

ISPRS DAILY

The XXI Congress

The International Society
for Photogrammetry and Remote Sensing

3-11 July 2008 Beijing, China

Tuesday 08 July 2008

Exhibition Opens

A showcase of the latest and greatest in geospatial technology.

Mr Lu Xinshe, Vice-Minister of Land and Resources & Director General of the State Bureau of Surveying and Mapping of China, officially opened the ISPRS XXI Congress Exhibitions. The four-day exhibition comprises two areas, a *Commercial and Technical Exhibition* and a *National and Scientific Exhibition* on levels 1 and 3. It is open to all Congress participants and the general public.

Over 100 international technology providers and local mapping agencies from 25 countries will showcase their latest products, solutions, inventions and applications to the geospatial community.

Organisers are expecting over 10,000

visitors, making it a great opportunity for scientists, technology providers, and industrial players to build relationships and exchange knowledge. It is also a chance for the local community to learn about the latest innovations and technology trends in the industry.

"This exhibition is a platform for everyone to communicate, exchange ideas and build partnerships," said Mr Lu Xinshe. "I hope you will take this opportunity to review our technical achievements, expand your knowledge and promote the use of GIS for sustainable development. Together, we will use geospatial technology to create a better world for our children, for many years to come."



Members of the next ISPRS Council

President: Orhan Altan – Turkey
Secretary General: Chen Jun – China
First Vice President: Ian Dowman – United Kingdom
Second Vice President: Ammatzia Peled – Israel
Treasurer: Mike Renslow – United Kingdom

Winning Tickets

The ISPRS Foundation has found a way for you to play the odds – with a guaranteed win.

Since its creation in 2006, the ISPRS Foundation has been helping outstanding scientists – many of whom would otherwise not have had the opportunity – to develop and apply their skills in spatial information sciences for the benefit of the international community.

From Cameroon to Croatia, Turkey to Tanzania, the Foundation's beneficiaries come from all over the world to advance their knowledge and experience in the spirit of international cooperation.

"The Foundation is at the Congress raising funds for future activity," says John Trinder, honorary ISPRS member and vice president of ISPRS, "and we're asking all members to help."

"Our emphasis is on supporting people from developing countries, who don't have the means to participate in conferences and activities, even in their own region.

"In the spirit of international collaboration, the Foundation specifies that grants must be used for the benefit of a regional or international community, not of a particular country," he adds.

Continued on page 4...

CONTENTS

Page 1 • Exhibition Opens

Page 3 • Introducing Hexagon

Page 4 • ISPRS Foundation

Page 5 • Technical Commission Report

Page 6 • Program of the Day

Page 7 • Technical Commission Report

Page 8 • Youth Forum



World Leader in Geospatial Measurement

With close to 200 years of pioneering solutions to measure the world, Leica Geosystems products and services are trusted by professionals worldwide to help them capture, analyze, and present spatial information. Leica Geosystems is best known for its broad array of products that capture accurately, model quickly, analyze easily, and visualize and present spatial information. Those who use Leica Geosystems products every day trust them for their dependability, the value they deliver, and the superior customer support.

ERDAS – The Earth to Business Company – helps organizations harness the information of the changing earth for greater advantage. We create geospatial business systems that transform our earth's data into business information, enabling individuals, businesses and public agencies to quickly access, manage, process and share that information from anywhere. Welcome to ERDAS: a trusted name, with a new energy, and a new vision. Earth to business starts here.

Leica Geosystems and ERDAS are parts of the Hexagon Group, Sweden.

■ See more our solutions at Booth No.103-No. 108

Leica Geosystems (Trade) Beijing Company
Rm.1806 China Life Tower, No.16 Chao Yang Men Wai Street,
Chaoyang District, Beijing 100020, China
Tel: +86 10 8569 1818
Fax: +86 10 8525 1836
E-mail: beijing@leica-geosystems.com.cn
Website: www.leica-geosystems.com.cn



- when it has to be right



How the Hexagon Group is Changing the Geospatial Technology Market

Li Hongquan, President of Hexagon Group in the Greater China region introduces the Hexagon Group.



Q: Leica Geosystems is a well-known provider of surveying, photogrammetry and remote sensing technology. Compared with Leica Geosystems, Hexagon is relatively new to this market. How does Hexagon fit into the picture?

