The XXII Congress
of the International Society for
Photogrammetry and Remote Sensing

25 August – 1 September 2012

Melbourne Convention and Exhibition Centre | Melbourne, Australia

Final Program

The 16th ARSPC is being held in
conjunction with the ISPRS Congress

16 ARSPC
Australasian
Remote Sensing
& Photogrammetry
Conference

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Contents

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University of Southern Queensland

Welcome from Congress Director

It is with much pleasure that I welcome you all to the XXII Congress of ISPRS, in my home town of Melbourne, Australia. An ISPRS Congress always offers the opportunity to meet old friends, make new ones, experience the latest developments in the science and art of photogrammetry, remote sensing and spatial sciences, and to experience this in a unique and rewarding location. I have always anticipated the next ISPRS Congress with enthusiasm and pleasure, and now it is Australia's turn to repay that experience to the ISPRS community.

There have been many advances in the science and technology of information from imagery over the last 4 years since the Congress in Beijing. People everywhere now use on-line satellite image services routinely to navigate, to explore new places and to plan their visit. We now have systems where users can contribute to the image and map database of 'space and place'; for example crowd sourced data is now an indispensible part of disaster response planning. Today there are small satellites that can be launched for a fraction of the cost of earlier imaging programmes, giving smaller nations affordable access to multispectral satellite imagery. This technology can only continue to improve, making high resolution satellite imagery and the associated spatial information ubiquitous.

The mission of ISPRS is information from imagery. This encompasses far more than the speedy delivery of imagery over the internet. Our profession can almost automatically derive 3d models of the built environment, determine the shrinkage of the world's glaciers, determine sea level and temperature, monitor development and the impact on arable land, measure the size of cancer tumours, model tangible cultural heritage and give decision makers the tools they need to make informed and justifiable decisions. As a profession we can be proud of what we have achieved and can offer the world. The participation by so many people here at the Melbourne Congress is testament to the important role the Congress plays in the sharing of this knowledge.

You should also make time to discover Melbourne while you are here, it is a vibrant multi-cultural community with a long tradition of science, technology and the arts. There are many reasons why Melbourne is consistently awarded the honour of the world's most liveable city.

On behalf of the ISPRS, the Surveying and Spatial Sciences Institute of Australia, and the City of Melbourne, I welcome you all to the Congress and wish you a rewarding and enriching experience.

Cliff Ogleby
*Congress Director*

Welcome from ISPRS President

Now the program of the Congress is ready. So I cordially invite you once more to attend the XXII ISPRS Congress in Melbourne, Australia from 25 August – 1 September 2012. Program of the Congress consists of meetings of the General Assembly, the decision making body of the Society; plenary and technical parallel sessions, with oral and interactive presentations of papers on new developments in a broad range of topics in the photogrammetry, remote sensing and spatial information sciences; a large commercial exhibition displaying the latest equipment and services that are related to the topics covered by ISPRS; and a scientific exhibition displaying the many achievements of ISPRS members. It is the culmination of four years' work of many researchers, scientists, practitioners and administrators working in the fields covered by ISPRS. In the name of the ISPRS I thank all paper presenters for their contribution.

Melbourne will be an exciting location for the Congress. The unique culture of Australia is an exotic mixture of different cultures and the past. A visit to Melbourne and other parts of Victoria will reveal many architectural and cultural gems, as well as pleasant landscapes. I am sure that all who attend the Congress will be fascinated by their visit to Australia.

I encourage all who have an interest in the photogrammetry, remote sensing and spatial information sciences to participate in this ISPRS quadrennial Congress.

I am sure that this Congress will prove to be very successful and rewarding for all participants.

Orhan ALTAN
President, ISPRS
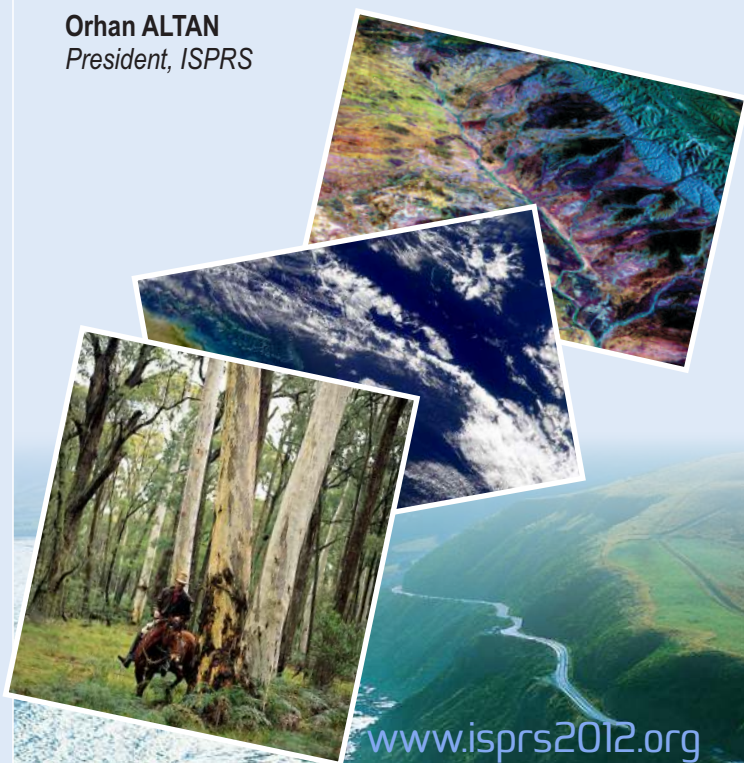
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Welcome from the State of Victoria

Minister for Innovation, Services and Small Business
Minister for Tourism and Major Events

121 Exhibition Street
Melbourne Victoria 3000
GPO Box 4509
Melbourne Victoria 3001
Telephone: (03) 9651 9900
Facsimile: (03) 9651 9962

Welcome to Melbourne and the XXII Congress of the International Society for Photogrammetry and Remote Sensing.

Melbourne is the capital of the State of Victoria, the most geographically diverse state in Australia; home to a dynamic scientific research community among nine Universities. Our long and prestigious history of scientific research and technical innovation make Melbourne the perfect city to host the XXII Congress of the International Society for Photogrammetry and Remote Sensing.

With a population of approximately four million people, Melbourne is one of the most cosmopolitan and multicultural cities in the world with 140 nationalities representing 100 religious faiths and 180 different languages. While you are in Melbourne for the Congress, please explore the city's range of delights. There is something for everyone in Melbourne, with diverse arts and cultural attractions, delightful parks and gardens, exciting entertainment options and a vibrant food and wine culture.

I encourage you to also take the time to enjoy the attractions of regional Victoria; from sweeping coastlines and pristine beaches to national parks and forests teeming with wildlife to wineries, lakes and mountains offering skiing, climbing and hiking. Many of Victoria's unique and varied landscapes are easily accessible as day trips from Melbourne.

I wish you all the best for a productive meeting here in Melbourne and hope that this important and topical gathering provides a platform for the exchange of ideas and an opportunity to forge new partnerships and friendships.

Welcome to Melbourne, enjoy the meeting and please come and visit us again.

THE HON LOUISE ASHER MP
Minister for Innovation, Services and Small Business
Minister for Tourism and Major Events

Plenary Speakers

Piero Boccardo

Politecnico di Torino, Italy

Gilberto Câmara

Director of INPE, Brazil

Madhu Chandra

Technische Universitaet Chemnitz, Germany

Juergen Dold

Hexagon, Switzerland

Peng Gong

Tsinghua University, Beijing and University of
California, Berkeley, USA

Lawrie Jordan

ESRI, USA

Stuart Lane

University of Lausanne, Switzerland

Gordon McBean

President Elect of the International Council for Science

Ranganath Navalgund

Director, Space Applications Centre, ISRO,
Ahmedabad, India

Sandau Rainer

International Academy of Astronautics, Germany

Konrad Schindler

ETH Zurich, Switzerland

Stewart Walker

BAE Systems, San Diego, USA

Sunday, 26 August 2012

Time	Location	Session Code	Sunday August 26
9:00-10:30	Plenary 2		Plenary 1
11:00-12:30	Plenary 2	TS714	VII/4: Methods for Land Cover Classification-1
	208	SS901	CIPA, ICOMOS and WG V/2: Advances in Digital Documentation-1
	210	TS801	VIII/1: Earthquakes and Damage Assessment
	211	TS701	VII/1: Physical Modelling and Signatures in Remote Sensing-1
	212	TS501	V/1: Vision Metrology - Best Practice, Systems and Applications-1
	213	TS401	IV/1: Geospatial Data Infrastructure-1
	216	SS911	ISPRS and GSDI: Spatially Enabled Society
	217	TS601	VI/1: Web Based Education and VI/2: E-Delivery of Education Services-1
	218	TS101	I/1: Standardization of Airborne Platform Interface
	219	TS301	III/4: Building Reconstruction
	220	TS201	II/1: Cognition and Modeling of Space and Time-1
2:00-3:30	Plenary 2	TS715	VII/4: Methods for Land Cover Classification-2
	208	SS902	CIPA, ICOMOS and WG V/2: Advances in Digital Documentation-2
	209	TS805	VIII/2: Environment and Health-1
	210	TS802	VIII/1: Mass Movements
	212	TS502	V/1: Vision Metrology - Best Practice, Systems and Applications-2
	213	TS402	IV/1: Geospatial Data Infrastructure-2
	216	SS914	URSI and ISPRS: Disaster Management
	217	TS602	VI/1: Web Based Education and VI/2: E-Delivery of Education Services-2
	218	TS102	I/2: LIDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms-1
	219	TS302	III/4: ISPRS Benchmark-1
	220	TS202	II/1: Cognition and Modeling of Space and Time-2
	5.2.03-4		ALCM Consortium Meeting
4:00-5:30	Plenary 2	TS716	VII/4: Methods for Land Cover Classification-3
	208	SS904	EuroSDR and WG IV/2: Automatic Updates of National Core Geospatial databases
	209	SS908	ICA and WG IV/7: Exploring the Moon!
	210	TS806	VIII/2: Environment and Health-2
	211	TS703	VII/1: Physical Modelling and Signatures in Remote Sensing-2
	212	TS503	V/2: Cultural Heritage Data Acquisition and Processing-1
	213	TS403	IV/1: Geospatial Data Infrastructure-3
	216	TS311	ICWG III/VII: Feature Analysis for Image Classification
	217	TS604	VI/5: Promotion of the Profession to Young People
	218	TS103	I/2: LIDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms-2
	219	TS303	III/4: ISPRS Benchmark-2
	220	TS203	II/2: Urban / City Generalization
	5.2.03-4		ALCM Consortium Meeting

09:00-10:30   MCEC Plenary 2

Plenary 1

Co-Chair: Orhan Altan, Istanbul Technical University, Turkey
Ian Dowman, University College London, UK

09:00   **Seeing the Future through Better Knowledge of the Present** 1001
Gordon McBean, President-elect International Council for Science, Western University, London, Ontario, Canada

09:30   **Small Satellites Status, Opportunities and Challenges** 1002
Rainer Sandau, International Academy of Astronautics (IAA), German Aerospace Center, Germany

10:00   **Whither Radar Remote Sensing?** 1003
Madhu Chandra, Chemnitz University of Technology, Chemnitz, Germany

- -

11:00-12:30   MCEC208

CIPA, ICOMOS and WG V/2: Advances in Digital Documentation-1

Chair: Paul Bryan, English Heritage, United Kingdom

11:00   **Advancing Documentation of Buried Archaeological Landscapes** 1004
Michael Doneus, University of Vienna, Austria

11:22   **Artefact Mobile Data Model to Support Cultural Heritage Data Collection and Interpretation** 1005
Zaffar Sadiq Mohamed Ghouse, Sinclair Knight Merz, Australia

11:44   **Archaeological Site Monitoring: UAV Photogrammetry can be an Answer** 1006
Fulvio Rinaudo, Politecnico di Torino, Italy

12:06   **An Approach to Find Localization of Non-Existent Historical Buildings by Terrestrial Photogrammetry** 1007
Ugur Acar, Yildiz Technical University, Turkey

- -

11:00-12:30   MCEC216

ISPRS and GSDI: Spatially Enabled Society

Chair: Abbas Rajabifard, The University of Melbourne, Australia

11:00   **An Imperative of e-planning in Integrating Land Administration Functions for Housing Production** 1008
Abbas Rajabifard, The University of Melbourne, Australia

- -

11:00-12:30   MCEC218

I/1: Standardization of Airborne Platform Interface

Chairs: Andrew C Roberts, Northrop Grumman, United States and Guo Huadong, CEODE, China

11:00   **The Results from the International Forum which Promotes Airborne Science Platform Capabilities Sponsored by the ISPRS** 1009
Andrew C Roberts, Northrop Grumman Information Systems, United States

11:22   **Request Analysis of DGPS/IMU on the Air-borne InSAR System** 1010
Sheng Liang Lou, Xi'an Research Institute of Surveying and Mapping, China

11:44   **Direct Georeferencing: A New Standard in Photogrammetry for High Accuracy Mapping** 1011
Aldino Rizaldy, Bakosurtanal, Indonesia

12:06   **Accuracy Verification of Gps-Ins Method in Indonesia** 1012
Kohei Uesugi, PASCO Corporation, Indonesia

- -

11:00-12:30   MCEC220

II/1: Cognition and Modeling of Space and Time-1

Chair: Xinming Tang, State Bureau of Surveying and Mapping, China

11:00   **Mapping Coral and Algal Patches at Heron Reef, Australia using Object-based Analysis and Pan-sharpened WordView-2 Images** 1013
Chris M Roelfsema, The University of Queensland, Australia

11:22   **Refined Topological Relations Computation Model between Spatial Objects with 'Euler-number' and 'Degree of Point'** 1014
Xiaoguang Zhou, Central South University, China

11:44   **A Qualitative Representation of Spatio-temporal Change** 1015
Xinming Tang, Satellite Surveying and Mapping Application Center, China

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Sunday, 26 August 2012

11:00-12:30   MCEC219
III/4: Building Reconstruction
Chair: Franz Rottensteiner, Leibniz University Hannover, Germany

11:00   **The ISPRS Benchmark on Urban Object Classification and 3D Building Reconstruction** 1016
Franz Rottensteiner, Leibniz University Hannover, Germany

11:30   **Sub-Surface Growing and Boundary Generalization for 3D Building Reconstruction** 1017
Martin Kada, University of Osnabrück, Germany

12:00   **Automatic Reconstruction of Building Roofs through Effective Integration of LIDAR and Multispectral Imagery** 1018
Mohammad Awrangjeb, The University of Melbourne, Australia

- -

11:00-12:30   MCEC213
IV/1: Geospatial Data Infrastructure-1
Chair: Jie Jiang, National Geomatics Center of China, China

11:00   **A New Multi-resolution Algorithm to Store and Transmit Compressed DTM** 1019
Ludovico Biagi, Politecnico di Milano, Italy

11:22   **Concepts, Models and Implementation of the Marine Spatial Data Infrastructure in Germany (MDI-DE)** 1020
Ralf Bill, University Rostock, Germany

11:44   **Geometrical Adjustment toward the Alignment of Vector Databases** 1021
Sagi Dalyot, Institut für Kartographie und Geoinformatik (IKG), Germany

12:06   **Interpolating Terrain Points for TIN based on Local Relief** 1022
Lin Li, Wuhan University, China

- -

11:00-12:30   MCEC212
V/1: Vision Metrology - Best Practice, Systems and Applications-1
Chair: Stuart Robson, University College London, United Kingdom

11:00   **Implementation of Zoom-Dependent Camera Calibration in Close-Range Photogrammetry** 1023
Clive S Fraser, CRC for Spatial Information, Australia

11:37   **Monte-Carlo-Simulation for Accuracy Assessment of a Single Camera Navigation System** 1024
Thomas Luhmann, Jade University of Applied Sciences, Germany

11:54   **Automatic Calibration of Stereo-cameras using Ordinary Chess-board Patterns** 1025
Anthony Prokos, National Technical University of Athens, Greece

12:11   **Development of a Wind Observation System using Photogrammetry** 1026
Hideaki Kawasaki, Tokyo Metropolitan Government, Japan

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11:00-12:30   MCEC217
VI/1: Web Based Education and VI/2: E-Delivery of Education Services-1
Chair: Martien Molenaar, ITC, The Netherlands

11:00   **E-Learning - Best Practice in Photogrammetry, Remote Sensing and GIS: Status and Challenges** 1027
Gerhard König, Technische Universität Berlin, Germany

11:22   **Web-based Education- Issues and Challenges** 1028
Anjana Narendra Vyas, CEPT University, India

11:44   **Evaluation and Development of e-Learning Tools and Methods in Digital Photogrammetry and Remote Sensing for Non Experts from Academia and Industry** 1029
Eberhard Gülch, Stuttgart University of Applied Sciences, Germany

12:06   **Development and Evaluation of Technology Education using Earth Observation Technique** 1030
Yosuke Ito, Naruto University of Education, Japan

