible moment.

With headquarters in Alexandria, Virginia, offices across the nation, and a distribution network worldwide, Autometric has enjoyed steady business growth and increasing financial success. The company has the unique positioning and credentials to design, develop, integrate, and deliver solutions that can satisfy their customer's growing needs for geo-based information.



SPACE IMAGING EOSAT COMPANY DESCRIPTION

Already the leader in commercializing the world's most advanced Earth observation technology, Thornton, Colorado-based Space Imaging EOSAT will open a new era of precision Earth observation with the December, 1997 launch of its pioneering one-meter resolution imaging satellite. The launch of IKONOS 1 will put into orbit the world's most accurate and advanced commercial imaging satellite capable of producing images of objects on the Earth's surface as small as one-meter in size. This first-of-a-kind satellite system will add a critical new tool to Space Imaging EOSAT's current offering of worldclass CARTERRA™ Earth information products.

Since its 1994 founding, Space Imaging EOSAT has built one of the world's largest constellations of satellites and aerial mapping sources capable of providing a broad assortment of timely, quality information about the Earth. The satellite constellation, which includes the flagship Landsat satellites, the Indian Remote Sensing (IRS) satellites, Japan's JERS satellite, and the European Space Agency's ERS satellites, enables Space Imaging EOSAT to provide products that serve the global marketplace for regional and local mapping, environmental monitoring, weather analysis, ocean mapping, infrastructure manage-

ment, agricultural monitoring, emergency response and an array of other applications.

In partnership with ANTRIX, the marketing arm of the Indian Space Research Organization, Space Imaging EOSAT has exclusive marketing and distribution rights to image products derived from the IRS-1C satellite, which produces five-meter resolution image products, the highest resolution commercially available today. Adding to this resource is Space Imaging EOSAT's unique Mapping Alliance Program with leading U.S. aerial services and mapping companies, which contributes to Space Imaging EOSAT's position as the world's largest provider of Earth information products and services.

According to leading market research firms, the size of the global geographic information system market, including commercial and government hardware, software and services, will reach an estimated \$6.5 to \$7 billion worldwide, and \$2.5 to \$3 billion in North America, in annual revenues in 1997. Industry professionals also estimate that the market has historically grown at a rate of between 15 to 20 percent per year. Space Imaging EOSAT believes that the market growth rate will accelerate as new and better sources of digital Earth information becomes available and new applications are developed.



ISPRS EVENTS CALENDAR

1 July 1997 Version

Look for updated Calendar Information on the ISPRS Home Page

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








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




Email: jheckman@pcmsgw.vf.lmco.com

* = New or updated information; C = ISPRS Meeting- Dates Confirmed and approved by Council; F = Facsimile;
tbr = ISPRS Proposed Meeting - dates/location to be resolved pending Council approval; E = E-mail; P = Telephone






ISPRS	1	9	9	7	ISPRS
DATE	EVENT	SITE	CONTACT		
30 Jun - 2 Jul 97	53 ^d ION "Future of Navigation: Facing the Challenges"	Albuquerque, USA	ION P: +1-703-683-7101/F: 683-7105 www.ion.org		
30 Jun - 11 Jul 97	International Seminar on Satellite Image Digital Processing Applied to Cartography (IGN / Spain, IPGH / PIGH, INEGI / Mexico)	Aguascalientes, AGS, MEXICO	Maria Elena Flores M. (INEGI) F: +52-49-181280, P: +52-49-186237 E: mflores@cap.inegi.gob.mx		
5-9 Jul 97	The 8 th International Conference on Advanced Robotics, ICAR'97	Monterey, USA	Prof. Antti Koiva P: +1-317-494-3436/F: 494-0880 E: koivo@ecn.urdue.edu www.cs.cmu.edu/afs/cs/project/space/www/cira97/		
7-10 Jul 97	3 rd International Airborne Remote Sensing Conference and Exhibition	Copenhagen, DENMARK	ERIM/Airborne Conference P: +1-313-994-1200 x3234/F: 994-5123 E: wallman@erim.org www.erim.org/CONF/		
7-12 Jul 97	International Conference on Forest Products for Sustainable Forestry	Pullman, USA	IUFRO Division 5 Conference F: +1-509-535-0945		
8-11 Jul 97	Joint Workshop on Metadata Registries	Berkeley, USA	John L. McCarthy P: +510-486-5307/F: 486-7891 E: JLMcCarthy@lbl.gov www.lbl.gov/~olken/EPA/Workshop/call.html		
10-11 Jul 97	CIRA '97 "Computational Intelligence in Robotics and Automation"	Monterey, USA	Prof. Antti Koiva P: +1-317-494-3436/F: 494-0880 E: koivo@ecn.urdue.edu www.cs.cmu.edu/afs/cs/project/space/www/cira97/		
14-17 Jul 97	International Conference on "Image Processing and Applications" (IPA '97)	Dublin, IRELAND	IPA '97 Secretariat E: sgriffiths@iee.org.uk		
17-19 Jul 97	EARSeL Workshop on "Laser Remote Sensing of Land and Sea"	Tallinn, ESTONIA	M. Godefroy P: +33-1-45-56-73-60/F: 56-73-61 E: EARSeL@meteo.fr		
19-23 Jul 97	URISA '97 "Integrating Information Technology" 35 th Annual Conference and Exposition	Toronto, ONTARIO	URISA P: +1-202-289-1685/F: 842-1850 E: training@urisa.org		
21-23 Jul 97	IFAC Workshop Intelligent Manufacturing Systems	Seoul, KOREA	Hyung Suck Cho F: +82-42-8693210 E: hscho@ica.kalat.ac.kr		