A: Hexagon is a leading supplier of systems for the measurement of objects in 3D. The systems measure with great precision and provide rapid access to large amounts of measurement data.

Hexagon's portfolio comprises strong brands that are well known in their sectors. Each brand represents a strong tradition in its geographical region and sector, which is why Hexagon uses a different brand for different customer groups and in different markets.

Hexagon acquired Leica Geosystems in 2005 and began to enter the surveying market. In 2008, the former Leica Geosystems Geospatial Imaging division became the new ERDAS. The company aims to provide the most dynamic geospatial solutions to meet the increasing market demand.

Q: How is Hexagon contributing to the geospatial market?

A: Both Leica Geosystems and ERDAS are leaders in the fields of geospatial data capture and software solutions.

Leica Geosystems is the only company that offers a full range of sensors, including airborne cameras, airborne LiDAR systems, terrestrial LiDAR systems and surveying instruments.

ERDAS is the leader in software solutions including authoring, managing, connecting and delivering geospatial information. This is how Hexagon provides products and solutions for the entire geospatial imaging chain, from data capture to information delivery.

Q: What are the key industry drivers for Hexagon as a solution provider and how does it support customers?

A: Demand from the geospatial industry is multi-dimensional. The market requires high quality, cost-efficient data updates, as well as solutions to manage, store, analyse and distribute vast amounts of geospatial information.

With our imaging and LiDAR sensors, we provide terrestrial and airborne systems to collect data and begin the workflow process.

This information can be transmitted onward to ERDAS solutions that enable individuals and organisations to access, manage, process and share that information from anywhere.

Q: The technical exhibition started today. Has Hexagon brought any new products to this exhibition?

A: Absolutely. We will launch several new products at this exhibition, such as the newest Airborne Sensor ADS80 and our new LiDAR products ALS60, IPAS20, RCD105, and others.

Leica Geosystems and ERDAS will showcase these products on 8 July outside Hall 1.

Leica Geosystems has a history of nearly 200 years, pioneering solutions to capture, analyse and present spatial information.

The original Leica Geosystems Geospatial Imaging is now the new ERDAS, encompassing the entire geospatial information lifecycle of authoring, managing, connecting and delivering integrated business data.

Both Leica Geosystems and ERDAS are part of Hexagon Group.

This material has been supplied by Leica Geosystems Geospatial Imaging.

Editorial Team

The local organising committee will publish eight issues of ISPRS Daily: Thursday, Friday, Saturday, Monday (7th July), Tuesday, Wednesday, Thursday and Friday.

If you would like to contribute editorial, please submit material to Inga or Vienna no later than noon each day.

Editor-in-chief:
SUN Baowu

Advisor:
Prof. LI Zhilin

Editor/journalist:
Vienna LEE
Inga TING

Editorial Assistant:
Andrew LI

Layout Team:
PAN Fen
SUN Wenting

Photographer:
WU Xiaogan
ZHAO Jianguo
WU Jiang

Local Co-ordinator:
YAN Ronghua

Local Co-ordinator Assistant:
MEI Yang

Contact:
No.3 VIP Room, Convention Hall, LEVEL 1
Beijing International Convention Centre
TEL: (010)84979744

Supported By:

 **ESRI China**
Hong Kong
www.esrichina-hk.com

 **asm**
NEWSLETTER
www.asmmag.com

3-11 July 2008 Beijing, China

Today's Highlights

8 July 2008 - Tuesday

Exhibition

◆ Show Hours

Time: 09:00-17:00
On the First Floor

Users' Forum

◆ UF-1: Production Chain for New Imaging Sensors: Problems and Solutions

Time: 10:30-12.00
Room: (Convention Hall No.3)

◆ UF-2: Thematic Information Extraction from Images

Time: 13:30-15.30
Room: (Convention Hall No.3)

Technical Visits

◆ TV-3: Institute of Remote Sensing Applications (IRSA) & Institute of Geographic Sciences and Natural Resources Research (IGSNRR)

08:30 Depart from BICC for IRSA and IGSNRR
11:00 Leave IGSNRR for BICC

◆ TV-10: Beijing Eastdawn Information Technology Inc. (EDIT)

Morning

08:30 Depart from BICC for EDIT
11:00 Leave EDIT for BICC

Afternoon

13:00 Depart from BICC for EDIT
15:00 Leave EDIT for BICC

Social Program

◆ SE-6: Laoshe Tea House

Time: 19:50-21:20
Depart from BICC at 18:00
(Dinner at Fangshan Restaurant)

(continued from page 1)

Applicants face stiff competition. They must demonstrate to an international panel of ISPRS members their need, employer support, and how the grant will benefit their career and the wider community.