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11:00-12:30 MCEC211

VII/1: Physical Modelling and Signatures in Remote Sensing-1
Chair: Shunlin Liang, University of Maryland, United States

11:00 **Reflectance Calibration Scheme for Airborne Frame Camera Images** 1031
Ulrich Beisl, Leica Geosystems, Switzerland

11:37 **Quantitative Benthos and Bathymetry Assessment: In Situ, Airborne and Spaceborne Requirements** 1032
Arnold G Dekker, CSIRO Land and Water, Australia

11:54 **Measuring the Particulate Backscattering in Inland Waters: A Comparison of Techniques** 1033
Glenn Campbell, University of Southern Queensland, Australia

12:11 **Retrieving Forest Structure Variables from Very High Resolution Satellite Images using an Automatic Method** 1034
Benoît Beguet, University of Bordeaux, France

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11:00-12:30 MCEC Plenary 2

VII/4: Methods for Land Cover Classification-1
Chair: Peijun Li, Peking University, China

11:00 **Analysis of Multitemporal and Multisensor Remote Sensing Data for Crop Rotation Mapping** 1035
Guido Waldhoff, University of Cologne, Germany

11:37 **Automatic Refinement of Training Data for Classification of Satellite Imagery** 1036
Torsten Büschenfeld, Institut für Informationsverbeitung, Germany

11:54 **Modeling Spatial Distribution of a Rare and Endangered Plant Species - Brainea Insignis** 1037
Wen Chiao Wang, Chung-Hsing University, Taiwan

12:11 **Optimization of Decision-Making for Spatial Sampling in the North China Plain, Based on Remote-Sensing a Priori Knowledge** 1038
Jianzhong Feng, Institute of Agriculture Information of Chinese Academy of Agricultural Sciences, China

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11:00-12:30 MCEC210

VIII/1: Earthquakes and Damage Assessment
Chair: Piero Boccardo, Politecnico di Torino, Italy

11:00 **Rapid Disaster Damage Estimation** 1039
Tuong Thuy Vu, University of Nottingham, Malaysia

11:22 **Fusion of Multi Precursors Earthquake Parameters to Estimate the Date, Magnitude and Affected Area of the Forthcoming Powerful Earthquakes** 1040
Mehdi Akhoondzadeh, University of Tehran, Iran

11:44 **KAL-Haïti: A Research Database for Risks Management and Sustainable Reconstruction in Haïti** 1041
Alain Giros, CNES, France

12:06 **Hydrologic Modelling of Katsina-Ala River Basin: An Emerging Scenario from Lake Nyos Threat** 1042
Joseph O Akinyede, African Regional Centre for Space Science and Technology Education in English (ARCSSTE-E), Nigeria

- -

14:00-15:30 MCEC208

CIPA, ICOMOS and WG V/2: Advances in Digital Documentation-2
Chair: Bharat Lohani, IIT Kanpur, India

14:00 **Recording Approach of Heritage Sites based on Merging Point Clouds from High Resolution Photogrammetry and Terrestrial Laser Scanning** 1043
Pierre Grussenmeyer, INSA, LSIIT-TRIO Strasbourg, France

14:22 **Hydrologic and Feature-based Surface Analysis for Tool Mark Investigation on Archaeological Finds** 1044
Kristof Kovacs, University of Innsbruck, Austria

14:44 **Costless Platform for High Resolution Stereoscopic Images of a High Gothic Façade** 1045
Sébastien Giordano, IGN, France

15:06 **3D Imaging for Museum Artefacts: A Portable Test Object for Heritage and Museum Documentation of Small Objects** 1046
Mona Hess, University College London, United Kingdom

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Sunday, 26 August 2012

14:00-15:30   MCEC216
URSI and ISPRS: Disaster Management
Chair: Tullio Tanzi, Telecom-Paris Tech, France

14:00   **Haiti Earthquake Damage Assessment: Review of the Remote Sensing Role** 1047
Piero Boccardo, Politecnico di Torino, Italy

14:22   **Event-Driven Observations and Comprehensive Evaluation for Natural Disaster Assessment in China** 1048
Zhi Wang, Northeastern University, China

14:44   **Flash Flood Forecasting and Early Warning in Small Catchments with a Quasi-Distributed Hydrological Model using WRF Precipitation Dataset** 1049
Romeji Singh Ngangbam, India

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14:00-15:30   MCEC218
I/2: LIDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms-1
Chairs: Boris Jutzi, Karlsruhe Institute of Technology, Germany and Huadong Guo, Center for Earth Observation and Digital Earth, China

14:00   **An Airborne InSAR Mapping System** 1050
Huadong Guo, Center for Earth Observation and Digital Earth, China

14:37   **Surface Complexity Component of LiDAR Point Cloud Error Characterization** 1051
Charles Toth, The Ohio State University, United States

14:54   **High Resolution Airborne Shallow Water Mapping** 1052
Frank Steinbacher, University of Innsbruck, Austria

15:11   **A New Effective Way for Vegetation Monitoring: Using Multi-wavelength Canopy Lidar** 1053
Bo Zhu, Wuhan University, China
Wei Gong, Wuhan University, China
Shuo Shi, Wuhan University, China

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14:00-15:30   MCEC220
II/1: Cognition and Modeling of Space and Time-2
Chair: Stephan Winter, The University of Melbourne, Australia

14:00   **Accuracy Analysis of a Low-Cost Platform for Positioning and Navigation** 1054
Sabine Hofmann, Leibniz Universitaet Hannover, Germany

14:22   **Wavelet-based Identification of Topographic Descriptors for the Registration of Digital Terrain Models** 1055
Ophir Almog, Technion - Israel Institute of Technology, Israel

14:44   **Working with the Spatiotemporal Data Type** 1056
Ale Raza, Esri, United States

15:06   **A Maximum Entropy Model of the Bearded Capuchin Monkey Habitat Incorporating Topography and Spectral Unmixing Analysis** 1057
Allison Howard, University of Georgia, United States

- -

14:00-15:30   MCEC219
III/4: ISPRS Benchmark-1
Chair: Gunho Sohn, York University, Canada

14:00   **Conditional Random Fields for LiDAR Point Cloud Classification in Complex Urban Areas** 1058
Joachim Niemeyer, Leibniz University Hannover, Germany

14:30   **Urban Object Extraction from Digital Surface Model and Digital Aerial Images** 1059
Dejan Grigillo, University of Ljubljana, Slovenia
Ursa Kanjir, Institute of Anthropological and Spatial Studies, ZRC SAZU, Slovenia

15:00   **Context-based Urban Terrain Reconstruction from Images and Videos** 1060
Dimitri Bulatov, Fraunhofer Institute of Optronics, Germany

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14:00-15:30   MCEC213
IV/1: Geospatial Data Infrastructure-2
Chair: Pattabhi Rama Rao, Indian National Centre for Ocean Information Services, India

14:00   Coastal Ocean Observing Network – Open Source Architecture for Data Management and Web-based Data Services 1061
Pattabhi Rama Rao, Indian National Centre for Ocean Information Services, India

14:22   Understanding Irrigated Agricultural Land use Change through the Integration of Satellite-based Land Cover Measurements, Spatial Information Systems and Market Segmentation Models 1062
Andrew McAllister, Department of Primary Industries, Victoria, Australia

14:44   Collaborative Web GIS Platform for Systematic Exploration of Lake Geneva 1063
Yosef Akhtman, École Polytechnique Fédérale de Lausanne, Switzerland

15:06   Representation of Physical Building Model in 3D Cadastre 1064
Minghui Hao, Chinese Academy Surveying and Mapping, China

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14:00-15:30   MCEC212
V/1: Vision Metrology - Best Practice, Systems and Applications-2
Chair: Thomas Luhmann, Jade University of Applied Sciences, Germany

14:00   Real Time Data Processing for Optical Remote Sensing Payloads 1065
Jürgen Wohlfeil, German Aerospace Center (DLR), Germany

14:22   Determination of the Degree of Gravel Aggregate-Bitumen-Coverage by Multi-Directional Reflectance Measurements 1066
Christian Mulsow, Technical University of Dresden, Germany

14:44   Construction of a System for Defining Areas which are not Obtained Data from Stereo Images 1067
Hideharu Yanagi, Japan Association of Surveyors, Japan
Hirofumi Chikatsu, Tokyo Denki University, Japan

15:06   IPS - A System for Real-time Navigation and 3D Modelling 1068
Jürgen Wohlfeil, German Aerospace Center (DLR), Germany

14:00-15:30   MCEC217
VI/1: Web Based Education and VI/2: E-Delivery of Education Services-2
Chair: Gerhard König, Technische Universität Berlin, Germany

14:00   Building Interactivity in Higher Education to Support Student Engagement in Spatial Problem Solving and Programming 1069
Elizabeth-Kate S Gulland, Curtin University, Australia

14:22   E-Learning Applications for Urban Modelling and OGC Standards Using HTML5 Capabilities 1070
Robert Kaden, Technische Universität Berlin, Germany

14:44   The Earth Observation Technology Cluster 1071
Paul Aplin, University of Nottingham, United Kingdom

15:06   Issues and Challenges in Geomatics Education in Haryana State, India 1072
Bhagwan Singh Chaudhary, Kurukshetra University, India

- -

14:00-15:30   MCEC Plenary 2
VII/4: Methods for Land Cover Classification-2
Chair: Peijun Li, Peking University, China

14:00   Classification of Polarimetric SAR Images using Joint Hierarchical Classification and Parametric Multidimensional Analysis 1073
Ying Bao Yang, Hohai University, China
Yan Wen Li, Hohai University, China

14:22   Orientation Based Building Outline Extraction in Aerial Images 1074
Andrea Kovacs, Hungarian Academy of Sciences, Hungary

14:44   The Low Backscattering Targets Classification in Urban Areas 1075
Lei Shi, China
PingXiang Li, Wuhan University, China

15:06   Assessing the Feature Sensitivity to Segmentation Errors in Object-oriented Classification using High Resolution Imagery 1076
Tiantian Feng, Tongji University, China

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Sunday, 26 August 2012

14:00-15:30   MCEC210
VIII/1: Mass Movements
Chair: T Srinivasa Kumar, National Centre for Ocean Information Services, India

14:00   **LiDAR and SAR Data Application for Landslide Study in Carpathians Region (Southern Poland)** 1077
Andrzej Borkowski, Wroclaw University of Environmental and Life Sciences, Poland

14:22   **MUNOLD: A Spatial Sensor Network for Landslide Monitoring** 1078
Ping Lu, Tongji University, China

14:44   **Capability of ASCAT and ASAR, C-band Active Microwave Sensors, for Monitoring of Extreme Flood and Drought Events in Lower Mekong Countries** 1079
Vahid Naeimi, German Aerospace Center (DLR), Germany

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14:00-15:30   MCEC209
VIII/2: Environment and Health-1
Chairs: Amelia Budge, Earth Data Analysis Center, USA and Stanley Morain, University of New Mexico, USA

14:00   **Remote Sensing in a Changing Climate and Environment: The Rift Valley Fever Case** 1080
Yves M Tourre, Columbia University, United States

14:22   **Mapping the Risks of Malaria, Dengue and Influenza using Satellite Data** 1081
Stanley Morain, University of New Mexico, United States

14:44   **Risk Zone Modelling and Early Warning System for Visceral Leishmaniasis (Kala-azar) Disease in Bihar, India using Remote Sensing and GIS** 1082
Jeyaram Alagarsamy, Indian Space Research Organisation, India

15:06   **Night-time Lights and Levels of Development: A Study using DMSP-OLS Night Time Images at the Sub-national Level** 1083
Koel Roychowdhury, RMIT University, Australia

- -

16:00-17:30   MCEC208
EuroSDR and WG IV/2: Automatic Updates of National Core Geospatial Databases
Chair: Dieter Fritsch, University of Stuttgart, Germany

16:00   **Mono-temporal GIS Update Assistance System based on Unsupervised Coherence Analysis and Evolutionary Optimization** 1084
Christian Becker, Leibniz Universität Hannover, Germany

16:22   **Service Oriented Architecture for Wireless Sensor Networks in Agriculture** 1085
S A Sawant, Indian Institute of Technology Bombay, India

16:44   **The Challenge of Automated Change Detection: Developing a Method for the Updating of Land Parcels** 1086
Leena Matikainen, Finnish Geodetic Institute, Finland

17:06   **Sensor Web Services for Early Flood Warnings Based on Soil Moisture Profiles** 1087
Thomas Brinkhoff, Jade University Oldenburg, Germany

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16:00-17:30   MCEC209
ICA and WG IV/7: Exploring the Moon!
Chair: Jürgen Oberst, German Aerospace Center (DLR), Germany

16:00   **Exploring the Moon with the Lunar Reconnaissance Orbiter Camera** 1088
Emerson J Speyerer, Arizona State University, United States

16:17   **LandSAfe: Landing Site Risk Analysis Software Framework** 1089
Ralph Schmidt, Leibniz Universität Hannover, Germany

16:34   **Lunar Cartography: Progress in the 2000's and Prospects for the 2010's** 1090
Randolph L Kirk, U.S. Geological Survey, United States

16:51   **Digital Elevation Models and Derived Products from LROC NAC Stereo Observations** 1091
Kyle N Burns, Arizona State University, United States

17:08   **In-Flight Geometric Calibration of the Lunar Reconnaissance Orbiter Camera** 1092
Emerson J Speyerer, Arizona State University, United States

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16:00-17:30   MCEC218

I/2: LIDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms-2
Chair: Franz Meyer, University of Alaska Fairbanks, USA

16:00   **Fusing Passive and Active Sensed Images to Gain Infrared-textured 3D Models** 1093
Stefan Hinz, Karlsruhe Institute of Technology, Germany

16:22   **EnMAP Detector Calibration and Verification** 1094
Ralf Reulke, Humboldt-Universität zu Berlin, Germany

16:44   **Automated Data Production for a Novel Airborne Multiangle SpectroPolarimetric Imager (AirMSPI)** 1095
Veljko M Jovanovic, NASA, United States

17:06   **Using Relative Orientation Constraints to Produce Virtual Images from Oblique Frames** 1096
Antonio MG Tommaselli, UNESP, Brazil

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16:00-17:30   MCEC220

II/2: Urban / City Generalization
Chair: Monika Sester, Leibniz University of Hannover, Germany

16:00   **Pattern Classification Approaches to Matching Building Polygons at Multiple Scales** 1097
Martien Molenaar, ITC, The Netherlands

16:29   **Multi-Level Building Reconstruction for Automatic Enhancement of High Resolution DSM** 1098
Hossein Arefi, German Aerospace Center (DLR), Germany

16:49   **Multiscale and Multitemporal Urban Remote Sensing** 1099
Victor Mesev, Florida State University, United States

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16:00-17:30   MCEC219

III/4: ISPRS Benchmark-2
Chair: Markus Gerke, ITC, The Netherlands

16:00   **An Implicit Regularization for 3D Building Rooftop Modeling using Airborne LIDAR Data** 1100
Gunho Sohn, York University, Canada

16:30   **A Line-based 3D Roof Model Reconstruction Algorithm: TIN-Merging and Reshaping (TMR)** 1101
Jiann-Yeou Rau, National Cheng Kung University, Taiwan

17:00   **Automatic Roof Outlines Reconstruction from Photogrammetric DSM** 1102
Francesco Nex, FBK - Bruno Kessler Foundation, Italy

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16:00-17:30   MCEC216

ICWG III/VII: Feature Analysis for Image Classification
Chair: Wolfgang Förstner, Bonn University, Germany

16:00   **Semi-supervised Marginal Fisher Analysis for Hyperspectral Image Classification** 1103
Hong Huang, Chongqing University, China
Yinsong Pan, Chongqing University, China

16:30   **A Modified Stochastic Neighbor Embedding for Combining Multiple Features for Remote Sensing Image Classification** 1104
Lefei Zhang, Wuhan University, China

17:00   **An Evaluation of Feature Learning Methods for High Resolution Image Classification** 1105
Piotr Tokarczyk, ETH Zurich, Switzerland

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16:00-17:30   MCEC213

IV/1: Geospatial Data Infrastructure-3
Chair: Michael P Finn, U.S. Geological Survey, United States

16:00   **Developing and Testing a 3D Cadastral Data Model- A Case Study in Australia** 1106
Ali Aien, The University of Melbourne, Australia

16:17   **Data Updating Methods for Spatial Data Infrastructure that Maintain Infrastructure Quality and Enable its Sustainable Operation** 1107
Saya Murakami, Kokusai Kogyo Co., Ltd., Japan

Sunday, 26 August 2012

16:34   Development of a Metadata Management System for an Interdisciplinary Research Project 1108
Constanze Curdt, University of Cologne, Germany

16:51   A Study of Urban Land Intensity Evaluating System 1109
Jirong Gu, Sichuan Normal University, China