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DATE	EVENT	SITE		CONTACT		
22-26 Jul 97 *	IAG 13 th International Symposium on Earth Tides	Brussels, BELGIUM		Prof. Wenzel Universitat Karlsruhe, Germany		
25 Jul-1 Aug 97	SPIE's International Symposium on "Optics, Imaging and Instrumentation"	San Diego, USA		SPIE P: +1-360-6763290/F: 6471445 E: spie@spie.org www.spie.org/		
26-30 Jul 97	"Softcopy Photogrammetry Applications: Using the Tools"	Arlington, USA		ASPRS P: +1-301-493-0290 www.asprs.org/asprs		
3-8 Aug 97	IGARSS '97 "Remote Sensing - A Scientific Vision for Sustainable Development"	SINGAPORE		P: +1-713-291-9222/F: 291-9224 E: tstein@phoenix.net www.phoenix.net/~tstein/igarss		
3-8 Aug 97	SIGGRAPH '97	Los Angeles, USA		Steve Koppel E: koppel@siggraph.org		
6-8 Aug 97 *	Information Agriculture Conference '97	Champaign-Urbana, USA		Potash & Phosphate Institute P: +1-314-331-8385/F: 331-1846 E: conference@smtp.lms.usace.army.mil		
10-24 Aug 97	Geoinformatics Conference of the International Eurasian Academy of Sciences	Beijing, CHINA		P: +86-10-649-15044/F: 11544		
12-29 Aug 97	"Physical Processes in the Coastal Zone: Computer Modelling and Remote Sensing"	Dundee, UK		Sheila Newcombe P: +44-1382-344933/F: 345415 E: S.K.Newcombe@dundee.ac.uk		
18-22 Aug 97	Global Conference on Environmental Education	New Delhi, INDIA		Indian Environmental Society P: +91-11-222-3311/F: 331-7301		
18-22 Aug 97 *	Tri-Service CADD/GIS/FM Symposium '97 & USCoE Surveying, Mapping and Remote Sensing Conference	St. Louis, USA		John Palatiello P: +1-703-391-2739/F: 476-2217 E: johnmapps@aol.com www.lms.usace.army.mil		
24-28 Aug 97	iKusasa CONSAS '97 "Surveying Tomorrow's Opportunities"	Durban, SOUTH AFRICA		F. von Oettingen P: +27-31-303-2480/F: 239-441 E: candp@global.co.za www.und.ac.z.und/survey/consas/consas		
24-29 Aug 97	15th IMACS World Congress	Berlin, GERMANY		V. Pluri P: +39-2-23993806/F: 23993411 E: pluri@elet.pollmt.it		
25-26 Aug 97 C	International Workshop on "Dynamic and Multi-Dimensional GIS" by ISPRS IC WG IV/III.1, WG II/1, WG IV/1, WG IV/3 and IGU GIS Study Group	HONG KONG		F: +852-2330-2994 E: lszli@polyu.edu.hk Dr. M. Molenaar (Chair ICWG IV/III.1) Dr. M. Ehlers (Chair WG II/1) Dr. Lutz Pluemer (Chair WGIV/1) Dr. Jun Chen (Chair WGIV/3)		
27-29 Aug 97 *	Third International Surveying and Mapping Users Conference and Exposition	Sunnyvale, USA		Users Conference Coordinator P: +1-408-481-8658/F: 481-7781 E: user_expo@trimble.com		

ISPRS		1	9	9	7	ISPRS
DATE	EVENT	SITE		CONTACT		
2-4 Sep 97	23 rd Annual Conference & Exhibition of the Remote Sensing Society - RSS'97 "Observations and Interactions"	Reading, UK		RSS97 Dept. of Geography P: +01734-318733/F: 755865 E: rss97@geography.reading.ac.uk		
3-9 Sep 97	- XVIII Brazilian Congress of Cartography, and - Scientific Assembly of the IAG	Rio de Janeiro, BRAZIL		Sociedade Brasileira de Cartografia P: +55-21-240-6901/F: 262-2823		
7-14 Sep 97	"Unadapted Regions - Their Management, Environmental Protection and Documentation"	Kamtcharka Peninsula, RUSSIA		Dr. Tomas Benes P: +42-202-800163/F: +42-202-803371		
8-10 Sep 97 *	First European Conference on Precision Agriculture	Coventry, UK		SCI Conference Dept. P: +144-171-235-3681/F: 235-7743 E: conferences@chemind.demon.co.uk		
8-9 Sep 97	- 9 th Session of the UN Group of Experts on Geographical Names - 7 th UN Conference on the Standardization of Geographical Names	Teheran, IRAN		S. El-Hakim P: +1-613-991-6381/F: 952-0215 E: Elhakim@iit.nrc.ca		
9-11 Sep 97 C	ISPRS WG III/2, WG III/3 and WG II/8 Workshop on "Theoretical and Practical Aspects of Surface Reconstruction and 3D Object Extraction" 	Haifa, ISRAEL		Prof. Amnon Krupnik (Chair WG III/2) P: +972-4-829-2661/F: 823-4757 E: krupnik@tx.technion.ac.il www.technion.ac.il/people/krupnik/workshop/html		
9-13 Sep 97 C	ISPRS Joint Meeting - Council and Technical Commission Presidents 	Natal, BRAZIL		Prof. J. Trinder (Secretary General) P +61-2-385-5308 /F: 313-7493 E: j.trinder@unsw.edu.au		
14-17 Sep 97	ICSPAT - 8 th International Conference on Signal Processing Applications and Technology	San Diego, USA		E: DSP@MFI.COM		
15-19 Sep 97	ISTANBUL - 97	Istanbul, TURKEY		F: +90-212-251-5086 E: gis@cgps.ins.itu.edu.tr		
16-19 Sep 97	ION GPS '97	Kansas City, USA		Dr. Penina Axelrad P: +1-303-492-6872/F: 492-2825 E: axelrad@spot.colorado.edu		
17-19 Sep 97 C	Joint ISPRS Commission III/IV Workshop: "3D Reconstruction and Modeling of Topographic Objects" 	Stuttgart, GERMANY		Dr. E. Baltsavias (Chair IC WG IV / III.2) Dirk Stallman (Organizing Committee) P: +49-711-121-3387/3201 / F+: 49-711-1213297 E: Dirk.Stallmann@ifp.uni-stuttgart.de http://www.radiig.informatik.tu-muenchen.de/ISPRS/ Dr. Wolfgang Eckstein (Chair WG III/4) Prof. Roy Welch (Chair WG IV/2)		
22-26 Sep 97	"46th Photogrammetric Week"	Stuttgart, GERMANY		Martina Kroma P: +49-711-121-3201/F: 121-3297 E: martina.kroma@ifp.uni-stuttgart.de		
28 Sep-2 Oct 97	"Photonics East"	Philadelphia, USA		SPIE P: +1-360-6763290/F: 6471445 E: spie@spie.org www.spie.org/		
29 Sep-2 Oct 97 C	4 th Conference on "Optical 3-D Measurement Techniques" by ISPRS Commission V, FIG Com 6, ARIDA, SGPBF 	Zurich, SWITZERLAND		Liliane Steinbruekner P: +41-1-633-3157/F: 633-1101 E: steinbruekner@geod.ethz.ch		
29 Sep-2 Oct 97 C	ISPRS Joint Workshop on "Imaging Sensors and Mapping from Space" by ISPRS WG I/1, WG I/3, & WG IV/4 	Hanover, GERMANY		Dr. Karsten Jacobsen (Chair WG I/3) P: +49-511-762-2485/F: 762-2485 E: karsten@ipi.uni-hannover.de Dr. Manfred Schroeder (Chair WG I/1) Prof. G. Konecny (Chair WG IV/4)		