Beneficiaries are also required to participate in conference activities by presenting a paper or representing their country at the Congress. For example, this year, the Foundation funded Congress participants from China, Croatia, Cuba, Iran, Sudan, Egypt, India, Iran, Tanzania, Thailand, Turkey, Costa Rica and Cameroon. Several are delegates to the General Assembly.

"The Foundation also funded workshop materials used at the summer school in Nanjing. We provided funding for the Wang Zhizhuo Award, the Best Papers by Young Authors Award and the CATCON5 contest," says Lawrence Fritz, honorary ISPRS member.

"Activities we typically support include awareness education, distance learning, exchange programs, international workshops, travel grants, and internships. The foundation also funds appropriate research initiatives, preservation and archiving, standards projects, and awards."

The Foundation is composed of more than 181 organisations from more than 120 countries. It aims to attract funds and donations from people and organisations all over the world. People from any country are eligible to apply and at least 98 per cent of every donation goes to grantees.

"These are the people who are going to build the future of the profession," says Fritz. "We're trying to build a critical mass of outstanding talent that will promote the profession and the disciplines it supports."

Two days left to get your ticket...and help the Foundation to help the community



The ISPRS foundation is holding a raffle on Thursday 10 July at Level 1 to raise funds for future grants.

Each ticket gives you a chance to win one of more than 40 valuable prizes donated by exhibitors and other companies in the fields of the photogrammetry, remote sensing and the spatial information sciences.

Prizes include many outstanding licensed photogrammetry and remote sensing software packages, as well as Microsoft software (Vista, Office, Visio Office and Project), memberships, subscriptions, and other tools to benefit professional activities.

Sales until now have been slow, so the odds at the moment are excellent.

Tickets cost 100 RMB and may be purchased at the ISPRS Foundation booth located close to the main entrance of the Exhibition Hall on Level 1.

Warm Thanks

For a long time, the Yunnan Association of Surveying and Mapping has hoped to attend the ISPRS Congress. This dream has finally been achieved at the Beijing 2008 Congress. The YASM is an organisation of 22 people based in South-West China. They extend their greatest thanks to the ISPRS and CSGPC (Chinese Society of Geodesy, Photogrammetry and Cartography) for this opportunity.

The YASM will host the 11th South-East Asian Survey Congress (SEASC) in April 2011 in Kunming. The organization warmly welcomes all delegates from around the world. For more information, contact Secretary-General of the 11th SEASC Douglas Xu at nbj88@hotmail.com or nbjjdf@yahoo.com.cn.

Technical Commission Report

Technical Commission Report V: Imaging and Laser Scanning Techniques

ISPRS Commission V is dealing with imaging and laser scanning techniques in a wide range of application fields, including industrial and engineering metrology, cultural heritage documentation, virtual reality 3D data acquisition, robotics, 3D motion analysis, quantitative medical imaging, biometry and many more.

Most of these fields stand for market segments with a rapidly growing demand for automated, fast, efficient, reliable and precise 3D measurement techniques. A central issue in many developments is the integration of sensor technology with reliable data processing schemes to generate precise and highly automated online or real-time photogrammetric measurement systems.

In addition to all sorts of digital cameras – high resolution, high speed, central perspective, panoramic, hemispheric, telecentric, etc. – Commission V clientele are increasingly using terrestrial laser scanners and novel 3D-cameras. The advent of these devices has also boosted



Imaging and laser scanning techniques are applied in a range of fields, from 3D virtual reality and robotics to 3D motion analysis and quantitative medical imaging.

the interest in 3D point cloud processing and image analysis techniques.