17:08   Seamless Navigation Using Various Sensors: An Overview of the Seamless Navigation Campaign 1110
Masafumi Nakagawa, Shibaura Institute of Technology, Japan

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16:00-17:30   MCEC212
V/2: Cultural Heritage Data Acquisition and Processing-1
Chair: Paul Bryan, English Heritage, United Kingdom

16:00   High Resolution Surface Reconstruction from Imagery for Close Range Cultural Heritage Applications 1111
Konrad Wenzel, University of Stuttgart, Germany

16:22   Conservation Monitoring of a Heritage Ceiling by Photometric Stereo 1112
Stuart Robson, University College London, United Kingdom

16:44   High Precision Texture Reconstruction for 3D Sculpture Model 1113
Fan Zhang, Wuhan University, China

17:06   Increase of Readability and Accuracy of 3D Models using Fusion of Close Range Photogrammetry and Laser Scanning 1114
Mateo Gasparovic, University of Zagreb, Croatia
Iva Malaric, Geofoto d.o.o., Croatia

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16:00-17:30   MCEC217
VI/5: Promotion of the Profession to Young People
Chair: Manos Baltsavias, ETH Zurich, Switzerland

16:00   ISPRS Student Consortium: The Network of Youth in Geoinformation Society 1115
Cemal Özgür Kivilcim, Istanbul Technical University, Turkey
Krzysztof Sterenczak, Warsaw University of Life Sciences, Poland
Ursa Kanjir, University of Ljubljana, Slovenia
Ahmet Sengül, Istanbul Technical University, Turkey
Elena Lobo, Smithsonian Tropical Research Institute, Panama

16:30   Activities of Asian Students and Young Scientists on Photogrammetry and Remote Sensing 1116
Hiroyuki Miyazaki, The University of Tokyo, Japan

16:50   Higher Education in Balkan Region and its Contribution to the Earth Observation 1117
Anka Lisec, University of Ljubljana, Slovenia

17:10   Applied Geospatial Education: Acquisition and Processing of High Resolution Airborne Lidar and Orthoimages for the Great Smoky Mountains National Park, Southeastern United States 1118
Thomas R Jordan, University of Georgia, United States

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16:00-17:30   MCEC211
VII/1: Physical Modelling and Signatures in Remote Sensing-2
Chair: Mitsunori Yoshimura, Remote Sensing Technology Center of Japan

16:00   Characterising Vegetated Surfaces Using MODIS Multi-angular Satellite Data 1119
Geoffrey W McCamley, RMIT University, Australia

16:17   The Model of Wheat Yield Forecast Based on MODIS NDVI - A Case Study in Xinxiang 1120
Hong-wei Zhang, Xinxiang Meteorological Service, China

16:34   Geostatistical Analysis of Surface Temperature and Soil Moisture for Improved LST Time Series from MODIS 1121
Mammatt Sohrabinia, University of Canterbury, New Zealand

16:51   Development of a Model to Correct Multi-view Angle Above Water Measurements for the Analysis of the Bidirectional Reflectance of Coral and Other Reef Substrates 1122
Bruce C Forster, The University of New South Wales, Australia

17:08   Sensitivity Analysis in the Retrieval of Turbid Coastal Water Bathymetry Using WorldView-2 Satellite Data 1123
Chew Wai Chang, National University of Singapore, Singapore

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16:00-17:30   MCEC Plenary 2
VII/4: Methods for Land Cover Classification-3
Chair: Julian Smit, University of Cape Town, South Africa

16:00   **Context Models for CRF-Based Classification of Multitemporal Remote Sensing Data** 1124
Christian Heipke, Leibniz Universitaet Hannover, Germany

16:22   **Fast Mean-Shift Based Classification of Very High Resolution Images: Application to Forest Cover Mapping** 1125
Samia Boukir, University of Bordeaux, France

16:44   **Support Vector Machine Classification of Object-based Data for Crop Mapping, using Multi-temporal Landsat Imagery** 1126
Rakhesh Devadas, Department of Environment and Resource Management, Queensland, Australia

17:06   **Land Cover Classification of Multi-sensor Images by Decision Fusion using Weights of Evidence Model** 1127
Peijun Li, Peking University, China

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16:00-17:30   MCEC210
VIII/2: Environment and Health-2
Chair: Stanley Morain, University of New Mexico, United States

16:00   **Modernized Method for Estimating Time-Weighted Urban Population Distributions** 1128
Jeffrey M Young, LizardTech, United States

16:22   **Spatial Analysis Based Health And Safety Risk Assessment For Linear Construction Projects** 1129
Gonul Toz, Istanbul Technical University, Turkey

16:44   **A New Approach to Estimate Ground-Level Fine Particles for Health Impact Analysis** 1130
Fazlay S Faruque, The University of Mississippi Medical Center, United States
David J Lary, University of Texas, United States

17:06   **Monitoring Environment with GIS for Part of Thiruvallur Town using Cartosat 1 Stereo, PAN & Resourcesat Liss 4 MSS Merged Data** 1131
Ghouse Shaik Mohamed, Anna University, India

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Monday, 27 August 2012

Time	Location	Session Code	Monday August 27
9:00-10:30	Plenary 2		GA II
	208	TS728	VII/6: Remote Sensing Data Fusion-1
	209	TS807	VIII/3: Cloud and Atmospheric Data Analyses
	210	TS804	VIII/1: Projects and Systems
	211	TS704	VII/2: Deformation Monitoring
	212	TS504	V/2: Cultural Heritage Data Acquisition and Processing-2
	213	TS404	IV/2: Automatic Geospatial Data Acquisition and Image-Based Databases-1
	216	1001	16ARSPC/1: Plenary Session - Sustaining Earth Observation for Australia
	217	TS605	Youth Forum-1
	218	TS104	I/2: LIDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms-3
	219	TS304	III/4: Database Updating and Diagnostic
	220	TS204	II/2: Terrain Generalization
	5.2.01-2	SS907	ICA and WG IV/5: Crowdsourcing and Volunteered Geographic Information
	5.2.03-4	TS606	Youth Forum-2
11:00-12:30	Plenary 2		GA II
	208	TS729	VII/6: Remote Sensing Data Fusion-2
	209	TS808	VIII/3: Climate Change and Temperature Estimation
	210	TS813	VIII/6: Crop Assessment
	211	TS705	VII/2: Interferometric Image Analysis and Object Extraction
	212	TS505	V/3: Laser Scanning I: Point Cloud Registration
	213	TS405	IV/2: Automatic Geospatial Data Acquisition and Image-Based Databases-2
	216	1002	16ARSPC/2: Land Cover Mapping 1
	217	TS607	Youth Forum-3
	218	TS105	I/3:Multi-Platform Multi-Sensor Inter-Calibration-1
	219	TS320	III/4: Dense Matching for Surface Reconstruction
	220	TS205	II/3: Spatio-Temporal Pattern Analysis
	5.2.01-2	TS608	Youth Forum-4
	5.2.03-4	TS409	IV/4: Virtual Globes and Context-Aware Visualisation-1

Time	Location	Session Code	Monday August 27
2:00-3:30	210	PS801	VIII/1: Disaster Management; VIII/3: Atmosphere, Climate and Weather
	211	PS701	VII/1: Physical Modelling and Signatures in Remote Sensing; VII/2: SAR Interferometry; VII/3, VII/6, III/2, V/3: Integration of hyperspectral and lidar data
	213	PS401	ICWG IV/VIII: Updating and Maintenance of Core Spatial Databases; IV/2, IV/4: Point Cloud Processing, Management and Visualization; IV/2, IV/II: GeoSensor Networks and Sensor Web; IV/2: Automatic Geospatial Data Acquisition and Image-Based Databases
	216	1003	16ARSPC
	217	TS610	Youth Forum - Panel of Invited Speakers
	218	PS406	IV/8: 3D Spatial Data Integration for Disaster Management & Env. Monitoring; IV/II, IV/8, IV/1: Volunteered Geospatial Information; IV/7: Planetary Mapping and Databases
	219	PS301	ICWG III/VII: Pattern Recognition in Remote Sensing
	220	PS201	ICWG II/IV: Semantic Interoperability and Ontology for Geospatial Information; II/1: Cognition and Modeling of Space and Time; II/5: Multidimensional and Mobile Data Models
	5.2.01-2	VS101	Hexagon Vendor Session 1
	5.2.03-4	VS101	Hexagon Photogrammetry and Geospatial Solutions
4:00-5:30	Plenary 2	TS717	VII/4: Methods for Land Cover Classification-4
	209	TS410	IV/4: Virtual Globes and Context-Aware Visualisation-2
	210	TS809	VIII/4: Coastal Regions and Wetlands
	211	TS706	VII/2: Monitoring of Deformation and Motion
	212	SS903	CIPA, TC IV: 3D Dynamic Landscape Visions for Cultural Heritage/Archaeology
	213	TS406	IV/3: Mapping from High Resolution Data-1
	216	1004	16ARSPC/4: Applications of Earth Observation Data and Terminology
	217	TS611	Youth Forum - General Assembly
	218	TS106	I/3:Multi-Platform Multi-Sensor Inter-Calibration-2
	219	TS321	III/4: Surface Reconstruction
	220	ThS324	TCs III and V: Medical Imaging and Human Motion

Monday, 27 August 2012

09:00-10:30   MCEC216

16ARSPC/1: Plenary Session 1 - Remote Sensing Policy
Chair: Peter Woodgate, CRC for Spatial Information, Australia

09:00   **Australia's Remote Sensing Science Capabilities - Building and Sustaining a Critical Resource**
Stuart R Phinn, University of Queensland, Australia

09:30   **Linking Science to Management: State Agencies Perspectives**
Richard Hicks, NSW Department of Premier and Cabinet, Australia

10:00   **Trust Me, I'm a Doctor: The Critical Need for Transparency, Provenance and Auditability in the Environmental Sciences** 2003
Stuart Minchin, Geoscience Australia, Australia

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09:00-10:30   MEC5.2.01-02

ICA and WG IV/5: Crowdsourcing and Volunteered Geographic Information
Chair: Bert G Veenendaal, Curtin University, Australia

09:00   **openemotionmap.org - Emotional Response to Space as an Additional Concept in Cartography** 2004
Georg Gartner, Vienna University of Technology, Austria

09:22   **Google Maps for Crowdsourced Emergency Routing** 2005
Sisi Zlatanova, TU Delft, The Netherlands

09:44   **The Development of an Online Social Network and Crowd-sourcing-based Geospatial Cyberinfrastructure Platform**2006
Steve Liang, University of Calgary, Canada

10:06   **Development of an Urban Management Platform based on SOA using Volunteered Geographic Information** 2007
Jian Li, Wuhan University, China

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09:00-10:30   MCEC218

I/2: LIDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms-3
Chair: Charles Toth, The Ohio State University, United States

09:00   **Image Quality and Image Resolution** 2008
Ralf Reulke, Humboldt-Universität zu Berlin, Germany

09:22   **Property of the Large Format Digital Aerial Camera DMC II** 2009
Karsten Jacobsen, Leibniz University Hannover, Germany

09:44   **UltraCam Eagle, Details and Insight** 2010
Michael Gruber, Microsoft, Austria

10:06   **The UltraCam Story** 2011
Franz Leberl, Technical University Graz, Austria

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09:00-10:30   MCEC220

II/2: Terrain Generalization
Chair: Lars Harrie, Lund University, Sweden

09:00   **Generalisation of Terrain Features on a Contour Map** 2012
Eric Guilbert, Hong Kong Polytechnic University, Hong Kong

09:29   **A Study of Variables Characterizing Drainage Patterns in River Networks** 2013
Ling Zhang, Hong Kong Polytechnic University, Hong Kong

09:49   **Study on Evaluation Index System of Contour Simplification Algorithms** 2014
Jingsong Ma, Nanjing University, China

10:09   **Delaunay Triangulation Parallel Construction Method and its Application in Map Generalization** 2015
Jie Shen, Nanjing Normal University, China

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09:00-10:30   MCEC219

III/4: Database Updating and Diagnostic
Chair: Franz Rottensteiner, Leibniz University Hannover, Germany

09:00   Verification of 3D Building Models using Mutual Information in Airborne Oblique Images 2016
Adam P Nyaruhuma, University of Twente, The Netherlands

09:30   Multiple Model Based Verification of Road Data 2017
Uwe Breitkopf, Leibniz University Hannover, Germany

10:00   Network Snakes for Adapting GIS Roads to Height Data of Different Data Sources – Performance Analysis using ALS Data and Stereo Images 2018
Jens Göpfert, Leibniz University of Hanover, Germany, Germany

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09:00-10:30   MCEC213

IV/2: Automatic Geospatial Data Acquisition and Image-Based Databases-1
Chair: Petra Helmholz, Leibniz University of Hannover, Germany

09:00   A Structure-Based Approach for Matching Road Junctions with Different Coordinate Systems 2019
Xuechen Luan, Wuhan University, China

09:17   Automated 3D Road Sign Mapping with Stereovision-based Mobile Mapping Exploiting Disparity Information from Dense Stereo Matching 2020
Stefan Cavegn, University of Applied Sciences Northwestern Switzerland, Switzerland

09:34   HouseDiff: A Map-Based Building Change Detection from High Resolution Satellite Imagery Using Geometric Optimization Method2021
Nobuhiro Ishimaru, Hitachi, Ltd., Japan

09:51   Automated Modeling of 3D Building Roofs using Image and LIDAR Data 2022
Emmanuel Baltsavias, ETH Zurich, Switzerland

10:08   The Digital Camera as GPS Compass: Location Matching using Point Clouds2023
Masafumi Nakagawa, Shibaura Institute of Technology, Japan

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09:00-10:30   MCEC212

V/2: Cultural Heritage Data Acquisition and Processing-2
Chair: Fulvio Rinaudo, Politecnico di Torino, Italy

09:00   A Method of 3D Measurement and Reconstruction for Cultural Relics in Museums 2024
Shunyi Zheng, Wuhan University, China

09:22   High Resolution 3D Modeling of the Behaim Globe 2025
Fabio Menna, Foundation Bruno Kessler, Italy

09:44   From Point Cloud to 3D Model, Modelling Methods based on Architectural Knowledge Applied to Fortress of Chatel-sur-moselle (France) 2026
Emmanuel Alby, INSA Strasbourg, France

10:06   Protecting UNESCO World Heritage Properties's Integrity: The Role of Recording and Documentation in Risk Management 2027
Mario e Santana Quintero, Carleton University, Canada
Ona Vileikis, University of Leuven, Belgium

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09:00-10:30   MCEC217

Youth Forum-1
Chair: Cemal Ozgur Kivilcim, Istanbul Metropolitan Municipality, Turkey

09:00   Determination of the UAV Position by Automatic Processing of Thermal Images 2028
Wilfried Hartmann, ETH Zurich, Switzerland

09:22   A Study on Automatic UAV Image Mosaic Method for Paroxysmal Disaster 2029
Ming Li, Wuhan University, China

09:44   Activities of the Student Forum of the Geoinformation Forum Japan 2030
Akihiro Oba, Keio University, Japan

10:06   An Assessment of Shadow Enhanced Urban Remote Sensing Imagery of a Complex City - Hong Kong 2031
Cheuk-Yan Wan, Hong Kong Polytechnic University, Hong Kong

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Monday, 27 August 2012

09:00-10:30   MEC5.2.03-04
Youth Forum-2
Chair: Ursa Kanjir, Institute of Anthropological and Spatial Studies, ZRC SAZU, Slovenia

09:00   **Hierarchical Matching of Uncertain Building Models with Oblique View Airborne IR Image Sequences** 2032
Dorota Iwaszczuk, Technische Universitaet Muenchen, Germany

09:22   **Feature Analysis for Multi-window Matching** 2033
Wen-Chi Chang, Department of Civil Engineering, National Central University, Taiwan

09:44   **Automated Multi-Source Remote Sensing Image Registration Based on Phase Congruency** 2034
Jie Shan, Wuhan University, United States

10:06   **A New Aproach for the Semi-automatic Texture Generation of the Buildings Facades, from Terrestrial Laser Scanner Data** 2035
Ersilia V Oniga, Romanian Society of Photogrammetry and Remote Sensing, Romania

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09:00-10:30   MCEC211
VII/2: Deformation Monitoring
Chair: Uwe Soergel, Leibniz Universität Hannover, Germany

09:00   **High Resolution Deformation Time Series Estimation for Distributed Scatterers using TerraSAR-X Data** 2036
Kanika Goel, German Aerospace Center (DLR), Germany

09:22   **Detecting Land Subsidence Using RPC Model with High-resolution SAR Data** 2037
Hongbo Pan, Wuhan University, China

09:44   **Ultrashort-baseline Persistent Scatterer Radar Interferometry for Subsidence Detection** 2038
Guoxiang Liu, Southwest Jiaotong University, China

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09:00-10:30   MCEC208
VII/6: Remote Sensing Data Fusion-1
Chair: Jixian Zhang, Chinese Academy of Surveying and Mapping, China