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DATE	EVENT	SITE		CONTACT		
1-3 Oct 97 C	CIPA International Symposium 1997 "Photogrammetry in Architecture Archaeology and Urban Conservation" 	Goteborg, SWEDEN		A. Boberg P: +46-8-790-7347/F: 790-7343 E: abg@geomatics.kth.se		
6-8 Oct 97	International Workshop on "Neural Networks Identification, Control, Robotics, and Signal/Image Processing"	Hamamatsu, JAPAN		V. Pluri P: +39-2-23993806/F: 23993411 E: pluri@elet.polimt.it		
6-10 Oct 97	European Symposium on "Satellite and Airborne Remote Sensing"	Rome, ITALY		Ms. Susan Jones F: +49-30-883-8811		
6-11 Oct 97 *	Geodetic Week Berlin '97	Berlin, GERMANY		S. Petrovic P: +49-30-314-23205/F: 21973 E: gw97@mca.bv.tu-berlin.de www.geodey.tu-berlin.de		
7-9 Oct 97 *	ISPRS WG I/2 & WG II/3 Workshop "From Producer to User" on: a) User Requirements of Archiving, Pre-Processing & Dissemination of Satellite Image Data; b) Impact of Spatial Data Handling Technologies  in Heterogeneous Environments	Boulder, USA		Camilla Mahlander P: +46-8-790-8633/F: 790-7343 E: millam@geomatics.kth.se Dan Rosenholm (Chair WG I/2) Henrik Osterlaund (Chair WG II/3)		
12-19 Oct 97	10th International Congress of Mine Surveying	Perth, AUSTRALIA		ISM		
14-17 Oct 97 *	The First North American Symposium on Small Format Aerial Photography	Cloquet, USA		ASPRS P: 301-493-0290/F: 493-0208 E: asprs@asprs.org www.asprs.org/asprs		
20-25 Oct 97	18th Asian Conference on Remote Sensing	Kuala Lumpur, MALAYSIA		MACRES. E: macres@macres.sains.my P: +60-3-264.5640, F: +60-3-264.5650		
22-24 Oct 97	Introduction to Wetland Remote Sensing and Mapping	Lafayette, USA		USGS P: +1-318-266-8500/F: 266-8513		
26-29 Oct 97 *	International Conference on Image Processing "ICIP-97"	Santa Barbara, USA		B.S. Manjunath E: manj@ece.ucsb.edu		
26-30 Oct 97	GIS/LIS 1997	Cincinnati, USA		ASPRS P: +1-301-493-0290/F: 493-0208 www.us.net/asprs/		
27-31 Oct 97 *	ISPRS WG VI/3 Meeting "International Cooperation and Technology Transfer" 	Bahía Blanca, ARGENTINA		Prof. Luigi Mussio (Chair WG VI/3) P: +39-2-2399-6501/F: 2399-6530 E: luigi@ipmtf2.topo.polimi.it		
2-7 Nov 97	VIII Latin American Symposium on Remote Sensing SELPER	Merida, VENEZUELA		Lic. Ramiro Salcedo P: +58-2943-2122/F: 943-1011 E-mail: fii@conicit.ve		
6-7 Nov 97	IAIF '97 - International Workshop on "Image Analysis and Information Fusion"	Adelaide, AUSTRALIA		Pamela Mibus P: +61-8-83025019/F: 83023124 E: pamela.mibus@cssip.edu.au www.cssip.edu.au/Conferences/IAIF/Welcome.html		
10-14 Nov 97	III EuroLatinamerican Space Journeys	Mexico D.F., MEXICO		Exequiel Chavez A. (Com. Fed. Telecomunicaciones) F: +52-5-613.6284, E: jroch@cicese.mx		
9-12 Nov 97	Intelligent Transport Systems Conference "ITSC '97"	Boston, USA		IEEE P: +1-617-890-5290/F: 890-5294 E: secboston@ieee.org www.ieee.org/itsc/itsc97		
13-14 Nov 97	5th ACM Workshop on Geographic Information Systems	Las Vegas, USA		Prof. R. Laurini F: +33-4-72-43-88-99 E: Robert.Laurini@if.insa-lyon.fr		

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DATE	EVENT	SITE	CONTACT
16-19 Nov 97	IS&T/SID 5th Color Imaging Conference	Scottsdale, USA	IS&T P: +1-703-642-9090/F: 642-9094 E: info@imaging.org www.imaging.org
17-19 Nov 97	12 th International Conference & Workshops on "Applied Geologic Remote Sensing"	Denver, USA	R. Rogers P: +1-313-994-1200/F: 994-5123 E: raeder@erim.org www.erim.org/CONF/
19-20 Nov 97 C	International Symposium "Modern Problems of the Cadastre" ISPRS	Sofia, BULGARIA	Prof. G. Milev P: +359-2-893-379/F: 879-360 E: Milev@bgearn.acad.bg
24-25 Nov 97 C	ISPRS WG VII/2 & ISRS - Workshop on "Application of Remote Sensing and GIS for Sustainable Development" ISPRS	Hyderabad, INDIA	National Remote Sensing Agency P: +91-040-278-360/F: 277-210 E: dpr@nrssa-hyd.globemail.com
Nov 97 tbr	World Conference on "The Role of Earth Observation Data in Forecasting, Managing and Recovering from Natural Disasters"	London, UK	Dr. D. Sloggett P: +44-1483-740-0014/F: 740-231
1-4 Dec 97	4 th Asia-Pacific Conference on "Multilateral Cooperation in Space Technology and Application"	BAHRAIN	Dr. Waheeb Essa Alnaser P: +973-688381/F: 683278 E: waheeb@sci.uob.bh www.uob.bh/
3-5 Dec 97 *	"Land Satellite Information in the Next Decade II" Sources and Applications	Washington, DC, USA	ASPRS P: +1-301-493-0290/F: 493-0208 E: asprs@asprs.org
8-12 Dec 97	IEEE 3 rd International Conference on "Algorithms and Architectures for Neural Processing"	Melbourne, AUSTRALIA	V. Pluri P: +39-2-23993606/F: 23993411 E: pluri@elet.polimit.it
13-19 Dec 97 C *	International Symposium on Spectral Sensing Research, ISSSR 1997 "Observation to Information" ISPRS	San Diego, USA	P: +1-202-393-1648/F: 628-8498 E: register@issr.org www.issr.org
ISPRS 1 9 9 8 ISPRS			
DATE	EVENT	SITE	CONTACT
26-31 Jan 98	EARSeL Conference - "Fusion of Earth Data: Merging Point Measurements, Raster Maps and Remotely Sensed Images"	Cote d'Azur, FRANCE	M. Godefroy P: +33-1-45-56-73-60/F: 56-73-61 E: EARSeL@meteo.fr
9-13 Feb 98	WSCG'98: The Fifth International Conference in Central Europe on Computer Graphics and Visualization	Pizen, West Bohemia, CZECH REPUBLIC	Vaclav Skala P: +420-19-2171-188, F:+420-19-7822-578 E: skala@kiv.zcu.cz Subject: WSCG INFO
23-27 Feb 98 C	ISPRS Commission I Symposium - "Sensors, Platforms and Imagery" ISPRS	Bangalore, INDIA	Dr. George Joseph (President Com I) P: +91-79-642-3956/F 656-8073 E: george@sac.ernet.in
Feb 98	III rd Venezuelan Congress of Geodesy with International Participation	Maracaibo, Venezuela	Prof. Heinz Henneberg F: +58-61-523759
Feb/Mar 98 tbr	ISPRS Council Meeting ISPRS	tbr	Prof. J. Trinder (Secretary General) P: +61-2-385-5308 /F: 313-7493 E: j.trinder@unsw.edu.au