Hans Gerd Maas
Technische Universitat Dresden
GERMANY

CATCON5 Contest

On Wednesday 9 July, the ISPRS will host CATCON5, a competition to select the world's best educational software package. A judging panel composed of ISPRS Council members and Commission VI chairs and office bearers will select Gold, Silver and Bronze prize winners.

Competition organisers prefer the tutorial, software or data set to be provided to users free of licensing or other charges. The aim is to promote the development and spread of effective, educational and user-friendly software or data sets for computer assisted teaching (CAT) in photogrammetry, remote sensing or GIS.

"Commercial software is very expensive; it is difficult for students to gain access to it. This contest is a way of promoting free, accessible software for educational purposes," said Kohei Cho, president of *TC VI on Education and Outreach*.

Any person registered for the Congress has the right to nominate a product and

all registered members are asked to vote. The result of the members' vote will have a strong impact on the final outcome.

Developers and nominees will demonstrate the software.

"Anyone can watch and learn about the different software products available. Winners will be selected based on the quality of the software for advancing education in photogrammetry, remote sensing or GIS," said Cho.

The ISPRS Foundation has sponsored the Gold (US\$ 1,000), Silver (US\$ 700) and Bronze (US\$ 500) awards. The prizes will be presented at the closing ceremony on Friday 11 July.

CATCON5 is organised by WG VI/2.

To see the best in CAT software, watch the contest in Conference Room 305, 9 July, 08:30-12:00.

What's on the Menu

9 July 2008 - Wednesday

Exhibition

◆ Show Hours

Time: 09:00-17:00
First Floor

Users' Forum

◆ UF-3: On-demand Geospatial Data Updating, Integration and Web-based Geospatial Information Service

Time: 13:30-15:30
Room: (Convention Hall No.3)

Technical Visits

◆ TV-1: National Geomatics Centre of China (NGCC)

08:30 Depart from BICC for NGCC
11:00 Leave NGCC for BICC

◆ TV-2: Chinese Academy of Surveying and Mapping (CASM)

13:00 Depart from BICC for CASM
15:00 Leave CASM for BICC

Social Program

◆ SE-3: Acrobatic Show

Time: 19:15-20:15
Depart from BICC at 18:00
(meal box to be provided)
Place: Tian Di Theatre

◆ SE-5: Beijing Night Show

Time: 19:00-21:20
Depart from BICC at 18:00
Place: Beijing Night Show Theatre

Enjoying the Congress? Purchase your raffle tickets to support future ISPRS activities. Raffle tickets are on sale at the TIF Registration Booth on BICC Level 1.