09:00   **Fusion of Active and Passive Microwave Observations to Create an Essential Climate Variable Data Record on Soil Moisture** 2039
Wolfgang Wagner, Vienna University of Technology, Austria

09:37   **AdaBoost-based Feature Relevance Assessment in Fusing Airborne LiDAR and Image Data for Classification of Trees and Vehicles in Urban Scenes** 2040
Uwe Stilla, Technische Universitaet Muenchen, Germany

09:54   **Monitoring of Glacial Change in the Head of the Yangtze River from 1997 to 2007 Using InSAR Technique** 2041
Hong'an Wu, Chinese Academy of Surveying and Mapping, China

10:11   **Fast Occlusion and Shadow Detection for High Resolution Remote Sensing Image Combined with Lidar Point Cloud** 2042
XiangYun Hu, Wuhan University, China
Xiaokai Li, Wuhan University, China

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09:00-10:30   MCEC210
VIII/1: Projects and Systems
Chair: Piero Boccardo, Politecnico di Torino, Italy

09:00   **Global Burned Area Mapping From European Satellites: The ESA Fire_cci Project** 2043
Emilio Chuvieco, Universidad de Alcalá, Spain

09:22   **Multi-Modal, Multi-Touch Interaction with Maps in Disaster Management Applications** 2044
Volker Paelke, Institut de Geomatica, Spain

09:44   **Low-cost Optical Camera Systems for Disaster Monitoring** 2045
Franz Kurz, German Aerospace Center (DLR), Germany

10:06   **Burn Severity Mapping in Australia 2009** 2046
Randy A McKinley, U.S. Geological Survey, United States

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09:00-10:30   MCEC209

VIII/3: Cloud and Atmospheric Data Analyses
Chair: Tatsuya Yokota, NIES, Japan

09:00   Stereo Derived Cloud Top Height Climatology Over Greenland from 20 Years of the Along Track Scanning Radiometer (ATSR) Instruments 2047
Daniel N Fisher, University College London, United Kingdom

09:22   Ground-Based Cloud Observation for Satellite-Based Cloud Discrimination and its Validation 2048
Megumi Yamashita, Survey College of Kinki, Japan

09:44   Atmospheric LIDAR Noise Reduction Based on Ensemble Empirical Mode Decomposition 2049
Jun Li, Wuhan University, China

10:06   Total Column Methane Retrievals Using the Tropospheric Infrared Mapping Spectrometer Over Sunglint Waters 2050
North F Larsen, Lockheed Martin, United States

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11:00-12:30   MCEC216

16ARSPC/2: Land Cover Mapping 1
Chair: Simon Jones, RMIT University, Australia

11:00   Integrating Landsat, IceSAT and ALOS PALSAR for Regional Scale Vegetation Structure Assessment 2051
Peter Scarth, The University of Queensland, Australia

11:18   A National Framework for Calibration and Validation
2052
Simon Jones, RMIT University, Melbourne, Australia

11:36   Unlocking the Landsat Archive 2053
Matthew Purss, Geoscience Australia, Australia

11:54   The Effect of Observer Experience Levels on the Variability of Fractional Ground Cover Reference Data
2054
Rebecca Trevithick, Queensland Department of Environment and Resource Management, Australia

12:12   Object-based Classification of Rehabilitated Vegetation in a Mine Closure Site
Nisha Bao, China University of Geosciences, China

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11:00-12:30   MCEC218

I/3:Multi-Platform Multi-Sensor Inter-Calibration-1
Chair: Ayman F Habib, University of Calgary, Canada

11:00   Rigorous Image Formation from Airborne and Spaceborne Digital Array Scanners 2056
Henry J Theiss, National Geospatial-Intelligence Agency, United States

11:22   A Geometric Calibration Method Based On Finite Elements Model With Distortion Smooth Constraint 2057
Guo Zhang, Wuhan, China, China

11:44   New Method for the Calibration of Multi-Camera Mobile Mapping Systems 2058
Ayman F Habib, University of Calgary, Canada

12:06   A Rigorous and Flexible Calibration Method for Digital Airborne Camera Systems 2059
Rongfu Tang, University of Stuttgart, Germany

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11:00-12:30   MCEC220

II/3: Spatio-Temp Pattern Analysis
Chairs: Yaolin Liu, Wuhan University, China and Tao Cheng, University College London, United Kingdom

11:00   Space-Time Analysis of Crime Patterns in Central London 2060
Tao Cheng, University College London, United Kingdom

11:17   Brazilian Amazonia Deforestation Detection using Spatio-temp Scan Statistics 2061
Carlos A O Vieira, Federal University of Santa Catarina, Brazil

11:34   A Fast Matching Approach of Polygon Features
2062
Qingxiang Meng, Wuhan University, China
Zhongliang Fu, Wuhan University, China

11:51   A VoMR-tree Based Parallel Space-range Query Method of Distributed Spatial Database 2063
Siyuan Liu, Wuhan University, China

12:08   Relationship Between Intra-Urban Vegetation Change and Social-Economic Data 2064
Leila MG Fonseca, National Institute for Space Research, Brazil

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Monday, 27 August 2012

11:00-12:30   MCEC219

III/4: Dense Matching for Surface Reconstruction
Chair: Gunho Sohn, York University, Canada

11:00   **Globally Optimal Multi View Dense Matching for Aerial Images** 2065
Arnold Irschara, Graz University of Technology, Austria

11:30   **3D Modeling from Gnomonic Projections** 2066
Mattia Previtali, Politecnico di Milano, Italy

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11:00-12:30   MCEC213

IV/2: Automatic Geospatial Data Acquisition and Image-Based Databases-2
Chair: Jens Göpfert, Leibniz University of Hanover, Germany, Germany

11:00   **In-Database Raster Analytics: Map Algebra and Parallel Processing in Oracle Spatial GeoRaster** 2067
Qingyun (Jeffrey) Xie, Oracle Corporation, United States

11:17   **ArcGIS Data Models for Managing and Using Imagery** 2068
Hong Xu, Esri, United States

11:34   **The Microsoft Global Ortho Program** 2069
Wolfgang Walcher, Microsoft, United States

11:51   **Fusion of Airborne and Terrestrial Image-based 3D Modelling for Road Infrastructure Management – Vision and First Experiments** 2070
Stephan Nebiker, University of Applied Sciences Northwestern Switzerland, Switzerland

12:08   **Entities and Features for Classification of Airborne Laser Scanning Data in Urban Area** 2071
George Vosselman, University of Twente, The Netherlands

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11:00-12:30   MEC5.2.03-04

IV/4: Virtual Globes and Context-Aware Visualisation-1
Chair: Jianya Gong, Wuhan University, China

11:00   **Verification of Image Based Augmented Reality for Urban Visualization** 2072
Takashi Fuse, University of Tokyo, Japan

11:17   **OpenWebGlobe – An Open Source SDK for Creating Large-Scale Virtual Globes on a WebGL Basis** 2073
Benjamin Loesch, University of Applied Sciences Northwestern Switzerland, Switzerland

11:34   **GeoGlobe-based Application: User Case Analysis** 2074
Jing Geng, Wuhan University, China

11:51   **Information Management Systems for Monitoring and Documenting World Heritage - the Silk Roads CHRIS** 2075
Ona Vileikis, KULeuven, Belgium

12:08   **The Direct Registration of LiDAR Point Clouds and High Resolution Image Based on Linear Feature by Introducing an Unknown Parameter** 2076
Chun Jing Yao, Wuhan University, China

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11:00-12:30   MCEC212

V/3: Laser Scanning I: Point Cloud Registration
Chair: Derek D Lichti, University of Calgary, Canada

11:00   **Towards Transparent Quality Measures in Surface based Registration Brocesses: Effects of Deformation onto Commercial and Scientific Implementations** 2077
Daniel Wujanz, Technical University of Berlin, Germany

11:22   **Rigorous Point-to-Plane Registration of Terrestrial Laser Scans** 2078
Darion S Grant, Purdue University, United States

11:44   **Co-Registration of 3D Point Clouds by Using an Errors-in-Variables Model** 2079
Umut Aydar, Istanbul Technical University, Turkey
Devrim Akca, Isik University, Turkey

12:06   **Automated Feature based TLS Data Registration for 3D Building Modeling**2080
Kazuo Kitamura, Topcon Corporation, Japan

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11:00-12:30   MCEC217

Youth Forum-3
Chair: Krzysztof Jan Sterenczak, Warsaw University of Life Sciences, Poland

11:00   **Reconstructing Three-dimensional Specific Curve Building Models From A Single Perspective View Image** 2081
Huan Chang, National Central University, Taiwan

11:22   **LiDAR and VHRS Data for Assessing Living Quality in Cities - An Approach based on 3D Spatial Indices** 2082
Piotr Tompalski, University of Agriculture in Krakow, Poland

11:44   **Knowledge Discovery from a Spatialized Literature Database of Land Cover Mapping Activities in the World** 3157
Le Yu, Tsinghua University, China

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11:00-12:30   MEC5.2.01-02

Youth Forum-4
Chair: Anka Lisec, University of Ljubljana, Slovenia

11:00   **Comparative Study on Methods for 3D Modelling of Urban Areas** 2085
Ersilia V Oniga, Romanian Society of Photogrammetry and Remote Sensing, Romania

11:22   **An Improved Algorithm Used in Automatic Matching for Low-altitude Aerial Image** 2086
Xue Wan, Wuhan University, China

11:44   **Assessment of Coastal Vulnerability to Sea Level Rise of Bolinao, Pangasinan Using Remote Sensing and Geographic Information Systems** 2087
Sheryl Rose C Reyes, University of the Philippines, Philippines

12:06   **Modeling of the "Plan da Mattun" Archaeological Site using a Combination of Different Sensors** 2088
Piotr Tokarczyk, ETH Zurich, Switzerland

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11:00-12:30   MCEC211

VII/2: Interferometric Image Analysis and Object Extraction
Chair: Uwe Soergel, Leibniz Universität Hannover, Germany

11:00   **Airborne X-HH Incidence Angle Impact on Canopy Height Retrieval: Implications for Spaceborne X-HH Tandem-X Global Canopy Height Models** 2090
M Lorraine Tighe, Intermap Technologies, United States

11:22   **Automatic Calculation of Oil Slick Area from Multiple SAR Acquisitions for Deepwater Horizon Oil Spill** 2091
Filiz Sunar, Istanbul Technical University, Turkey

11:44   **InSAR of Aquatic Bodies** 2152
Parviz Tarikhi, Iranian Space Agency, Iran

12:06   **A Block Adjustment Calibration Method for Airborne InSAR System** 2158
Guoman Huang, Chinese Academic of Surveying and Mapping, China

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11:00-12:30   MCEC208

VII/6: Remote Sensing Data Fusion-2
Chair: Zhong Lu, U. S. Geological Survey Center for EROS, United States

11:00   **Pansharpening of Hyperspectral Images in Urban Areas** 2092
Chembe Chisense, Stuttgart University of Applied Sciences, Germany

11:22   **Comparison of the Spectral Properties of Pan-sharpen Images Generated from AVNIR-2 and PRISM Onboard ALOS** 2093
Masayuki Matsuoka, Kochi University, Japan

11:44   **A Parallel Implementation Framework for Remotely Sensed Image Fusion** 2094
Jinghui Yang, Chinese Academy of Surveying and Mapping, China

12:06   **Research on Image Translation between SAR and Optical Imagery** 2095
Zhongliang Fu, Wuhan University, China

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Monday, 27 August 2012

11:00-12:30   MCEC209
VIII/3: Climate Change and Temperature Estimation
Chair: Tatsuya Yokota, NIES, Japan

11:00   **Multi-scale Remote Sensing for Resolving Urban Heating and Cooling** 2096
Stuart R Phinn, University of Queensland, Australia

11:22   **An Investigation of Local Effects on Surface Warming with Geographically Weighted Regression (GWR)** 2097
Yucai Xue, National Administration of Surveying, Mapping and Geoinformation, China

11:44   **Surface Temperature Estimation of Gangotri Glacier Using Thermal Remote Sensing**2098
Kamal Jain, Indian Institute of Technology Roorkee, India

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11:00-12:30   MCEC210
VIII/6: Crop Assessmen
Chair: Ranganath R Navalgund, Indian Space Research Organisation, India

11:00   **MODIS-based Evapotranspiration for Crop Performance Monitoring and Drought Early Warning Applications**2099
Gabriel B Senay, U.S. Geological Survey, United States

11:22   **Temporal Indices Data for Specific Crop Discrimination using Fuzzy Based Noise Classifier** 2100
Vijaya Musande, Jawaharlal Nehru Engineering College, India

11:44   **Evaluation of Wheat Growth Monitoring Methods based on Hyperspectral Data of Later Grain Filling and Heading Stages in Western Australia**2101
Taira Nakanishi, Kokusai Kogyo Co., Ltd., Japan

12:06   **Establishing Crop Productivity Using RADARSAT-2** 2102
Heather McNairn, Agriculture and Agri-Food Canada, Canada

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14:00-15:30   MCEC217
Youth Forum: Panel of Invited Speakers
Chair: Martien Molenaar, ITC, The Netherlands

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14:00-15:30   MEC5.2.01-04
Hexagon Photogrammetry and Geospatial Solutions

14:00   **Hexagon Photogrammetry and Geospatial Solutions**
William LaRocque, Intergraph, Madison, AL, United States

14:30   **Hexagon Photogrammetry and Geospatial Solutions**
Ruedi J Wagner, Hexagon Geosystems, Switzerland

15:00   **Hexagon Photogrammetry and Geospatial Solutions**
Ron Roth, Leica Geosystems, United States

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14:00-15:30   MCEC216
Short+Interactive
16ARSPC
Chair: Craig Smith, Geoscience Australia

14:00   **Analysis of Relationship between Land Surface Temperature and Green Cover in Sydney Metropolitan Area using Time-series Satellite Images** 2103
Xihua Yang, NSW Department of Premier and Cabinet, Australia

14:03   **High Resolution Remote Sensing of Farm Dams in New South Wales, Australia** 2104
Mustak Shaikh, NSW Department of Primary Industries, Australia

14:06   **Spatial Resolution Requirements for Vegetation Parameters Estimation** 2105
Lola Suarez, EMMAH, France

14:09   **Object-based Classification of Vegetation Community Type using Supervised Classification and a Species Distribution Model** 2106
Adam Roff, New South Wales Office of Environment and Heritage, Australia

14:12   **Efficient Photogrammetric Reconstruction of Highwalls in Open Pit Coal Mines** 2107
Klaus Thoeni, The University of Newcastle, Australia

14:15   **Estimation of Coarse Woody Debris using Airborne LiDAR** 2108
Naoko Miura, The University of Tokyo, Japan

14:18 **Multi-temp Classification of Woody Vegetation using Pan-Sharpened SPOT-5 Data** 2109
Michael Day, New South Wales Office of Environment and Heritage, Australia

14:21 **Modelling Surface Water Dynamic As A Function Of Climate Using Remote Sensing Imagery And Spatially Explicit Climate Data** 2110
Mirela Tulbure, University of New South Wales, Australia

14:24 **Image Enhancement from a Stabilised Video Sequence** 2111
Gabriel Scarmana, University of Southern Queensland, Australia

14:27 **Land Use Mapping in Queensland: Past, Present and Future** 2112
James Taylor, Queensland Land Use Mapping Program, Australia

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14:00-15:30   MCEC220
Short+Interactive
ICWG II/IV: Semantic Interoperability and Ontology for Geospatial Information; II/1: Cognition and Modeling of Space and Time; II/5: Multidimensional and Mobile Data Models
Chair: Alias Abdul Rahman, University of Technology Malaysia

14:00 **Geo-ontology-based Object-oriented Spatiotemp Data Modeling** 2113
Jingwen Li, Guilin University of Technology, China

14:03 **Simplified 3D City Models from LIDAR** 2114
Jochem Lesparre, Delft University of Technology, The Netherlands

14:06 **Classification of Multitemp Imagery using Decision Trees**   2115
Thales S Korting, INPE, Brazil

14:09 **A Novel Dynamic Unified Data Model of Geo-interaction for Aircraft Navigation in Terminal Area** 2116
Deren Li, Wuhan University, China

14:12 **Implementation of a Forest Stand Map Services on Android Platform** 2117
In-Kyu Jeong, Kookmin University, Korea

14:15 **Correction of Faulty Lines in Muscle, to be used in 3D Building Network Construction** 2118
Ismail R Karas, Karabuk University, Turkey

14:18 **Digital Archiving of People Flow by Recycling Large-scale Social Survey Data of Developing Cities** 2119
Yoshihide Sekimoto, University of Tokyo, Japan

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14:00-15:30   MCEC219
Short+Interactive
ICWG III/VII: Pattern Recognition in Remote Sensing
Chair: Wolfgang Förstner, Bonn University, Germany

14:00 **Multi-temp and Multi-sensor Image Matching Based on Local Frequency Information** 2120
Xiaohu Zhang, National University of Defense Technology, China