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DATE	EVENT	SITE		CONTACT		
30 Mar-4 Apr 98 *	1998 American Society for Photogrammetry & Remote Sensing and Resource Technology Institute Annual Conference	Tampa, USA		ASPRS/RTI P: +1-301-493-0290/F: 493-0208 E: abstract@asprs.org		
26-29 April 98 *	AM/FM International XXI Conference	San Jose, USA		AM/FM International P: +1-303-337-0513/F: 337-1001 E: amfminl@aol.com		
27-30 April 98	International Conference on Warning and Correction Actions for Seismic, Volcanic and Tsunamis Risks	Santiago, CHILE		IGM, IUGG / Chile P: +56-2-696.8221, F: +56-2-698.8278 E: seisvolc@conf.dgf.uchile.cl		
20-22 May 98 *	International Symposium on Spatial Data Accuracy Assessment in Natural Resources and Environmental Sciences	Quebec City, CANADA		3 rd Spatial Accuracy Symposium P: +1-418-656-5491/F: 656-3607 E: spatial.accuracy@scg.ulaval.ca www.crg.ulaval.ca/		
May 98 tbd	18 th EARSeL Symposium "Operationalisation of Remote Sensing - a step further"	Enschede, NETHERLANDS		M. Godfroy P: +33-1-45-56-73-60/F: 56-73-61 E: EARSeL@meteo.fr		
2-5 Jun 98 C	ISPRS Commission V Symposium - "Close-Range Techniques and Machine Vision" 	Hakodate, JAPAN		Dr. H. Chikatsu (President Com V) P: +81-492-96-2911/F: 96-6501 E: chikatsu@g.dendai.ac.jp		
8-12 Jun 98	27th International Symposium on Remote Sensing of Environment: "Information for Sustainability"	Tromsø, NORWAY		Norwegian Space Centre F: +47-22-51-1801 E: isrse@spacecentre.no www.spacecentre.no		
22-26 Jun 98	"5 th Circumpolar Remote Sensing Symposium"	Dundee, UK		Sheila Newcombe P: +44-0-1382-344933/F: 345415 E: S.K.Newcombe@dundee.ac.uk		
6-10 Jul 98 C	ISPRS Commission III Symposium - "Theory and Algorithms" 	Columbus, Ohio USA		Dr. Toni Schenk (President Com III) P: +1-614-292-7126/F: 292-2957 E: schenk.2@osu.edu		
13-17 Jul 98 C	ISPRS Commission II Symposium - "Systems for Data Processing Analysing and Representation" 	Cambridge, UK		Prof. Ian J. Dowman (President Com II) P: +44-171-380-7226/F: 380-0453 E: idowman@ps.ucl.ac.uk		
19-23 Jul 98	URISA '98	Charlotte, NC		URISA P: +1-202-289-1685/F: 842-1850		
19-26 Jul 98	XXI International Congress of Surveyors (FIG '98) (with IUSM Executive Board & Council Meetings)	Brighton, UK		FIG '98 P: +44-171-393-4960/F: 872-0045 www.cesgil.city.ac.uk/fig		
10-15 Aug 98	"Applications of Remote Sensing Data in Environmental Hazard Zoning and Mapping"	ERITREA		AARSE P: +234-1-820-191/F: 820-191		
20-26 Aug 98	Sixteenth World Congress of Soil Science	Montpellier, FRANCE		CNEARC F: +33-67-410232		
24-26 Aug 98 C	ISPRS Commission VI Symposium - "Education and Communications" 	Dempasar Bali, INDONESIA		Prof. K. Villanueva (President Com VI) P: +62-22-250-1116/F: 250-1116 E: klaas@melsa.net.id		
Sep 98 tbr	ISPRS Joint Meeting - Council and Technical Commission Presidents 	tbr, GERMANY		Prof. J. Trinder (Secretary General) P: +61-2-385-5308/F: 313-7493 E: j.trinder@unsw.edu.au		