Program of the Day

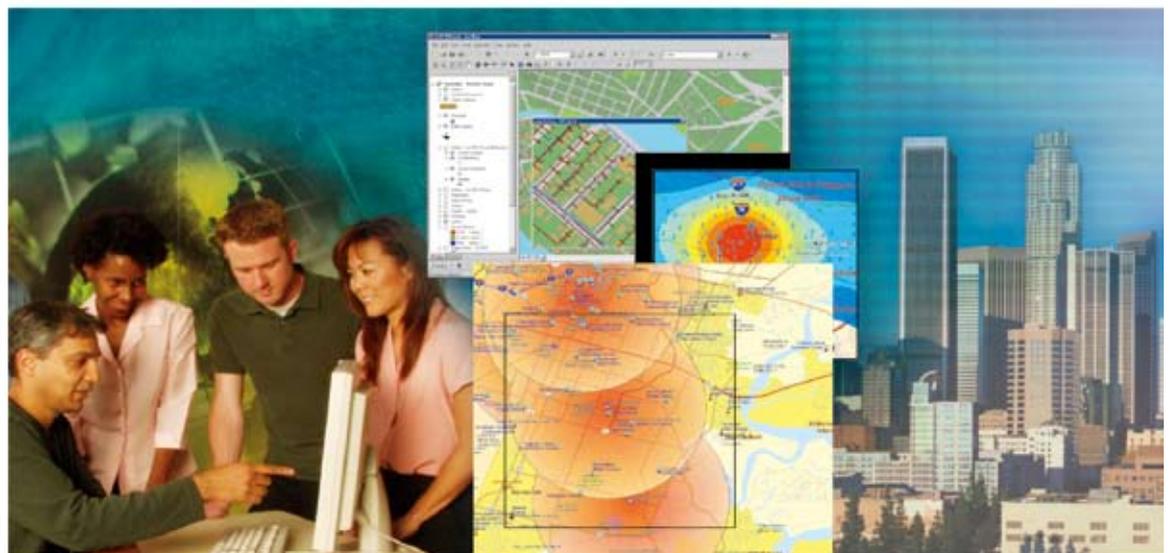
- ◆ **TS WG I/3: Multi-platform Sensing and Sensor Networks**
Time: 08:30-10:00
Room: (Convention Hall No.2A)
- ◆ **TS WG II/4: Spatial Planning and Decision Support Systems**
Time: 08:30-10:00
Room: (Convention Hall No.2B)
- ◆ **TS WG III/3 (1): LiDAR Sensing and Data Analysis**
Time: 08:30-10:00
Room: (Convention Hall No.2C)
- ◆ **TS Session of ISPRS Prize for Best Papers by Young Authors (1)**
Time: 08:30-10:00
Room: (201A Conference Room)
- ◆ **TS WG VIII/6: Coastal Management Ocean Colour and Ocean State Forecasting**
Time: 08:30-10:00
Room: (201B Conference Room)
- ◆ **TS ThS-19: Integrated Coastal Zone Management**
Time: 08:30-10:00
Room: (305C Conference Room)
- ◆ **TS WG I/4 (1): Geometric Properties of Current Digital Camera Systems**
Time: 08:30-10:00
Room: (305B Conference Room)
- ◆ **TS WG ICWG VII/IV: Derivation of Global Data, Environmental Change and Sustainability Indicators**
Time: 08:30-10:00
Room: (307 Conference Room)
- ◆ **TS ThS 23: UAV for Mapping (1)**
Time: 10:30-12:00
Room: (Convention Hall No.2A)
- ◆ **TS WG V/2(2) & ThS-13: Documentation of Cultural Heritage Sites**
Time: 10:30-12:00
Room: (Convention Hall No.2B)
- ◆ **TS SS-2: Digital Earth - Status and Trends**
Time: 10:30-12:00
Room: (Convention Hall No.2C)
- ◆ **TS Session of ISPRS Prize for Best Papers by Young Authors (2)**
Time: 10:30-12:00
Room: (201A Conference Room)
- ◆ **TS WG ICWG II/IV: Dynamic and Multi-dimensional Systems and Applications**
Time: 10:30-12:00
Room: (201B Conference Room)
- ◆ **TS WG V/1(3): Industrial Vision Metrology - Applications**
Time: 10:30-12:00
Room: (305C Conference Room)
- ◆ **TS ThS-11: Early Warning Systems for Natural Hazards**
Time: 10:30-12:00
Room: (305B Conference Room)
- ◆ **TS WG VIII/3 (1) : Atmospheric, Climate and Weather Research(1)**
Time: 16:00-17:30
Room: (Convention Hall No.2A)
- ◆ **TS SS-16: Terrestrial Laser Scanner Calibration Techniques**
Time: 16:00-17:30
Room: (Convention Hall No.2B)
- ◆ **TS WG V/4 Virtual Reality and Computer Animation**
Time: 16:00-17:30
Room: (Convention Hall No.2C)
- ◆ **TS SS-6: Geoinformation for Disaster Mapping**
Time: 16:00-17:30
Room: (201A Conference Room)
- ◆ **TS WG IV/2: Image-based Geospatial Information Management**
Time: 16:00-17:30
Room: (201B Conference Room)
- ◆ **TS WG VII/6 (2): Remote Sensing Data Fusion**
Time: 16:00-17:30
Room: (305C Conference Room)
- TS SS-9: Cultural Heritage Recording and Silk Road**
Time: 16:00-17:30
Room: (305B Conference Room)
- TS WG V/3 & ThS 15: Terrestrial Laser Scanning - Modelling**
Time: 16:00-17:30
Room: (307 Conference Room)

GIS—Better Decisions through Modeling and Mapping Our World

ESRI Philosophy

ESRI believes that better information makes for better decisions. Our reputation is built on contributing our technical knowledge, our special people, and our valuable experience to the collection, analysis and communication of geographic information.