14:03 **The Use of High Spatial and Medium Spectral Resolution Satellite Imagery for the Mapping of Urban Trees**2121
David A Bruce, University of South Australia, Australia

14:06 **Spectral Regression Discriminant Analysis for Hyperspectral Image Classification** 2122
Yinsong Pan, Chongqing University, China

14:09 **3D Classification of Crossroads from Multiple Aerial Images using Markov Random Fields** 2123
Sergey G Kosov, Institute of Photogrammetry and GeoInformation, Germany

14:12 **Research on the Improved Image Dodging Algorithm Based on Mask Technique** 2124
Han Hu, Wuhan University, China

14:15 **Removing Shadows from High-resolution Urban Aerial Images Based on Color Constancy** 2125
Qin Ye, Tongji University, China

14:18 **On Land Slide Detection using TerraSAR-X over Earthen Levees** 2126
Nicolas H Younan, Mississippi State University, United States

14:21 **Feature Evaluation for Building Facade Images: An Empirical Study** 2127
Michael Ying Yang, University of Bonn, Germany

Monday, 27 August 2012

14:24 **Morphological Hit-or-Miss Transform Based Approach for Building Damage Estimation from VHR Airborne Imagery in 2011 Pacific Coast of Tohoku Earthquake and Tsunami** 2128

Chandana Dinesh Kumara Parape, Kyoto University, Japan

14:27 **Fast Power Line Detection and Localization using Steerable Filter for Active UAV Guidance** 2129

Yuee Liu, Australian Research Centre for Aerospace Automation, Australia

14:30 **Feature Modelling of High Resolution Remote Sensing Images Considering Spatial Autocorrelation** 2130

Kun Qin, Wuhan University, China

14:33 **An Algorithm for Coastline Detection Using SAR Images** 2131

Fusun Balik Sanli, Yildiz Technical University, Turkey

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14:00-15:30 MCEC213
Short+Interactive
ICWG IV/VIII: Updating/Maintenance of Core Spatial Databases; IV/2, IV/4: Point Cloud Processing, Management & Visualization; IV/2, IV/II: GeoSensor Networks & Sensor Web; IV/2: Automatic Geospatial Data Acquisition & Image-Based Databases
Chair: Costas Armenakis, York University, Canada

14:00 **Precise Mapping a Solar Energy Resource of Korea Peninsula Using 5m-DEMs** 2132

You-Kyung Seo, Kookmin University, Korea

14:03 **Automatic Airborne LiDAR Mounting Bias Calibration** 2133

Wanshou Jiang, Wuhan University, China

14:06 **An Integrated Spatial Indexing of Huge Point Image Model** 2134

Yanmin Wang, Beijing University of Civil Engineering and Architecture, China

14:09 **A Corroding Method for Building Boundary Extraction and 3D Reconstruction from LIDAR Data** 2135

Hui-ying Li, Jilin University, China

14:12 **Research on the Prototype of Rail Clearance Measurement System** 2136

Slawomir Mikrut, AGH University of Science and Technology, Poland

14:15 **Variometry Tests for Accelerometers Sensors** 2137

Maria Grazia MG D'Urso, University of Cassino, Italy

14:18 **Multitemp Quality Assessment of Grassland and Cropland Objects of a Topographic Dataset** 2138

Petra Helmholz, Leibniz University of Hannover, Germany

14:21 **Gap Filling in Road Extraction using Radon Transformation** 2139

Hosein Pourali, RMIT University, Australia

14:24 **Multi-temp Analysis of Landscapes and Urban Areas**2140

Fabio Menna, FBK - Bruno Kessler Foundation, Italy

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14:00-15:30 MCEC218
Short+Interactive
IV/8: 3D Spatial Data Integration for Disaster Management & Env. Monitoring; IV/II, IV/8, IV/1: Volunteered Geospatial Information; IV/7: Planetary Mapping and Databases
Chair: Zhizhong Kang, China University of Geosciences, China

14:00 **The Visualization Method of the 3D Concentration Distribution of Asian Dust in the Google Earth** 2141

Takashi Kusaka, Kanazawa Institute of Technology, Japan

14:03 **Study of Influence of Effluent on Ground Water using Remote Sensing, GIS and Modeling Techniques** 2142

Suparn Pathak, Department of Space, India

14:06 **Ortho-Rectification of HJ-1A/1B Multi-Spectral Image based on the GCP Image Database** 2143

Guoyuan Li, Satellite Surveying and Mapping Application Center of National Administration of Surveying, Mapping and Geoinformation, China

14:09 **A Cellular Automata Model to Simulate Forest Fire Spread in Northeast China considering Combustible Instance Index and Real-time Weather Forecast** 2144

Kaiming Xu, Heilongjiang Geomatics Center, China

14:12 **Application Possibility of Smartphone as Payload for Photogrammetric UAV System** 2145

MyungHyun Yun, Pukyong National University, Korea

14:15 **A Bottom-up Geospatial Data Update Mechanism for Spatial Data Infrastructure Updating** 2146
Wenwen Tian, Wuhan University, China

14:18 **Improved Phobos Atlas from Mars Express HRSC/SRC Image Data** 2147
Konrad Willner, Technical University of Berlin, Germany

14:21 **Stereo-photogrammetric Analysis of MESSENGER Mercury Images** 2148
Frank Preusker, German Aerospace Center (DLR), Germany

14:24 **Shape of Asteroid (4) Vesta** 2149
Frank Preusker, German Aerospace Center (DLR), Germany

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14:00-15:30 MCEC211
Short+Interactive
VII/1: Physical Modelling and Signatures in Remote Sensing; VII/2: SAR Interferometry; VII/3, VII/6, III/2, V/3: Integration of Hyperspectral and Lidar Data
Chair: Uwe Sörgel, Leibniz Universität Hannover, Germany

14:00 **SAR Doppler Paramters Estimation Based on POS Data** 2150
Yushan Sun, Chinese Academy of Surveying and Mapping, China

14:03 **Atmospheric Correction Comparison of SPOT-5 Image Based on Model FLAASH and Model QUAC** 2151
Yunkai Guo, Changsha University of Science & Technology, China

14:06 **Sar Polarimetric Signatures For Urban Targets - Polarimetric Signature Calculation and Visualization** 2153
Anjana Narendra Vyas, CEPT University, India

14:09 **Sources of Artefacts in Synthetic Aperture Radar Interferometry Data Sets** 2154
Kazimierz Becek, Universiti Brunei Darussalam, Brunei Darussalam

14:12 **A Novel Approach of Representing Persistent Scatterer Interferometry (PSI) Point Targets using Hue and Saturation Scale** 2155
Ping Lu, University of Firenze, Italy

14:15 **The Extraction of Low Coherent Area and Interferometric Phase Reconstruction** 2156
Chunsen Chen, Chinese Academy of Surveying and Mapping, China

14:18 **Multi-Baseline Airborne InSAR for DEM Measuring** 2157
Fenfen Hua, Chinese Academy of Surveying and Mapping, China

14:21 **The Accuracy Analysis of the SRTM-X Elevation Model on the Area of Poland** 2159
Artur Karol Karwel, Institute of Geodesy and Cartography, Poland

14:24 **InSAR Atmospheric Delay Migitigation by GPS; Case Study Izmit Eartquake Interferograms** 2160
Mehmet Ugur Altin, Istanbul Technical University, Turkey

14:27 **Testing the Generalization Efficiency of Oil Slick Classification Algorithm using Multiple SAR Data for Deepwater Horizon Oil Spill** 2161
Filiz Sunar, Istanbul Technical University, Turkey

14:30 **Fusion of Optical Data and SAR Data for the Estimation of Nitrogen Concentration in Pearl River Estuary Hong Kong Seas, China** 2162
Xiangnan Liu, China University of Geosciences, China

14:33 **The Benefits of Terrestrial Laser Scanning and Hyperspectral Data Fusion Products** 2163
Simon J Buckley, University of Bergen, Norway

14:36 **Edge Feature Registration of Remote Sensing Images via the Parameters Decomposition of Affine Transformation Model** 2164
Tianze Chen, National University of Defense Technology, China

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14:00-15:30 MCEC210
Short+Interactive
VIII/1: Disaster Management; VIII/3: Atmosphere, Climate and Weather
Chair: Tatsuya Yokota, NIES, Japan

14:00 **Soft Computing Approach for Liquefaction Identification using Landsat-7 Temp-indices Data** 2165
Anil Kumar, Indian Institute of Remote Sensing, India

Monday, 27 August 2012

14:03 **Methodology for Landslide Monitoring in a Road Cut by Means of Terrestrial Laser-Scanning Techniques** 2166
M Angeles Hernandez, University of Jaen, Spain

14:06 **Spectroscopy of Brachiaria Brizantha Plants Contaminated by Liquid Hydrocarbons as Indicator of Small Leakages in Pipelines** 2167
Giuliana C Mercuri Quiterio, UNICAMP, Brazil

14:09 **Geometric Integration of Multi-source High-resolution Remotely Sensed Imagery with Applications to Natural Hazard Mitigation** 2168
Xiaohua Tong, Tongji University, China

14:12 **Bushfires in the Krachi District: The Socio-Economic and Environmental Implications** 2169
John M Kusimi, University of Ghana, Ghana

14:15 **Geographical Information Analysis of Tsunami Flooded Area by the Great East Japan Earthquake using Mobile Mapping System** 2170
Mamoru Koarai, Geospatial Information Authority of Japan, Japan

14:18 **Direct Detection of Soils Contaminated with Liquid Hydrocarbons using Hyperspectral Data** 2171
Lucíola A Magalhães, State University of Campinas, Brazil

14:21 **Using Full Spectrum MODIS and VIIRS Reflectance Observations for Australian Surface, Biosphere and Atmospheric Science Products** 2172
Mark A Gray, Curtin University, Australia

14:24 **Quantification of Aerosol Signal in MTSAT Visible Imagery over China**2173
Linyan Bai, Centre For Earth Observation and Digital Earth, China

14:27 **Image Interpretation of Coastal Areas** 2174
Maria A Lazaridou, Aristotle University of Thessaloniki, Greece

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16:00-17:30   MCEC216
16ARSPC/4: Applications of Earth Observation Data and Terminology
Chair: Shona Chisholm, Geoimage Pty Ltd, Australia

16:00 **Preliminary Design of a Small Satellite Constellation for Monitoring Bushfires in Australia** 2175
Manuel F Dionizio, Australia

16:17 **Comparing Landsat TM and Rapideye Imagery for Mapping Woody Vegetation Damage Following Cyclone Yasi** 2176
Michelle Newstead, University of Southern Queensland, Australia

16:34 **In Situ Observations of Vegetation Response to Fire** 2177
Vaibhav Gupta, RMIT University, Australia

16:51 **International Photogrammetric Terminology - A New Edition**2178
Paul R T Newby, Remote Sensing and Photogrammetry Society, United Kingdom

17:08 **The Queensland Ground Cover Monitoring Program** 2179
Michael Schmidt, Queensland Department of Environment and Resource Management, Australia

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16:00-17:30   MCEC212
CIPA, TC IV: 3D Dynamic Landscape Visions for Cultural Heritage/Archaeology
Chair: Minna Lonnqvist, University of Oulu, Finland

16:00 **Satellite Perspectives on Highland - Lowland Human Interaction in Ancient Syria** 2180
Minna Lönnqvist, University of Oulu, Finland

16:22 **Improved Understanding of Historical Sites with 3D Geovisualization: Reconstructing Visions of Wormsloe State Historic Site, Georgia, USA** 2181
Marguerite Madden, University of Georgia, United States

16:44 **The New Three-dimensional Visualization Method of Heritage Sites by LiDAR Data** 2182
Noritsuna Fujii, Asia Air Survey Co.,Ltd., Japan

17:06 **Combination of Virtual Tours, 3D Model and Digital Data in a 3D Archaeological Knowledge and Information System** 2183
Mathieu Koehl, INSA Strasbourg, France

16:00-17:30　　MCEC220

TCs III and V: Medical Imaging and Human Motion
Chair: Harvey Mitchell, University of Newcastle, Australia

16:00　　**Detection and Evaluation of Skin Disorders by One of Photogrammetric Image Analysis Methods**2184
Merve Gucin, Istanbul Technical University,, Turkey

16:22　　**Accuracy Test of Microsoft Kinect for Human Morphologic Measurements** 2185
Bence Molnár, BUTE Department Photogrammetry and Geoinformatics, Hungary

16:44　　**Natural User Interface Sensors for Human Body Measurement** 2186
Jan Boehm, University College London, United Kingdom

17:06　　**Image Based 3D Reconstruction and Analysis for Orthodontia** 2187
Vladimir A Knyaz, State Research Institute of Aviation System, Russia

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16:00-17:30　　MCEC218

I/3:Multi-Platform Multi-Sensor Inter-Calibration-2
Chair: Cheng Wang, Xiamen University, China

16:00　　**Simultaneous Orientation and Calibration of Images and Laser Point Clouds with Straight Segments** 2188
Eduard Angelats Company, Institute of Geomatics, Spain

16:22　　**Calibration of Low Cost Digital Camera Using Data from Simultaneous Lidar and Photogrammetric Surveys** 2189
Edson A Mitishita, Federal University of Parana, Brazil

16:44　　**Orientation Strategies for Aerial Oblique Images** 2191
Albert Wiedemann, BSF Swissphoto, Germany

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16:00-17:30　　MCEC219

III/4: Surface Reconstruction
Chair: Markus Gerke, ITC, The Netherlands

16:00　　**Image-based Topography Reconstruction by Minimizing the Reprojection-Error over a Surface** 2192
Sagi Filin, Technion - Israel Institute of Technology, Israel

16:30　　**Automatic Fusion of Partial Reconstructions** 2193
Franz Leberl, Graz University of Technology, Austria

17:00　　**Comparison of Laser Scanning, Photogrammetry and SFM-MVS Pipeline Applied in Structures and Artificial Surfaces** 2194
Dimitrios P Skarlatos, Cyprus University of Technology, Cyprus

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16:00-17:30　　MCEC213

IV/3: Mapping from High Resolution Data-1
Chair: Pradeep K Srivastava, Indian Space Research Organisation, India

16:00　　**Morphological Building Index (MBI) and Morphological Shadow Index (MSI) for Automatic Building Extraction from High-resolution Remotely Sensed Imagery** 2195
Xin Huang, Wuhan University, China

16:17　　**Automating the Photogrammetric Workflow in a National Mapping Agency** 2196
David A Holland, Ordnance Survey, United Kingdom

16:34　　**Information Content of Very High Resolution Optical Space Imagery** 2197
Mehmet Alkan, Zonguldak Karaelmas University, Turkey

16:51　　**Object-oriented True Ortho-image Rectification Method Based on Multi-view Images** 2198
Qing Zhu, Wuhan University, China

17:08　　**Mapping and Geospatial Analysis of Seagrass Coverage in Bolinao, Pangasinan using Remote Sensing and Geographic Information System** 2199
Ayin M Tamondong, University of the Philippines, Philippines

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Monday, 27 August 2012

16:00-17:30   MCEC209
IV/4: Virtual Globes and Context-Aware Visualisation-2
Chair: Huayi Wu, Wuhan University, China

16:00   **Development of a New Geospatial Data Sharing/Overlay System for Land Environmental Studies – CEReS Gaia** 2200
Ryutaro Tateishi, Chiba University, Japan

16:17   **An Innovation Approach for Developing a 3D Model by Registering a Mono Image on a DTM** 2201
Amir Saeed Homainejad, Independent Research Group on Geospatial, Iran

16:34   **Establishing Web3D Virtual Campus Using Open Source Software** 2202
Fan En Kung, National Chengchi University, Taiwan

16:51   **Towards a Reactive Virtual Environment. Simulation of Smart 3D Objects** 2203
Falak R Sheth, Department of Primary Industries, Australia

17:08   **True 3D Images and Their Applications** 2204
Zheng Wang, HuaZheng Duowei Software Company, United States

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16:00-17:30   MCEC217
Youth Forum: General Assembly
Chair: Manos Baltsavias, ETH Zurich, Switzerland

16:00-17:30   MCEC211
VII/2: Monitoring of Deformation and Motion
Chair: Uwe Sörgel, Leibniz Universität Hannover, Germany

16:00   **TerraSAR-X InSAR Processing in Northern Bohemian Coal Basin using Corner Reflector (Preliminary Results)** 2205
Lena Halounova, CTU in Prague, Czech Republic

16:22   **Matching Persistent Scatterers to Buildings** 2206
Alexander Schunert, Leibniz Universität Hannover, Germany

16:44   **A New Persistent Scatter Network Construction Algorithm for PS-InSAR and its Application to the Detection of Urban Subsidence** 2207
Xiao-jun Luo, SouthWest JiaoTong University, China
Guo-xiang Liu, SouthWest JiaoTong University, China

17:06   **Glacier Surface Monitoring by Maximizing Mutual Information** 2208
Esra Erten, ETH Zurich, Switzerland