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DATE	EVENT	SITE	CONTACT	
1-4 Sep 98 C	ISPRS Commission VII Symposium - "Resource and Environmental Monitoring"	Budapest, HUNGARY	Dr. Gabor Remeley-Fülöpp (President Com VII) P: +36-1-301-4052/F: 301-4691 E: gabor.remeley@f-m.x400gw.itb.hu	
7-10 Sep 98 C	ISPRS Commission IV Symposium - "Mapping and Geographic Information Systems"	Stuttgart, GERMANY	Prof. Dieter Fritsch (President Com IV) P: +49-711-121-3386/F: 121-3297 E: Dieter.Fritsch@ifp.uni-stuttgart.de	
ISPRS 1 9 9 9 ISPRS				
DATE	EVENT	SITE	CONTACT	
1-5 Feb 99 C	Workshop for WG VI/3	Cape Town, SOUTH AFRICA	Prof. Luigi Mussio (Chair WG VI/3) P: +39-2-2399-6501/F: 2399-6530 E: luigi@ipmtf2.topo.polimi.it	
Apr-May 99 tbr	ISPRS Joint Meeting - Council and Technical Commission Presidents	Amsterdam, NETHERLANDS	Prof. J. Trinder (Secretary General) P: +61-2-385-5308/F: 313-7493 E: j.trinder@unsw.edu.au	
1-3 Jun 99	Remote Sensing & Forest Monitoring Conference	Warsaw, POLAND	T.Z-Niedzwiecki F: +48-22-491-375 E: tzawila@giswitch.sggw.waw.pl	
14-21 Aug 99	ICA - Ottawa 1999 "Touch the Past, Visualize the Future"	Ottawa, CANADA	P: +1-613-992-999/F: +995-8737 E: ica1999@ccrs.nrcan.gc.ca www.ccrs.nrcan.gc.ca/ica1999/	
Sep 99 tbr	ISPRS Working Groups III/1, III/2, III/3, III/4 & II/8 Conference on Digital Photogrammetry	Stuttgart, GERMANY	Dr. Christian Heipke (Chair WG II/8) P: +49-89-2892-2671/F: 280-9573 E: chris@photo.verm.tu-muenchen.de www.photo.verm.tu-muenchen.de	
Oct 99 tbr	ISPRS Council Meeting	tbr	Prof. J. Trinder (Secretary General) P +61-2-385-5308/F: 313-7493 E: j.trinder@unsw.edu.au	
Nov. 1999	IX Latinamerican Symposium on Remote Sensing (SELPER)	tbr, BRAZIL	SELPER / Brazil Dr. Roberto Pereira Da Cunha (INPE) F: +55-123-412077, P: +55-123-229816	
ISPRS 2 0 0 0 ISPRS				
DATE	EVENT	SITE	CONTACT	
Jan 31-4 Feb 2000 C	Workshop for WG VI/3	Ljubljana, SLOVENA	Prof. Luigi Mussio (Chair WG VI/3) P: +39-2-2399-6501/F: 2399-6530 E: luigi@ipmtf2.topo.polimi.it	
Mar 2000 tbr	ISPRS Joint Meeting - Council and Technical Commission Presidents	tbr, HUNGARY	Prof. J. Trinder (Secretary General) P: +61-2-385-5308/F: 313-7493 E: j.trinder@unsw.edu.au	
14-26 Jul 2000 C	XIX Congress of the International Society for Photogrammetry and Remote Sensing "Geo-Information for All"	Amsterdam, NETHERLANDS	Prof. Klaas Jan Beek (Congress Director) P: +31-53-48724-214 /F: 4874-200 E: ISPRS@ITC.NL	

**INTERNATIONAL WORKSHOP ON
"DYNAMIC AND MULTI-DIMENSIONAL GIS"
BY ISPRS IC WG IV/III.1, WG II/1, WG IV/1,
WG IV/3 AND IGU GIS STUDY GROUP**

HONG KONG, 25-26 August 1997

CONTACT ADDRESS:

F: +852-2330-2994, E: iszlli@polyu.edu.hk;
Dr. M. Molenaar (Chair ICWG IV/III.1);
Dr. M. Ehlers (Chair WG II/1);
Dr. Lutz Pluemer (Chair WGIV/1);
Dr. Jun Chen (Chair WGIV/3)

**ISPRS WG III/2, WG III/3 AND WG II/8 WORKSHOP
ON "THEORETICAL AND PRACTICAL ASPECTS
OF SURFACE RECONSTRUCTION
AND 3D OBJECT EXTRACTION"**

Haifa, ISRAEL, 9-11 September 1997

CONTACT ADDRESS:

Prof. Amnon Krupnik (Chair WG III/2)
P: +972-4-829-2661/F: 823-4757
E: krupnik@tx.technion.ac.il
www.technion.ac.il/people/krupnik/workshop/html

**JOINT ISPRS COMMISSION III/IV WORKSHOP:
"3D RECONSTRUCTION AND MODELING
OF TOPOGRAPHIC OBJECTS"**

Stuttgart, GERMANY, 17-19 September 1997

CONTACT ADDRESS:

Dr. E. Baltsavias (Chair IC WG IV / III.2)
Dr. Wolfgang Eckstein (Chair WG III/4)
Prof. Roy Welch (Chair WG IV/2)
Dirk Stallman (Organizing Committee)
P: +49-711-121-3387/3201 / F+: 49-711-1213297
E: Dirk.Stallmann@ifp.uni-stuttgart.de
<http://www.radig.informatik.tu-muenchen.de/ISPRS/>

**4TH CONFERENCE ON "OPTICAL 3-D
MEASUREMENT TECHNIQUES" BY ISPRS
COMMISSION V, FIG COM 6, ARIDA, SGPBF**

Zurich, SWITZERLAND, 29 Sep. - 2 Oct. 1997

CONTACT ADDRESS:

Liliane Steinbruekner
P: +41-1-633-3157/F: 633-1101
E: steinbruekner@geod.ethz.ch

**ISPRS JOINT WORKSHOP ON
"IMAGING SENSORS AND MAPPING
FROM SPACE" BY ISPRS WG I/1,
WG I/3, & WG IV/4**

Hanover, GERMANY, 29 Sep. - 2 Oct. 1997

CONTACT ADDRESS:

Dr. Karsten Jacobsen (Chair WG I/3)
P: +49-511-762-2485/F: 762-2485
E: karsten@ipi.uni-hannover.de
Dr. Manfred Schroeder (Chair WG I/1)
Prof. G. Konecny (Chair WG IV/4)

**CIPA INTERNATIONAL SYMPOSIUM 1997
"PHOTOGRAMMETRY IN ARCHITECTURE
ARCHAEOLOGY AND
URBAN CONSERVATION"**

Goteborg, SWEDEN, 1 - 3 October 1997

CONTACT ADDRESS:

A. Boberg
P: +46-8-790-7347/F: 790-7343
E: abg@geomatics.kth.se

**ISPRS WG I/2 & WG II/3 WORKSHOP
"FROM PRODUCER TO USER" ON:
a) User Requirements of Archiving,
Pre-Processing & Dissemination of Satellite
Image Data; b) Impact of Spatial Data Handling
Technologies in Heterogeneous Environments**

Boulder, USA, 7 - 9 October 1997

CONTACT ADDRESS:


Camilla Mahlander
P: +46-8-790-8633/F: 790-7343
E: millam@geomatics.kth.se
Dan Rosenholm (Chair WG I/2)
Henrik Osterlaund (Chair WG II/3)

**INTERNATIONAL SYMPOSIUM ON SPECTRAL
SENSING RESEARCH, ISSSR 1997
"OBSERVATION TO INFORMATION"**

San Diego, USA, 18-19 Dec. 1997

CONTACT ADDRESS:

P: +1-202-393-1648/F: 628-8498
E: register@issr.org
www.issr.org

 ISPRS HIGHLIGHTS 1996-2000 Content Plan 					
VOLUME	ISSUE	CONTENT THEME	PAGES ESTIMATION	EDITORIAL	OTHER CONTENT
1996	#1 Oct	Congress Summary	70	LF	C & JM Minutes-Vienna
1997	#1 Jan	92-96 TCP Summaries	25	JT	C Minutes-Gumma, Papers: Iceland, El-Hakim
	#2 Apr	Annual Report-1996	50	LF	C Minutes-Seattle
	#3 Jul	1996-2000WG's & ToR *Sustaining Mbr (1/2 p ea.)	10 15	SM	
	#4 Oct	2 Commissions highlighted		MB	
1998	#1 Jan	Pre-Symposia Plan	8	HR	C & JM Minutes-Natal
	#2 Apr	Annual Report - 1997	50	LF	C Minutes-(India??)
	#3 Jul	*Sustaining Members	15	KB	
	#4 Oct	2 Commissions Highlighted		JT	
1999	#1 Jan	Symposia Summaries	20	SM	C & JM Minutes-Stuttgart
	#2 Apr	Annual Report-1998	50	LF	
	#3 Jul	*Sustaining Members	15	MB	C & JM Mins.-Amsterdam
	#4 Oct	2 Commissions Highlighted		HR	
2000	#1 Jan	Pre-Congress Plan	4	KB	C Minutes-(TBD)
	#2 Apr	Annual Report-1999	50	LF	
	#3Jul	*Sustaining Members	15	JT	C & JM Minutes-Hungary
POST CONSGRESS CONTENT PLAN					
2000	#4 Oct	Congress Summary	70	New President	
2001	#1 Jan	2000-2004 WG's & ToR	12	New Secretary General	C Minutes
		1996-2000 TCP Summaries	25		

* There will not be a Sustaining Members issue. Instead each Sustaining Member profile will be printed in any issue of the year as selected by the Editor.

Repetitive content items

Header pages = 4 pp.
 Council Editorial = 1 pp.
 Calendar = 6-7 pp.
 Advertisements = 12 pp.
 WG Newsletter summaries
 News, reports, book reviews
 Photographs

Notes:

- Annual report includes the Regional Member reports
- Limit to one technical paper/review/speech per issue.

C = Council
LF = Lawrence Fritz (ISPRS President)
JT = John Trinder (ISPRS Secretary General)
SM = Shunji Murai (ISPRS 1st Vice-President)
MB = Marcio Barbosa (ISPRS 2nd Vice-President)
HR = Heinz R  ther (ISPRS Treasurer)
KB = Klaas Beek (ISPRS Congress Director)

ISPRS HIGHLIGHTS Advertisement Policy			
<p>1. No advertisements shall be placed until cleared and approved by Treasurer H. Ruther.</p> <p>2. For every Issue, the list of all advertisements, their type (events or other topics - see Publication Entitlements table below) and the addresses to which the invoices are to be sent shall be submitted by Editor M. Araya to Treasurer H. Ruther 30 days before printing of the Issue.</p> <p>3. The definition of what qualifies for an international or regional event must be pre-approved by Council consensus. Multi-year approvals are limited to a Council term basis.</p> <p>4. The Congress is entitled to receive 4 full page ads free per year.</p> <p>5. Each ISPRS Commission Symposium is entitled to place a total of 5 free full page ads (only one per Issue).</p> <p>6. Each Sustaining Member is entitled to receive a free 1/2 page each year to summarize its capabilities.</p>	<p>7. Each Regional Member and Ordinary Member is entitled to receive a 1/2 page free each year for promotion of an international event. (Per Council approval as noted above.)</p> <p>8. Each Ordinary Member is entitled to receive 1/4 page free per year for any promotion of their choice.</p> <p>9. Each Working Group is entitled to receive 2 separate (must be in different Issues) free 1/2 page ads per year.</p> <p>10. Scientific Societies shall pay 50% of commercial fee for advertisements. E.g. SPIE, ICA, FIG, etc.</p> <p>11. On an Issue by Issue basis the Secretary General will consider trade off of free ad space (maximum 3 ads per Issue) for payment of all costs incurred (printing and postage) for extra copies of Highlights (in units of 500 copies).</p> <p>12. All other quid pro quo arrangements must be pre-approved by Council consensus.</p> <p>13. The advertisement statistics will be maintained and reported semi-annually by the Treasurer.</p>		
PUBLICATION ENTITLEMENTS			
Submitting Group	Advertisement or Publication Fees	Free Publication Entitlements (pp./year)	
		Events	Other To Pics
Ordinary Member	50 % Sustaining Mbr. Rate	1/2 page	1/4 page
Regional Member	Negotiable with Council	1/2 page	Annual Report
Sustaining Member	Sustaining Member Rate	1/4 page ⁽³⁾	1/2 page
Other Scientific Societies	50 % Non-Members Rate	—	—
Commercial Organizations	Non-Members Rate	—	—
Congress	Negotiable with Council	4 pp.	Annual Report
Commission	Negotiable with Council	5 pp./Sym ⁽¹⁾	Annual Report
Working Group	Negotiable with Council	2 x 1/2 page ⁽²⁾	Annual Report & Newsletter summaries

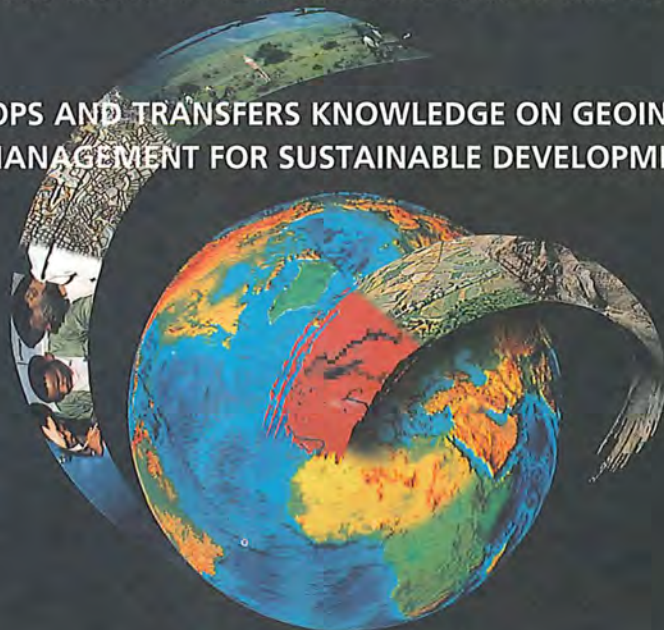
(1) 5 pages total per Commission Symposium (not 5 pp. per year); (2) WG's may combine their page allotments to get larger ads for Joint WG events; (3) Free 1/4 page advertisement if received before end of calendar year 1997