Contact us today to learn how ESRI's GIS is helping to manage and improve business operations around the world.



Technical Commission Report

Technical Commission Report VIII: Remote Sensing Applications and Policies

Remote sensing is the acquisition of information about properties of objects or phenomena without physical contact. This science is related to detection of electromagnetic radiation in very narrow spectral bands, over a wide range of the electromagnetic spectrum.

Photography was the main remote sensing technique for many years, where photogrammetry was the only known image processing and data collection tool. Today, Earth observation by data acquisition from space-borne satellites is a typical method of data collection. Looking ahead, we believe that around 10 to 15 satellites will be launched in as many years. Each new satellite will serve as a platform for a new scanning observation system; each new system will manifest progressively better resolutions, both spectral and geometrical. In some cases, there is also an increase in the radiometric resolution. Once, remote sensing was done by capturing the moment on black and white or colour film. Today, it is common to collect data digitally by dividing the captured scene into a mesh of small equal-size picture elements known as *pixels*.

The basic application of remote sensing is classification. This means the detection of different phenomena; the recognition of typical spectral, spatial and logical characteristics of different objects or groups of objects; and the identification of each feature according to a methodological, hierarchical, fuzzy or other logic in a time or frequency domain in



Once, remote sensing was done by capturing the moment on film. Today, data is collected digitally, like this image from LandSat 5 of the Simi incident and Piru fires near Simi Valley, California (2004).

dimensional or parametric space. This requires high levels of image understanding, robotic vision and advanced mathematical algorithms. This must in turn be combined with a comprehensive understanding of the dimensional characteristics of the image's textural undulations and deviations.

Nothing is done without deep knowledge about the characteristics of the phenomena. This knowledge may come from personal experience or the calibration processes performed by the data providers. It may also be gathered through advanced methods such as GIS-driven logic, where existing old spatial information data bases are used to automatically calibrate any new data. This allows us to update the very same vector data bases as automatically as possible.

TC VIII working groups are focused on many remote sensing applications including: impact analysis of human settlement; hazards and disasters; public health; air pollution; coastal zone management; polar, alpine and cryogenic research; land degradation; desertification and arid lands. TC VIII also deals with issues related to: management of tropical zones; policies, treaties and data access; water security; precision agriculture; sustainable forest; landscape management; geological mapping and geomorphology.

The newly formalised Commission VIII will present at this Congress over 25 oral and posters sessions. Three theme and two additional special sessions will serve as platforms to introduce the state-of-the-art in remote sensing applications. We expect that the technical meetings and discussions will launch new and challenging ideas for our next term.

Ammatzia Peled
Department of Geography and Environmental Studies
University of Haifa
ISRAEL





Beyond Istanbul: Catching up with the Youth Forum

Since its establishment at the 2004 Congress, the ISPRS Student Consortium has travelled the Silk Road from Istanbul to Beijing, building up knowledge, experience and energy for the Beijing of the Congress.

The youth forum is a gateway for young scientists to exchange ideas and build up networks with other leading scientists from around the world. It is aimed at postgraduate students and young professionals.

"Thanks to the youth forum, young professionals have the opportunity to join the Congress and play a role in the industry's development at an early stage in their careers. I've waited for over 30 years to be here today," said former vice-president of the International Federation of Surveyors (FIG), T. N. Wong.

ISPRS Student Consortium Chair Cemal Ozgur Kivilcim believes young scientists hold the key to the industry's success and the future of the ISPRS as a leading organisation.

"Our mission is to nurture young minds. We aim to continue the traditions and build on the knowledge, technical developments and inventions of our industry," said Kivilcim.

The Consortium has organised a poster session and several oral sessions for the 90 abstracts submitted for this year's forum. A panel discussion was hosted last week, where leaders in the field talked about their careers, experiences and the importance of the ISPRS.

A 'White Elephant' session was also hosted to provide information on how to write good research papers and project funding proposals. A General Assembly was also arranged to display the work of the youth forum over the past four years, and their plans and projects for the future.

"Young scientists are eager to share their ideas and research with industry experts and are enthusiastic to be part of the industry," said Kivilcim. "We want to connect young professionals from around the world."