16:00-17:30   MCEC Plenary 2
VII/4: Methods for Land Cover Classification-4
Chair: Julian Smit, University of Cape Town, South Africa

16:00   **Combination of Genetic Algorithm and Dempster-Shafer Theory of Evidence for Land Cover Classification using Integration of SAR and Optical Satellite Imagery** 2209
Hai Tung Chu, The University of New South Wales, Australia

16:22   **Adaptive Multi-objective Sub-pixel Mapping Framework based on Memetic Algorithm for Hyperspectral Remote Sensing Imagery** 2210
Yanfei Zhong, Wuhan University, China

16:44   **Using LiDAR Data for Extracting Land Cover Information** 2211
Ahmed Shaker AbdElrahman, Ryerson University, Canada

17:06   **Seasonal Differences in Spatial Scales of Chlorophyll-A Concentration in Lake Taihu, China** 2212
Ying Bao, Nanjing University,China, China

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16:00-17:30   MCEC210
VIII/4: Coastal Regions and Wetlands
Chair: Ricky J Van Dongen, Department of Environment and Conservation, Australia

16:00   **Coastal Currents Monitoring Using Radar Satellites Based on Wave Tracking Approach** 2213
Abbas Abedini, University of Tehran, Iran

16:22   **Hydroperiod Classification of Cervantes Coolimba Coastal Wetlands using Landsat Time Series Imagery** 2214
Ricky J Van Dongen, Department of Environment and Conservation, Australia

16:44   **Monitoring Temp Dynamics of Wetland Vegetation in the Great Artesian Basin in Australia using MODIS Normalized Difference Vegetation Index (NDVI)** 2215
Megan Lewis, The University of Adelaide, Australia

17:06   **Remote Sensing of Water Quality in Optically Complex Lakes** 2216
Tiit Kutser, University of Tartu, Estonia

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Notes

Notes

Tuesday, 28 August 2012

Time	Location	Session Code	Tuesday August 28
9:00-10:30	208	SS905-1	IAA and ISPRS: Earth Observation Forum-1
	209	TS810	VIII/4: Hydrological Estimations, Sediment and Geomorphology
	210	TS815	VIII/6: Vegetation and Ecosystems-1
	211	TS707	VII/2: DEM Extraction and Validation
	212	TS506	V/3: Laser Scanning II: Mobile Mapping and Deformation Measurement
	213	TS407	IV/3: Mapping from High Resolution Data-2
	216	1005	16ARSPC/5: Plenary 2
	217	TS730	VII/6: Remote Sensing Data Fusion-3
	218	TS107	I/3:Multi-Platform Multi-Sensor Inter-Calibration-3
	219	TS322	III/4: Performance Analysis
	220	TS207	II/3: Spatial Data Mining - 1
	5.2.01-2	SS908	ICA and WG IV/7: Exploring the Moon!
11:00-12:30	208	SS905-2	IAA and ISPRS: Earth Observation Forum-2
	209	TS736	Highlights of TC VII
	210	TS816	VIII/6: Vegetation and Ecosystems-2
	211	TS708	VII/3: Information Extraction from Hyperspectral Data-1
	212	TS507	V/3: Laser Scanning III: Multi-sensor Integration
	213	TS408	IV/3: Mapping from High Resolution Data-3
	216	1006	16ARSPC/6: Advanced image processing
	217	SS910	ICA, FIG, IEEE, EuroSDR, TCVI: CrossBorder Education for the Global GI-Community
	218	TS108	I/4: Performance of Very High Resolution Optical Sensors - Geometry and DEM
	219	TS312	ICWG III/VII: Image Classification
	220	TS208	II/3: Spatial Data Mining - 2
	5.2.03-4	ThS425	IV/5, IV/1, II/IV, IV/8, IV/3: Free and Open Source Web Mapping and Processing

Time	Location	Session Code	Tuesday August 28
2:00-3:30	208	SS905-3	IAA and ISPRS: Earth Observation Forum-3
	210	PS802	VIII/4: Water
	211	PS702	VII/3: Information Extraction from Hyperspectral Data; VII/4: Methods for Land Cover Classification
	213	PS402	IV/1: Geospatial Data Infrastructure; IV/1,4,5, II/2,6,8: Data Modeling for Online Geographic Infomation Services
	216	PS306	III/4: Complex Scene Analysis and 3D Reconstruction
	218	PS101	I/2: LIDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms; I/3: Multi-Platform Multi-Sensor Inter-Calibration
	219	PS302	ICWG III/VII: Pattern Recognition in Remote Sensing; III/1: Pose Estimation and Surface Reconstruction from Image and/or Range Data
	5.2.01-2	VS102	Hexagon Vendor Session 2
	5.2.03-4	VS102	New Solutions from Hexagon Geosystems and Intergraph
4:00-5:30	208	SS905-4	IAA and ISPRS: Earth Observation Forum-4
	209	TS731	VII/7: Theory and Experiments in Radar and Lidar-1
	210	TS817	VIII/6: Vegetation Dynamics
	211	TS709	VII/3: Information Extraction from Hyperspectral Data-2
	212	TS508	V/3: Laser Scanning IV: Other Ranging Sensors and Point Cloud Modelling
	213	TS428	IV/3: Mapping from High Resolution Data-4
	216	1008	16ARSPC/8: Land Cover Mapping 2
	217	TS812	VIII/5: Energy and Solid Earth
	218	TS109	I/4: Large Scale Adjustment of Space Borne Stereo Image Data
	219	TS305	III/2: Tree Detection and Characterization
	220	TS209	II/4: Quality of DEMs and Related Spatial Models
	5.2.01-2	SS906	IAG and TC I: New Trends in Direct Geo-referencing Technologies

Tuesday, 28 August 2012

09:00-10:30   MCEC216
16ARSPC/5: Plenary 2: Space Policy
Chair: Stuart Minchin, Geoscience Australia, Australia

09:00   **National Support for Science and Management - The Role of GA**
Adam Lewis, Geoscience Australia, Australia

09:30   **National Support for Science and Management - Role of Bureau of Meteorology**
Anthony Rea, Bureau of Meteorology, Australia

10:00   **The Role of the Space Policy Unit in Defining Space Policy for Australia**
Anthony Wicht, Space Policy Unit, Australia

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09:00-10:30   MCEC208
IAA and ISPRS: Earth Observation Forum-1: The Role of International and National Agencies
Chairs: Jim Weber, ICRSE and Guo Huadong, CEODE

09:00   **NASA Earth Science & Applications**
Lawrence Friedl, NASA, United States

09:15   **China's Earth Observing Satellites for Digital Earth**
Guo Huadong, CEODE, China

09:30   **Earth Observation Data Continuity and Dependencies in Australia's R&D Sector**
Alex Held, CSIRO, Australia

09:45   **JAXA's Earth Observation Programme**
Toru Fukuda, JAXA, Japan

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09:00-10:30   MCEC218
I/3:Multi-Platform Multi-Sensor Inter-Calibration-3
Chair: Mostafa Madani, Sanborn, United States

09:00   **Accuracy Potential and Applications of MIDAS Aerial Oblique Camera System** 3009
Mostafa Madani, Sanborn, United States

09:22   **Bubble Cam: A Commercial-Grade Spherical Camera** 3010
Michael A Chapman, Ryerson University, Canada

09:44   **Performance Analysis of Fast AT for Corridor Aerial Mapping** 3011
Marta Blázquez, Institute of Geomatics, Spain

10:06   **One-step and Two-step Calibration of a Portable Panoramic Image Mapping System** 3012
Yi-Hsing Tseng, National Cheng-Kung University, Taiwan

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09:00-10:30   MCEC220
II/3: Spatial Data Mining - 1
Chair: Abdulvahit Torun, General Command of Mapping, Turkey

09:00   **Analysis of Light Intensity Data by the DMSP/OLS Satellite Image using Existing Spatial Data for Monitoring Human Activity in Japan** 3013
Yuki Akiyama, The University of Tokyo, Japan

09:22   **Prediction of Individual's Movement based on Interesting Places** 3014
Udo Feuerhake, Leibniz University of Hannover, Germany

09:44   **Verification and Risk Assessment for Landslides in the Shimen Reservoir Watershed of Taiwan Using Spatial Analysis and Data Mining** 3015
Jhe-Syuan Lai, National Central University, Taiwan
Fuan Tsai, National Central University, Taiwan

10:06   **Monitoring Urban Development of Small Chinese Cities using Innovative Aerial Surveying Technologies** 3016
Li Hongbo, Big Map Air Photo Technology & Service Co. Ltd., China

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09:00-10:30   MCEC219
III/4: Performance Analysis
Chair: Franz Rottensteiner, Leibniz University Hannover, Germany

09:00   **Diagnostic-robust Statistical Analysis for Local Surface Fitting in 3D Point Cloud Data** 3017
Abdul Awal Md Nurunnabi, Curtin University, Australia

09:30   **Deformation Detection in Piping Installations using Profiling Techniques** 3018
George Sithole, University of Cape Town, South Africa

10:00 Optimal Camera Network Design for 3D Reconstruction of Cultural Heritage 3019
Bashar Saleem Alsadik, Twente University - ITC, The Netherlands

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09:00-10:30 MCEC213
IV/3: Mapping from High Resolution Data-2
Chair: David A Holland, Ordnance Survey, United Kingdom

09:00 Graph-based Urban Land Use Mapping from High Resolution Satellite Images 3020
Irene Walde, Friedrich-Schiller University Jena, Germany

09:22 Analysis of the Effects of the Image Quality on Digital Map Generation from Satellite Images 3021
Hye-Yeon Kim, Inha University, Korea

09:44 High Performance Photogrammetric Processing on Computer Clusters 3022
Victor N Adrov, Racurs, Russia

10:06 A Comparison of Accuracies of the RPC Models: Homo- and Hetero-type Stereo Pairs of GeoEye and WorldView Images 3023
Sun Yong Choi, Agency for Defense Development, Korea

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09:00-10:30 MCEC212
V/3: Laser Scanning II: Mobile Mapping and Deformation Measurement
Chair: Marco Scaioni, Politecnico di Milano, Italy

09:00 Automatic Processing of Mobile Laser Scanner Point Clouds for Building Façade Detection 3024
Nalani Hetti Arachchige, Institute of Photogrammetry and Remote Sensing, Sri Lanka

09:22 Curb-based Street Floor Extraction from Mobile Terrestrial LIDAR Point Cloud 3025
Sherif M Ibrahim, University of Calgary, Canada

09:44 Continuously Deformation Monitoring of Subway Tunnel based on Terrestrial Point Clouds 3026
Zhizhong Kang, China University of Geosciences, China

10:06 Deformation Monitoring of Motorway Underpasses using Laser Scanning Data 3027
Iván Puente, Spain

09:00-10:30 MCEC211
VII/2: DEM Extraction and Validation
Chair: Uwe Sörgel, Leibniz Universität Hannover, Germany

09:00 The Global TanDEM-X DEM: Production Status and First Validation Results 3028
Martin Huber, German Aerospace Center (DLR), Germany

09:22 Validation of DEMs Derived from High Resolution SAR Data: A Case Study on Barcelona 3029
Uwe Sörgel, Leibniz Universität Hannover, Germany

09:44 Radargrammetric Digital Surface Models Generation from TerraSAR-X Imagery: Case Studies, Problems and Potentialities 3030
Mattia Crespi, Università di Roma, Italy

10:06 Towards an Urban DEM Generation with Satellite SAR Interferometry 3031
Cristian Rossi, German Aerospace Center (DLR), Germany

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09:00-10:30 MCEC217
VII/6: Remote Sensing Data Fusion-3
Chair: J L van Genderen, ITC, The Netherlands

09:00 Automatic Registration of Multi-source Data using Mutual Information 3032
Ebadat Ghanbari Parmehr, Cooperative Research Centre for Spatial Information, Australia

09:17 A Proposed Framework to Unmix Scattering Mechanisms of Polarimetric Radar Images using Very High Resolution Optical Images 3033
Sébastien Giordano, Ecole Nationale des Sciences Géographiques (ENSG), France

09:34 Integrated Fusion Method for Multiple Temp-Spatial-Spectral Images 3034
Huanfeng Shen, Wuhan University, China

09:51 Radar Backscatter and Optical Textural Indices Fusion for Pine Plantation Structure Mapping 3035
Ali Shamsoddini, University of New South Wales, Australia

10:08 The Influence of Spectral Wavelength on the Quality of Pan Sharpened Image Simulated using Hyperspectral Data 3036
Masayuki Matsuoka, Kochi University, Japan

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Tuesday, 28 August 2012

09:00-10:30   MCEC209

VIII/4: Hydrological Estimations, Sediment and Geomorphology
Chair: Duong Dinh Nguyen, Vietnam Academy of Science and Technology, Vietnam

09:00   **Water Body Extraction from Multi Spectral Image by Spectral Pattern Analysis** 3038
Duong Dinh Nguyen, Vietnam Academy of Science and Technology, Vietnam

09:22   **Shallow-water Bathymetry Over Variable Bottom Types using Multispectral Worldview-2 Image** 3039
Georgia Doxani, Aristotle University of Thessaloniki, Greece

09:44   **Exploring Climate Change Effects on Watershed Sediment Yield and Land Cover-Based Mitigation Measures using SWAT Model, RS and GIS: Case of Cagayan River Basin, Philippines** 3040
Jeark A Principe, University of the Philippines Diliman, Philippines

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09:00-10:30   MCEC210

VIII/6: Vegetation and Ecosystems-1
Chairs: Yoshiaki Honda, Chiba University, Japan and Ferdaous Chaabane, Ecole Supérieure des Communications de Tunis, Tunisia

09:00   **Status and Distribution of Mangrove Forests of the World using Earth Observation Satellite Data** 3041
Chandra P Giri, U.S. Geological Survey, United States

09:22   **The Role of Remote Sensing for Sustainable Elephant Management in South Africa. Four Medium Sized Game Reserves as Case Studies** 3042
Maarten Jordaan, University of South Africa, South Africa

09:44   **Mapping Thermal Habitat of Ectotherms Based on Behavi Thermoregulation in a Controlled Thermal Environment** 3043
Teng Fei, Wuhan University, China

10:06   **Does the Improved Spectral Resolution of Worldview-2 Multispectral Imagery Improve Discrimination of Invasive Tussock, Buffel Grass (Cenchrus Ciliaris)?** 3044
Victoria M Marshall, The University of Adelaide, Australia

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11:00-12:30   MCEC216

16ARSPC/6: Advanced Image Processing
Chair: Tim Whiteside, Department of Sustainability, Environment, Water, Population & Communities, NT, Australia

11:00   **Long Term Land Cover and Seagrass Mapping using Landsat and Object Based Image Analysis from 1972 – 2010** 3045
Mitchell B Lyons, University of Queensland, Australia

11:17   **Discrimination and Classification of Australian Native Forest Species at the Leaf, Canopy and Community Levels Using Hyperspectral Remote Sensing Data and Machine-learning Algorithms** 3046
Xiao Shang, University of Wollongong, Australia

11:34   **Forest Classification using Random Forests with Multisource Remote Sensing and Ancillary GIS Data** 3047
Andrew Mellor, Victorian Department of Sustainability and Environment, Australia

11:51   **Combining Multiple Satellite Sensors to Map Inflow Dependent Ecosystems in Australia** 3048
Joanne Poon, Sinclair Knight Merz, Australia

12:08   **Broadscale Monitoring of Riparian Vegetation in the Great Barrier Reef Catchments using GIS and Landsat Satellite Imagery** 3049
Andrew J Clark, Queensland Department of Environment and Resource Management, Australia

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11:00-12:30   MCEC208

IAA and ISPRS: Earth Observation Forum-2: The Business Perspective
Chairs: Naser El-Sheimy, University of Calgary, Canada and Charles Toth, The Ohio State University, USA

11:00   **The ESA Approach to Sustainable Earth Observation**
Stephen Ward, ESA/CEOS

11:20   **Commercial EO Industry: A Media Perspective on the Way Forward**
Bhanu Rheka, Geospatial Media, India

11:40   **The DMC International Collaboration and Serving Public Entities with Commercial Data**
Gary Holmes, DMC International Imaging, United Kingdom

12:00   **Collaborative Thoughts in a Competitive World**
John Ahlrichs, RapidEye AG, Germany

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11:00-12:30   MCEC217
ICA, FIG, IEEE, EuroSDR, TCVI: CrossBorder Education for the Global GI-Community
Chair: Martien Molenaar, ITC, The Netherlands

11:00   **EduServ – The Education Service of EuroSDR - Sharing Experience for Capacity Building** 3052
Dieter Fritsch, Stuttgart University, Germany

11:15   **Outreach Programmes for Education and Training: Contributions from the International Cartographic Association** 3053
William Cartwright, RMIT University, Australia

11:30   **FIG Educational Activities** 3054
Kate Fairlie, Chair, FIG Young Surveyors Network, Australia