ISPRS HIGHLIGHTS ADVERTISEMENT PRICES					
# PAGES AVAILABLE	PLACEMENT	SUSTAINING MEMBERS		NON-MEMBERS	
		SINGLE ISSUE	4 ISSUES FULL YEAR	SINGLE ISSUE	4 ISSUES FULL YEAR
1	Back Cover	\$ 1,800	\$ 6,000	\$ 1,980	\$ 6,600
2	Inside Cover	\$ 1,450	\$ 4,850	\$ 1,595	\$ 5,335
2	Last page or Back of Table of Contents	\$ 1,200	\$ 4,000	\$ 1,320	\$ 4,400
n	Inside pages	\$ 950	\$ 3,200	\$ 1,045	\$ 3,520
n	Inside 1/2 pages	\$ 570	\$ 1,920	\$ 625	\$ 2,110
n	Inside 1/4 pages	\$ 335	\$ 1,120	\$ 365	\$ 1,230

Payments should be arranged with ISPRS Treasurer: **Prof. Dr. Heinz Ruther**, Dept. of Surveying & Geodetic Eng., Univ. of Cape Town, Rondebosch 7700, SOUTH AFRICA. Tel: (27) 21-650.3573, Fax: (27) 21-650.3572. Email: Ruther@EngFac.UCT.ac.za

Advertisement spaces in different issues and mailing of material, should be arranged with ISPRS Highlights Editor: **Prof. Mauricio Araya F.** Specifications for Ads: 15.5 x 22.5 cm. total size; 4 positive films (CMYK), emulsion side down; formatted onto 150 lpi (please included paper color proof).

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ring geology, geography, geology, geophysics and mineral exploration. The teaching language is English.

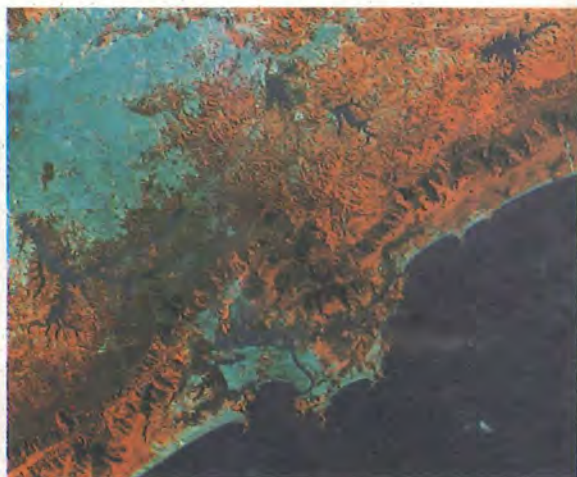
ITC carries out interdisciplinary and problem-oriented research that focuses on strengthening organizations involved in survey, management and planning for sustainable development. Special attention is given to the Integrated Land and Water Information System (ILWIS), which is an important remote sensing and GIS software production.

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IX SBSR



IX SIMPÓSIO BRASILEIRO DE SENSORIAMENTO REMOTO

Centro de Convenções - Mendes Plaza Hotel
Santos, SP - II a 18 de setembro de 1998

CONTACT ADDRESS:

IX SBSR - INPE - Setor de Eventos
Tel: +55-123-256.068, Fax: +55-123-256.094,
E-mail: atus@ltid.inpe.br



XVIII BRAZILIAN CONGRESS OF CARTOGRAPHY, AND - SCIENTIFIC ASSEMBLY OF THE IAG

Rio de Janeiro,
BRAZIL, 3-9 Sep 97



CONTACT ADDRESS:

Prof. Ana Maria Coutinho
Coordenadora, Congresso SBC
Sociedade Brasileira de Cartografia
Tel: +55-21-240-6901, Fax: 262-2823



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INTERNATIONAL SYMPOSIUM "MODERN PROBLEMS OF THE CADASTRE"

Sofia, BULGARIA, 19-20 Nov 97

ISPRS

CONTACT ADDRESS:

Prof. G. Milev
Tel: +359-2-893-379 - Fax: 359-2-879-360
E-mail: Milev@bgearn.acad.bg

ISPRS WG VII/2 & ISRS - WORKSHOP ON "APPLICATION OF REMOTE SENSING AND GIS FOR SUSTAINABLE DEVELOPMENT"

Hyderabad, INDIA, 24-25 Nov 97

CONTACT ADDRESS:

National Remote Sensing Agency
Tel: +91-040-278-360 - Fax: +91-040-277-210
E-mail: dpr@nrnsa-hyd.globemail.com

"INTERNATIONAL COOPERATION AND TECHNOLOGY TRANSFER". ISPRS WG VI/3. MEETING

Bahía Blanca, ARGENTINA, 27-31 Oct. 1997

CONTACT ADDRESS:

Prof. Luigi Mussio (Chair WG VI/3)
Tel: +39-2-2399-6501 - Fax: + 39-2-2399-6530, E-mail: luigi@ipmtf2.topo.polimi.it





Nº 7

DICIEMBRE 1996

REVISTA DE TELEDETECCION

ASOCIACION ESPAÑOLA DE
TELEDETECCION

REVISTA DE LA ASOCIACIÓN ESPAÑOLA DE TELEDETECCIÓN



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SPAIN

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Fax: + 91-562.5567

III EUROLATINAMERICAN SPACE JOURNEYS

Mexico D.F., MEXICO, 10-14 November 1997

CONTACT ADDRESS:

Exequiel Chavez A.

(Comisión Federal de Telecomunicaciones, México)

Fax: +52-5-613.6284, E-mail: jroch@cicese.mx

Karl Bergquist

(European Space Agency, ESA)

Tel: +33.1-5369.7654, Fax: +33.1-5369.7560

INTERNATIONAL SEMINAR ON SATELLITE IMAGE DIGITAL PROCESING APPLIED TO CARTOGRAPHY (IGN / SPAIN, IPGH / PIGH, INEGI / MEXICO)

Aguascalientes, AGS, MEXICO, 30 Jun. - 11 Jul. '97

CONTACT ADDRESS

María Elena Flores M. (INEGI)

Instituto Nacional de Estadística, Geografía e Informática

F: +52-49-181280, P: +52-49-186237

E: mlflores@cap.inegi.gob.mx



THE LATINAMERICAN SOCIETY FOR REMOTE SENSING
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Att: Chuo Mapping Co., Japan

18th Asian Conference on Remote Sensing

Kuala Lumpur, Malaysia

20 - 25 October, 1997.