11:45   **Activities of the ISPRS Student Consortium on Education, Promotion of Profession and International Cooperation** 3055
Emmanuel Baltsavias, ETH Zurich, Switzerland

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11:00-12:30   MEC5.2.03-04
IV/5, IV/1, II/IV, IV/8, IV/3: Free and Open Source Web Mapping and Processing
Chair: Songnian Li, Ryerson University, Canada

11:00   **Valorisation of Como Historical Cadastral Maps through Modern Web Geoservices** 3056
Maria A Brovelli, Politecnico di Milano, Italy

11:22   **Design of Livestock Management Tool for Climate Change Risk in Mongolia** 3057
Akihiro Oba, Keio University, Japan

11:44   **User Friendly Open GIS Tool for Large Scale Data Assimilation – A Case Study of Hydrological Modelling** 3058
Prasun Kumar Gupta, Indian Institute of Remote Sensing (ISRO), India

12:06   **National Land Cover and Resource Statistics** 3059
Anne Nilsen, Norwegian Forest and Landscape Institute, Norway

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11:00-12:30   MCEC218
I/4: Performance of Very High Resolution Optical Sensors - Geometry and DEM
Chair: Peter Reinartz, German Aerospace Center (DLR), Germany

11:00   **DEM Generation with Worldview-2 Images** 3060
Gurcan Buyuksalih, BIMTAS, Turkey

11:17   **Testfield Trento - Geometric Evaluation of Very High Resolution Satellite Imagery** 3061
Giorgio Agugiaro, Foundation Bruno Kessler, Italy

11:34   **3D Photogrammetric Processing of Worldview-2 Data without GCP** 3062
Peter Reinartz, German Aerospace Center (DLR), Germany

11:51   **Temporal Correlation of Metadata Errors for Commercial Satellite Images: Representation and Effects on Stereo Extraction Accuracy** 3063
John T Dolloff, National Geospatial-Intelligence Agency, United States

12:08   **Performance Analysis of 3D Least Square Matching for Automatic DEM Extraction from High Resolution Satellite Images** 3064
Sooahm Rhee, Inha University, Korea

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11:00-12:30   MCEC220
II/3: Spatial Data Mining - 2
Chair: Yaolin Liu, Wuhan University, China

11:00   **Urban Land Surface Characterization of City of Monash, Melbourne using LiDAR Data** 3065
Sultana Nasrin Nury, Monash University, Australia

11:22   **Evaluating the Novel Methods on Species Distribution Modeling in Complex Forest** 3066
Chun-Hao Tu, National Chung-Hsing University, Taiwan

11:44   **Fusion of the Remote Sensing and Modeling Techniques in Assessing the Spatiotemp Variations of Chlorophyll-a in the Lake Paldang System of Korea** 3067
Kon Joon Bhang, Kumoh National Institute of Technology, Korea

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Tuesday, 28 August 2012

11:00-12:30   MCEC219
ICWG III/VII: Image Classification
Chair: Wolfgang Förstner, Bonn University, Germany

11:00   **Extraction of Vineyards out of Aerial Ortho-image using Texture Information** 3068
Arnaud Le Bris, IGN - Laboratoire MATIS, France

11:30   **Geometrical Correlation and Matching of 2D Image Shapes** 3069
Sergey Yu Zheltov, State Research Institute of Aviation Systems, Russia

12:00   **Combine Markov Random Fields and Marked Point Processes to Extract Building from Remotely Sensed Images** 3070
Dengfeng Chai, Zhejiang University, China

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11:00-12:30   MCEC213
IV/3: Mapping from High Resolution Data-3
Chair: Zhanguo He, Aerophotogrammetry and Remote Sensing of China Coal

11:00   **Rapid Change Detection Algorithm for Disaster Management** 3071
Ulrich Michel, University of Education Heidelberg, Germany

11:22   **Seamline Network Optimized Method based on Segmentation for Orthoimage Mosaicking** 3072
Jun Pan, Wuhan University, China

11:44   **Contribution of the New WorldView-2 Spectral Bands for Urban Mapping in Coastal Areas: Case Study São Luis (Maranhão State, Brazil)** 3073
Ulisses Denache Souza, INPE - National Institute for Space Research, Brazil

12:06   **Object-Based Image Analysis of WorldView-2 Satellite Data for the Classification of Mangrove Areas in the city of São Luis, Maranhão State, Brazil** 3074
Hermann J H Kux, INPE - National Institute for Space Research, Brazil

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11:00-12:30   MCEC212
V/3: Laser Scanning III: Multi-sensor Integration
Chair: Hans-Gerd Maas, Technische Universität Dresden, Germany

11:00   **A Method for the Registration of Hemispherical Photographs and TLS Intensity Images** 3075
Anja Schmidt, Technische Universität Dresden, Germany
Hans-Gerd Maas, Technische Universität Dresden, Germany

11:22   **Automatic Procedure for the Registration of Thermographic Images with Point Clouds** 3076
Julia Armesto, University of Vigo, Spain

11:44   **An Automatic Procedure for Combining Digital Images and Laser Scanner Data** 3077
Wassim Moussa, University of Stuttgart, Germany

12:06   **Multi-source Registration of 3D Models from Close-range Sensors** 3078
Marco Scaioni, Politecnico di Milano, Italy

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11:00-12:30   MCEC211
VII/3: Information Extraction from Hyperspectral Data-1
Chair: Eyal Ben Dor, Tel Aviv University, Israel

11:00   **Extracting Bathymetric Information of Shallow Water from Hyperspectral Imageries** 3079
Enjie Jing, Defence Science and Technology Organisation, Australia

11:37   **Road Classification and Condition Determination using Hyperspectral Imagery** 3080
Maryam Mohammadi, University of Applied Sciences Stuttgart, Germany

11:54   **Extracting Temp and Spatial Distributions Information about Algal Blooms Based on Multitemp MODIS** 3081
Chunguang Lv, Nanjing University, China

12:11   **Hyperspectral Image Denoising With Cubic Total Variation Model** 3082
Hongyan Zhang, Wuhan University, China

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11:00-12:30   MCEC209

Highlights of TC VII

Chair: Wolfgang Wagner, Vienna University of Technology, Austria

11:00   **Sea Surface Altimetry Based on Airborne GNSS Signal Measurements** 3083

Kegen Yu, University of New South Wales, Australia

11:22   **An Investigation of Automatic Change Detection for Topographic Map Updating** 3084

Patricia Duncan, Department of Rural Development and Land Reform, South Africa

11:44   **Change Detection on Land use and Land Cover Dynamics at a Regional Scale from MODIS Time-series Imagery** 3085

Yudi Setiawan, University of Tsukuba, Japan

12:06   **Evaluation of Terrestrial Laser Scanning for Rice Growth Monitoring** 3086

Nora Tilly, University of Cologne, Germany

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11:00-12:30   MCEC210

VIII/6: Vegetation and Ecosystems-2

Chair: Heather McNairn, Agriculture and Agri-Food Canada

11:00   **Riparian Vegetation Status and Rates of Water Use from Satellite Data** 3088

Kathryn Sheffield, Department of Primary Industries, Australia

11:22   **Identification of Potential Habitat Patches using Multi-Criteria Evaluation for Connectivity in Andhra Pradesh, India** 3090

Shanthala Devi B S, ISRO, India

11:44   **Two-way Spatial Extrapolation and Validation on Ecological Patterns of Elaeocarpus Japonicus between Main Watersheds in Huisun of Central Taiwan** 4149

Sheng-Yang Su, National Chung Hsing University, Taiwan

12:06   **Plant Species Monitoring in the Canary Islands using WorldView-2 Imagery** 4150

Laia Nunez-Casillas, University of La Laguna, Spain

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14:00-15:30   MCEC208

IAA and ISPRS: Earth Observation Forum-3: Non Commercial and Legal Issues

Chair: Gunter Schreier, German Remote Sensing Data Centre, Germany

14:00   **A Steppingstone for Global Space Cooperation** 3091

Rainer Sandau, International Academy of Astronautics (IAA), German Aerospace Center, Germany

14:15   **Advances in the Use of Remote Sensing and Geoinformation Technologies in Nuclear Non-proliferation and Arms Control Verification Regimes** 3092

Irmgard Niemeyer, Nuclear Waste Management and Reactor Safety, Germany

14:30   **Establishing a Network of Space Agencies, Space Universities and Space Private Sector for the Well-being of the Natural and Cultural Heritage of the World**

Mario Hernandez, UNESCO, France

14:45   **Australian Government use of Commercial EO Capabilities**

Adam Lewis, Geoscience Australia, Australia

15:00   **Earth Observation for Science and Public Use: Rules, Experiences and Plans**

Gunter Schreier, German Remote Sensing Data Centre, Germany

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14:00-15:30   MEC5.2.01-04

New Solutions from Hexagon Geosystems and Intergraph

14:00   **New Solutions from Hexagon Geosystems and Intergraph**

Juergen Dold, Hexagon, Switzerland

14:30   **New Solutions from Hexagon Geosystems and Intergraph**

Kaushik Chakraborty, Intergraph, India

15:00   **New Solutions from Hexagon Geosystems and Intergraph**

Ruedi J Wagner, Hexagon Geosystems, Switzerland

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Tuesday, 28 August 2012

14:00-15:30 MCEC218
Short+Interactive
I/2: LIDAR, SAR and Optical Sensors for Airborne and Spaceborne Platforms; I/3: Multi-Platform Multi-Sensor Inter-Calibration
Chair: Boris Jutzi, Karlsruhe Institute of Technology, Germany

14:00 **High-Precision DEM Production for Spaceborne Stereo SAR Imagery Based on SIFT Matching and Region-based Least Squares Matching** 3096
Xiaotian Shi, Wuhan University, China
Guo Zhang, Wuhan University, China

14:03 **Classification of Land Cover Using Fused Images of Polarimetric SAR and SPOT5 Based on SVM Method** 3097
Chunhong Bao, Chinese Academy of Surveying and Mapping, China

14:06 **Synthetic Aperture Radar Interferometry for Digital Elevation Model of Kuwait Desert - Analysis of Errors** 3098
Rao S Kota, Kuwait University, Kuwait

14:09 **A Preliminary Study on the Mechanism of LAI Inversion Saturation** 3099
Jing Zhao, Chinese Academy of Sciences, China

14:12 **Real Time Power Line Detection from Online Generated Point Clouds** 3100
Bo Guo, Wuhan University, China

14:15 **Planialtimetric Accuracy Evaluation of Digital Surface Model (DSM) and Digital Terrain Model (DTM) Obtained from Aerial Survey with LIDAR** 3101
Carla Bernadete Madureira Cruz, Universidade Federal do Rio de Janeiro (UFRJ), Brazil

14:18 **The Leica RCD30 Medium Format Camera – A Revolutionary Tool for (Airborne) Imaging Applications** 3102
Ruedi J Wagner, Hexagon Geosystems, Switzerland

14:21 **Estimation of Radiometric Calibration Coefficients of Egyptsat-1 Sensor** 3103
Ayman Hamed Nasr, National Authority for Remote Sensing and Space Sciences, Cairo, Egypt

14:24 **A Survey of LANDNET Sites Focusing on Tuz Golu Salt Lake, Turkey** 3104
Hilal Özen, TUBITAK Space Technologies Research Institute, Turkey

14:27 **Preliminary Results of the Comparison of Satellite Imagers using Tuz Gölü as a Reference Standard** 3105
Hilal Özen, TUBITAK Space Technologies Research Institute, Turkey

14:30 **Image-based Deformation Monitoring of Statically and Dynamically Loaded Beams** 3106
Ivan D Detchev, University of Calgary, Canada

14:33 **Cross-calibration of the RapidEye Multispectral Imager Payloads using Pseudo-Invariant Test Sites** 3107
Michael Thiele, RapidEye AG, Germany

14:36 **Sensor Calibration of Three-Line CCD Scanners on ZY-3** 3108
ShengHui Fang, Wuhan University, China

14:39 **Calibration Procedures in Mid Format Camera Setups** 3109
Gerhard Kemper, GGS, Germany

14:42 **Optical-to-SAR Image Registration Based on Gaussian Mixture Model** 2190
Hanyun Wang, National University of Defense Technology, China

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14:00-15:30 MCEC219
Short+Interactive
ICWG III/VII: Pattern Recognition in Remote Sensing; III/1: Pose Estimation and Surface Reconstruction from Image and/or Range Data
Chair: Wolfgang Förstner, Bonn University, Germany

14:00 **Texture Analysis for Classification of RISAT-II Images** 3110
Debasish Chakraborty, Indian Space Research Organization, India

14:03 **Feature-Based Digital Watermarking for Remote Sensing Images** 3111
Pai-Hui Hsu, National Taiwan University, Taiwan

14:06 On Object Extraction using Airborne Laser Scanner Data and Digital Images for 3D Modelling 3112
Kazuya Nakano, Aero Asahi Corporation, Japan

14:09 Dense and Reliable Image Matching Based on Self-Adaptive Triangulations 3113
Bo Wu, The Hong Kong Polytechnic University, Hong Kong

14:12 Photogrammetric Model based Method of Automatic Orientation of Space Cargo Ship Relative to International Space Station 3114
Yury B Blokhinov, State Research Institute of Aviation Systems, Russia

14:15 An Experience of High-accuracy DEMs for Forested and Snow Covered Territories Creation basing on GeoEye-1 Satellite Stereo Space Imagery 3115
Alexander V Orlovsky, GeoInnovation Agency Innoter, Russia

14:18 Obtaining Approximate Values of Exterior Orientation Elements of Multi-intersection Images Using Particle Swarm Optimization 3116
Xin Li, Wuhan University, China

14:21 Image-based Navigation of Forest Harvesters 3117
Marc Schulze, Dresden University of Technology, Germany

14:24 Using Stereo Vision to Support the Automated Analysis of Surveillance Videos 3118
Moritz Menze, Leibniz Universität Hannover, Germany

14:27 Image to Point Cloud Method of 3D-modeling 3119
Alexander G Chibunichev, Moscow State University of Geodesy and Cartography, Russia

14:30 Iterative Determination of Camera Pose from Line Features 3120
Xiaohu Zhang, National University of Defense Technology, China

14:33 A Refining Method for Building Object Aggregation and Footprint Modeling using Multi-source Data 3121
Yan Li, International Institute for Earth System Science, Nanjing University, China
Lin Zhu, PASCO Corporation, Japan
Kikuo Tachibana, PASCO Corporation, Japan

14:36 Line-based Multi-image Matching for Façade Reconstruction 3122
Tee-Ann Teo, National Chiao Tung University, Taiwan

14:39 Fully Automated Generation of Accurate Digital Surface Models with Sub-meter Resolution from Satellite Imagery 3123
Jürgen Wohlfeil, German Aerospace Center (DLR), Germany

14:42 Evaluation of Penalty Functions for Semi-Global Matching Cost Aggregation 3124
Christian Banz, Leibniz Universität Hannover, Germany

14:45 A Hybrid Method of Stereo Cameras and Laser Structured Light for Insulator Geometric Parameters Measurement 3125
Zheng Ji, Wuhan University, China

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14:00-15:30 MCEC216
Short+Interactive
III/4: Complex Scene Analysis and 3D Reconstruction
Chair: Franz Rottensteiner, Leibniz University Hannover, Germany

14:00 Performance Assessment of Fully Automatic Three-Dimensional City Model Reconstruction Methods 3126
Thomas Krauss, German Aerospace Center (DLR), Germany

14:03 From Image Contours to Pixels 3127
Gabriel Scarmana, University of Southern Queensland, Australia, Australia

14:06 Road Detection by Neural and Genetic Algorithm in Urban Environment 3128
Arpad Barsi, Budapest University of Technology and Economics, Hungary

14:09 Edge-based Registration for Airborne Imagery and LIDAR Data 3129
Liang-Chien Chen, National Central University, Taiwan

14:12 Reconstruction of Sky Illumination Domes from Ground-Based Panoramas 3130
Mathieu Brédif, Institut Géographique National, France

Tuesday, 28 August 2012

14:15 **LEGION Segmentation for Building Extraction from LiDAR based DSM Data** 3131
Chun Liu, Tongji University, China

14:18 **Manhole Cover Detection using Vehicle-based Multi-Sensor Data** 3132
Shunping Ji, Wuhan University, China

14:21 **The Research of Line Matching Algorithm under the Improved Homograph Matrix Constraint Condition** 3133
Weixi Wang, Land and Resources Research Centre, China

14:24 **Toward Automated Façade Texture Generation for 3D Photo-Realistic City Modeling with Smartphones or Tablet PCs** 3134
Sendo Wang, National Taiwan Normal University, Taiwan

14:27 **Automatic 3D Building Model Generation from LiDAR and Image Data Using Sequential Minimum Bounding Rectangle (MBR)** 3135
Eunju Kwak, University of Calgary, Canada