CONTACT ADDRESS:

Dr. NIK NASRUDDIN MAHMOOD,
Director, Malaysian Center for Remote Sensing (MACRES),
Letter Box 208, Lot CB100,
City Square Centre, Jalan Tun Razak,
50400 Kuala Lumpur, MALAYSIA
Fax: 60-3-264.5646
E-mail: dmacres@po.jaring.my

Prof. Dr. SHUNJI MURAI (Japan)
Chair Professor, Space Technology Application
and Research, STAR Program, Asian Institute
of Technology, P.O.Box 4, Klong Luang,
Pathumthani 12120, THAILAND.
Tel: +66-2-524.5599, Fax: +66-2-524.6147
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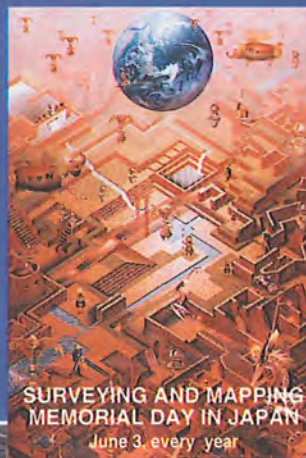
**JAPANESE ASSOCIATION
OF SURVEYORS (JAS)**

社団法人 日本測量協会



HEAD OFFICE: 1-3-4 KOISHIKAWA, BUNKYO-KU, TOKYO 112, JAPAN - TEL: +81-3-3815-5751 - FAX: +81-3-3816-6870

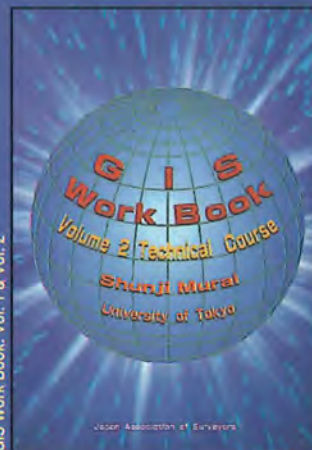
- **WHAT IS JAS?:** Japanese Association of surveyors (JAS), founded in 1951 is a non-profit organization to devote to the advancement of surveying technologies and the promotion of education and training in geoinformatics.
- **JAS MEMBERSHIP:** As of April 1st, 1997, JAS has 10,298 Ordinary Members, 1,732 Student Members and 3,146 Sustaining Members.
- **ORGANIZATION:** The Council Members are as follows:
President: Dr. Naomi FUJITA
Vice President: Prof. Dr. Ichiro NAKAGAWA
Secretary General: Dr. Hiroyuki TAKEDA
- **MAIN ACTIVITIES:** The main activities of JAS are as follows.
 - a. **GENERAL CONFERENCE:** All ordinary members are eligible to attend annual General Conference for final decision and approval.
 - b. **PUBLICATIONS:** Monthly journal, namely "SOKURYO" (in Japanese) with 170 pages is distributed to all members (about 16,000 copies). Editor in Chief is Prof. Dr. Shunji Murai. Many technical books have been published and usually 2 or 3 books are to be published every year. Most recent published book was "GIS Work Book" written by Dr. Shunji Murai in English and also Japanese.
 - c. **ANNUAL CONVENTION:** Annual Convention is held once a year around the end of June for 3 days. Symposia, poster sessions and commercial exhibitions with about 60 exhibitors are organized. Total participants and visitors are about 17,000 every year.
 - d. **SHORT COURSES TRAINING:** More than 60 courses on geodetic surveying, GPS, photogrammetry, digital mapping, engineering survey, are implemented, totalizing 200 days in a year.
 - e. **CONSULTING:** Consulting services are offered to JAS members and public sectors concerning advanced and conventional mapping and surveying technologies and projects.
 - f. **CALIBRATION TEST OF SURVEY INSTRUMENTS:** All survey instruments used for public surveying projects should be tested and approved by JAS.
- **CONTACT PERSON:** Further information is available from Dr. Hiroyuki TAKEDA, Secretary General, JAS.



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THE MONTHLY JOURNAL OF SURVEY (JAS)



TECHNICAL BOOKS & TRAINING COURSES



VIII SIMPOSIO LATINOAMERICANO DE PERCEPCION REMOTA



VIII LATIN AMERICAN SYMPOSIUM ON REMOTE SENSING

XVII REUNION PLENARIA SELPER / XVII SELPER PLENARY MEETING

MERIDA - VENEZUELA

2 - 7 DE NOVIEMBRE DE 1997 / 2 - 7 NOVEMBER 1997



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PHOTOGRAMMETRY AND
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LAGUNA NEGRA - BLACK LAGOON



PICO BOLIVAR - BOLIVAR MOUNTAIN



PAISAJE MERIDEÑO - MERIDA SCENE

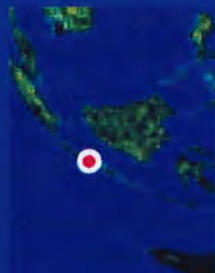


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Apartado Postal 40200 / 1040 - A, Caracas, Venezuela. Tel: (58.2) 943.2122
Fax: (58.2) 943.1011. E-Mail: fii@conicit.ve

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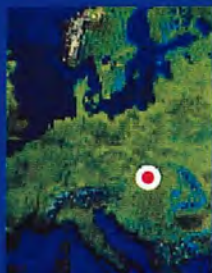


Amsterdam
THE NETHERLANDS
14-26 July 2000
XIX ISPRS CONGRESS
"GEO-INFORMATION FOR ALL"



Denpasar Bali
INDONESIA
24-26 Aug. '98

ISPRS T.C. VI SYMPOSIUM
"Education and
Communication"



Budapest
HUNGARY
1-4 Sept. '98

ISPRS T.C. VII SYMPOSIUM
"Resource and
Environmental Monitoring"



Stuttgart
GERMANY
7-10 Sept. '98

ISPRS T.C. IV SYMPOSIUM
"Mapping and Geographics
Information Systems"



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Bangalore
INDIA
23-27 Feb. '98

ISPRS T.C. I SYMPOSIUM
"Sensors, Platforms
and Imagery"



Hakodate
JAPAN
2-5 Jun. '98

ISPRS T.C. V SYMPOSIUM
"Close-Range Techniques
and Machine Vision"



Columbus
U.S.A.
6-10 Jul. '98

ISPRS T.C. III SYMPOSIUM
"Theory and Algorithms"



Cambridge
U.K.
13-17 Jul. '98

ISPRS T.C. II SYMPOSIUM
"Systems for Data Processing
Analysing and Representation"



KEY ISPRS EVENTS 1996 - 2000





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