14:30 **A Multi-View Image Matching Method for Feature Points Based on The Moving Z-Plane Constraint** 3136
Jingxue Wang, Liaoning Technical University, China

14:33 **Primitive-based 3D Building Reconstruction Method Tested by Reference Airborne Data** 3137
Wuming Zhang, Beijing Normal University, China

14:36 **Automatic Extraction of Building Roofs from Pictometry's Orthogonal and Oblique Images** 3138
Yandong Wang, Pictometry International Corporation, United States

14:39 **Ground Object Recognition using High Resolution Airborne Images and DSM** 3139
Qingming Zhan, Wuhan University, China

14:42 **Extracting Semantic Building Models from Aerial Images and Conversion to CityGML** 3140
Ahmet Sengül, Istanbul Technical University, Turkey

14:45 **Mono Space Imagery 3D Feature Extraction** 3141
Vladimir M Laritchkin, Center for Applied Geoinformatics Terra Space, Russia

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14:00-15:30 **MCEC213**
Short+Interactive
IV/1: Geospatial Data Infrastructure; IV/1,4,5, II/2,6,8: Data Modeling for Online Geographic Information Services
Chair: Jiang Jie, National Geomatic Center of China

14:00 **Web-based Delivery System for Disaster Prevention Information using a new JMA DPI XML Format and AMeDAS Data** 3142
Masahiro Nishio, Kinki University, Japan
Masatoshi Mori, Kinki University, Japan

14:03 **Development of Spatial Information Consulting Method for Merged Local Governments** 3143
Naoya Oku, Kokusai Kogyo Co.,Ltd., Japan

14:06 **Global Mapping Project – Applications and Development of Version 2 Dataset** 3144
Taro Ubukawa, Geospatial Information Authority of Japan, Japan

14:09 **Datum Transformation of Spatial Data and Application in Cadastre** 3145
Lutfi Ekin, General Directorate of Land Registry and Cadastre, Turkey

14:12 **The Method to Obtain Position using GNSS and RFID for Realization of Indoor and Outdoor Seamless Positioning** 3146
Masaaki Shikada, Kanazawa Institute of Technology, Japan

14:15 **Revisiting the Procedures for the Vector Data Quality Assurance in Practice** 3147
Mustafa Erdogan, General Command of Mapping, Turkey

14:18 **Building Road Centerline Database from Massive Smartphone GPS Data** 3148
Songnian Li, Ryerson University, Canada

14:21 **Integrating GIS into our Daily Lives in a Developed Economy** 3149
Joseph O Akinyede, ARCSSTE-E, Nigeria

14:24 **Design and Realization of Online Retrieval System for Grassland Biomass Based on MODIS Data** 3151
Minyan Duan, Chinese Academy of Surveying and Mapping, China

14:27 **Usage of Stereo Orthoimage in GIS: Old Concept, Modern Solution** 3152
Krystian Pyka, AGH University of Science and Technology Krakow, Poland

14:30 **Planialtimetric Evaluation of a Cartosat-1 Stereo Pair – Case Study on São Sebastião, SP, Brazil** 5109
Rafael S Barros, Universidade Federal do Rio de Janeiro, Brazil

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14:00-15:30   MCEC211
Short+Interactive
VII/3: Information Extraction from Hyperspectral Data; VII/4: Methods for Land Cover Classification
Chair: Eyal Ben-Dor, Tel Aviv University, Israel

14:00 **Capabilities of Remote Sensing Hyperspectral Images for the Detection of Lead Contamination** 3158
Ali A Al Maliki, University of South Australia, Australia
David Bruce, University of South Australia, Australia

14:03 **Soil Spectral Imaging: Moving from Proximal Sensing to Spatial Quantitative Domain** 3159
Eyal Ben Dor, Tel Aviv University, Israel

14:06 **Analysis of Concrete Reflectance Characteristics Using Spectroradiometer and VNIR Hyperspectral Sensor** 3160
Jin-Duk Lee, Kumoh National Institute of Technology, Korea

14:09 **Spectral Analysis of Different Vegetation Cover using the Hyperion Sensor - A Case Study in the State of Rio de Janeiro – Brazil** 3161
Elizabeth Rocha de Souza, UFRJ, Brazil

14:12 **Assessing the Significance of Hyperion Spectral Bands in Forest Classification** 3163
Glenn J Newnham, CSIRO Division of Land and Water, Australia

14:15 **Anomaly Detection and Comparative Analysis of Hydrothermal Alteration Materials through Hyperspectral Multisensor Data in the Turrialba Volcano** 3164
Juan G Rejas, National Institute for Aerospace Technology (INTA), Spain

14:18 **Identifying and Assessing Mineralization Processes using Hyperspectral Data** 3166
Trude V. King, U.S. Geological Survey, United States

14:21 **Optimizing Object-based Classification in Urban Environments using Very High Resolution GeoEye-1 Imagery** 3167
Manuel A Aguilar, Almería University, Spain

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14:00-15:30   MCEC210
Short+Interactive
VIII/4: Water; VI/5: Promotion of the Profession to Young People; Youth Forum
Chair: Martien Molenaar, ITC, The Netherlands

14:00 **Assessment of Ground Water Potential Exploration Using Remote Sensing and Geographic Information System (Case Study: Sele-Bon Watershed)** 3168
Aliakbar Damavandi, Agriculture-Natural Resource Department, Iran

14:03 **Yangon River Geomorphology Identification and its Environmental Impacts Analysis by Optical and Radar Sensing Techniques** 3169
Aung Lwin, Mandalay Technological University, Myanmar

14:06 **Runoff Simulation using Distributed Hydrological Modeling Approach, Remote Sensing and GIS Techniques: A Case Study from Indian Agricultural Watershed** 3170
Chowdary M Vemuri, Indian Space Research Organization, India

14:09 **Geomorphic and Hydrologic Analysis for River Restoration using Optical & SAR Imagery** 3171
Romeji Singh Ngangbam, India

14:12 **Bathymetric Extraction using WorldView-2 High Resolution Images** 3172
Monica Deidda, University of Cagliari, Italy

14:15 **Photogrammetry - Remote Sensing and Geoinformation** 3153
Maria A Lazaridou, Aristotle University of Thessaloniki, Greece

Tuesday, 28 August 2012

14:18   International Summer Student Seminar (3S), from Idea to Realization 3154
Igor A Musikhin, Siberian State Academy of Geodesy, Russia

14:21   Visual Tour Based on Panaromic Images for Indoor Places in Campus 3155
Tolga Bakirman, Yildiz Technical University, Turkey

14:24   Performing Improved Two-step Camera Calibration with Weighted Total Least-squares 3156
Jue Lu, Tongji University, China, China

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16:00-17:30   MCEC216
16ARSPC/8: Land Cover Mapping 2
Chair: David Byrne, AEROmetrex P/L, Australia

16:00   Estimation of Foliage Projective Cover, Leaf Area Index and Crown Cover from Airborne LIDAR across Multiple Bioregions in Eastern Australia 3173
Peter Scarth, University of Queensland, Australia

16:17   Validating MODIS Soil Fractional Cover for Arid Regions, using the Albedo from Very High-resolution Satellite Imagery 3174
Erika Lawley, The University of Adelaide, Australia

16:34   Deriving RUSLE Cover Factor from Time-series Satellite Data for Dynamic Soil Erosion Assessment in New South Wales 3175
Xihua Yang, NSW Department of Premier and Cabinet, Australia

16:51   A Rule-based Approach to Segment and Classify Floodplain Vegetation from WorldView-2 Imagery 3176
Tim Whiteside, Department of Sustainability, Environment, Water, Population and Communities, NT, Australia

17:08   Patterns of Forest Cover Loss Along the Indonesia-Malaysia Border on Borneo 3177
Mark Broich, University of New South Wales, Australia

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16:00-17:30   MCEC208
IAA and ISPRS: Earth Observation Forum-4: Panel Discussion Involving all Sectors
Co-Chair: Lawrence Friedl, NASA, United States and Ian Dowman, ISPRS

Panel Members:

Gunter Schreier, DLR and Chair Elect of ISPRS IPAC
Mario Hernandez, UNESCO and ISPRS Regional Representative for Latin America
Alex Held, CSIRO
Guo Huadong, CEODE
Rainer Sandau, DLR and Chair ISPRS IPAC

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16:00-17:30   MEC5.2.01-02
IAG and TC I: New Trends in Direct Geo-referencing Technologies
Chairs: Allison Kealy, The University of Melbourne, Australia and Kai-Wei Chiang, National Cheng Kung University, Taiwan

16:00   The Performance Analysis of a 3D Map Embedded INS/GPS Fusion Algorithm for Seamless Vehicular Navigation in Elevated Highway Environments 3178
Yi-Hsuan Lee, National Cheng Kung University (NCKU), Taiwan

16:17   Vibrations on a Gyrocopter - An Analysis Using Synchronized IMUs 3179
Alvand Miraliakbari, Stuttgart University of Applied Sciences (HFT), Germany

16:34   The Performance of a Tight INS/GNSS/Photogrammetric Integration Scheme for Land Based MMS Applications in GNSS Denied Environments 3180
Chien-Hsun Chu, National Cheng Kung University, Taiwan

16:51   Mapping Crop Status from an Unmanned Aerial Vehicle for Precision Agriculture Applications 3181
Tao Guo, Hitachi, Ltd., Japan

17:08   A Location-Tracking Testbed using Vision-Assisted Scheme for Wireless Sensor Networks 3182
Fuan Tsai, National Central University, Taiwan

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16:00-17:30　　MCEC218

I/4: Large Scale Adjustment of Space Borne Stereo Image Data
Chair: Karsten Jacobsen, Leibniz University Hannover, Germany

16:00　Toward a Global Bundle Adjustment of SPOT 5 – HRS Images 3183
Stéphane Massera, IGN, France

16:22　Generation of the Australian Geographic Reference Image through Long-Strip ALOS PRISM Orientation 3184
Clive Fraser, The University of Melbourne, Australia

16:44　Minimizing Ground Control Requirements for Large Cartosat-1 Stereo Blocks 3185
Pablo d'Angelo, German Aerospace Center (DLR), Germany

17:06　Research on Geometric and Radiometric Correction Order and Its Impact for Remote Sensing Image 3186
Jiahui Xu, Nanjing University, China

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16:00-17:30　　MCEC220

II/4: Quality of DEMs and Related Spatial Models
Chair: Alfred Stein, University of Twente - ITC, The Netherlands

16:00　Visual and Statistical Analysis of Digital Elevation Models Generated Using IDW Interpolator with Varying Powers 3187
Fahmy F Asal, University of Tabuk, Saudi Arabia

16:17　Evaluation of Elevation, Slope and Stream Network Quality of Spot DEMs 3188
Laurent Polidori, Laboratoire de Géodésie et Géomatique (L2G), ESGT, France

16:34　GIS Comparison of Digital Elevation Models used to Create Waterways and Catchments over Large Areas 3189
Bruce R Harris, BTM WBM, Australia

16:51　Assessment of Three-dimensional Models Derived from LIDAR and TLS Data 3190
Tania Landes, INSA de Strasbourg, France

17:08　Spatial Uncertainty in Line-Surface Intersections with Applications to Photogrammetry 3191
John D Marshall, National Geospatial-Intelligence Agency, United States

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16:00-17:30　　MCEC219

III/2: Tree Detection and Characterization
Chair: George Vosselman, ITC, The Netherlands

16:00　A Comparitive Study using Geometric and Vertical Profile Features Derived from Airborne LiDAR for Classification Tree Genera 3192
Gunho Sohn, York University, Canada

16:30　Tree Detection in Mobile Laser Scans of Urban Scenes based on Accumulations of Geometric Descriptors 3193
Bruno Vallet, IGN, France

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16:00-17:30　　MCEC213

IV/3: Mapping from High Resolution Data-4
Chair: Zhanguo He, Aerophotogrammetry and Remote Sensing of China Coal

16:00　Extraction of Spatial Parameters from Classified LiDAR Data and Aerial Photograph for Sound Modelling 3194
Bharat Lohani, IIT Kanpur, India

16:22　Evaluation of Cartosat 1 PAN Stereo and Resourcesat LISS 4 MSS Merged Data with Morphometric Analysis for Delineation of Drainage Basins and Codification in Tamil Nadu India and Australia 3195
Ghouse Shaik Mohamed, Anna University, India

16:44　Application of Thermal Imaging in Melbourne Local Council Areas 3196
Shobhit Chandra, Sinclair Knight Merz, Australia

17:06　Medium-format Cameras and Their Use in Topographic Mapping 3197
Joachim Höhle, Aalborg University, Denmark

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Tuesday, 28 August 2012

16:00-17:30   MCEC212

V/3: Laser Scanning IV: Other Ranging Sensors and Point Cloud Modelling
Chair: Pedro Arias Sanchez, University of Vigo, Spain

16:00   **Performance Analysis of a Low-cost Triangulation-based 3D Camera: Microsoft Kinect System** 3198
Jacky CK Chow, University of Calgary, Canada

16:22   **Robust Real-time and Rotation-invariant American Sign Language Alphabet Recognition using Range Camera** 3199
Hervé Lahamy, University of Calgary, Canada

16:44   **Analysis of Mobile Laser Scanning Data and Multi-view Image Reconstruction** 3200
Christian Briese, LBI for Archaeological Prospection and Virtual Archaeology and Vienna University of Technology, Austria

17:06   **Dynamic Concrete Beam Deformation Measurement with 3D Range Cameras** 3201
Xiaojuan Qi, University of Calgary, Canada

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16:00-17:30   MCEC211

VII/3: Information Extraction from Hyperspectral Data-2
Chair: Eyal Ben Dor, Tel Aviv University, Israel

16:00   **Mapping the Wetland Vegetation Communities of the Australian Great Artesian Basin Springs using SAM, MTMF and Spectrally Segmented PCA Hyperspectral Analyses** 3202
Davina C White, The University of Adelaide, Australia

16:22   **Hyperspectral Analysis of Rice Phenological Stages in Northeast China** 3203
Martin Leon Gnyp, University of Cologne, Germany

16:44   **Assessing Hyperspectral Vegetation Indices for Estimating Leaf Chlorophyll Concentration of Summer Barley** 3204
Kang Yu, University of Cologne, Germany

17:06   **Evaluation the Potential of Meta-Heuristic Optimization Algorithms in Determination of Optimum SVMs Classifiers for Hyperspectral Imagery** 3205
Hadiseh Hasani, University of Tehran, Iran

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16:00-17:30   MCEC209

VII/7: Theory and Experiments in Radar and Lidar - 1
Chair: Yifang Ban, Royal Institute of Technology - KTH, Sweden

16:00   **Radiometric Calibration of Multi-wavelength Airborne Laser Scanning Data** 3206
Christian Briese, Vienna University of Technology and LBI for Archaeological Prospection and Virtual Archaeology, Austria

16:22   **Full Waveform Active Hyperspectral Lidar**3207
Teemu Hakala, Finnish Geodetic Institute, Finland

16:44   **Signal Noise Reduction based on Wavelet Transform in Two-wavelength Lidar System** 3208
Shuo Shi, Wuhan University, China
Wei Gong, Wuhan University, China
Bo Zhu, Wuhan University, China

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16:00-17:30   MCEC217

VIII/5: Energy and Solid Earth
Chairs: Carlos de Souza Filho, University of Campinas, Brazil and Yoshiki Ninomiya, Geological Survey of Japan

16:00   **Continental Scale ASTER Products and Geoscience Applications in Australia** 3209
Matilda Thomas, Geoscience Australia, Australia

16:22   **Integrated Interpretation of Various Remotely Sensed Datasets in Areas of Limited Geological Outcrop** 3210
Tsehaie Woldai, University of Twente - ITC, The Netherlands

16:44   **Identification of Geomorphic Signatures of Neotectonic Activity using DEM in the Precambrian Terrain of Western Ghats, India** 3211
Jayappa Siddappa Kathihally, Mangalore University, India

17:06   **Shadow Effect on Photovoltaic Potentiality Analysis using 3D City Models** 3212
Md Nazmul Alam, University of Applied Sciences, Stuttgart, Germany

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16:00-17:30   MCEC210
VIII/6: Vegetation Dynamics
Chair: Haruhisa Shimoda, Tokai University Research and
Information Center, Japan

16:00   **Shifts in ANPP and Rainfall Use Efficiency Across
Australian Savannas using MODIS and TRMM Data** 3213
Alfredo R Huete, University of Technology Sydney, Australia

16:22   **MODIS Time Series for Land use Change
Detection in Fields of the Amazon Soy Moratorium** 3214
Joel Risso, National Institute for Space Research (INPE),
Brazil

16:44   **Analysing and Quantifying Vegetation Responses
to Rainfall with High Resolution Spatio-temp Time Series
Data for Different Ecosystems and Ecotones in
Queensland** 3215
Michael Schmidt, Department of Environment and Ressource
Management, Australia

17:06   **Vegetation Responses to Climatic Variability in
the Southeast United States: An Analysis of Changes in
Greenness and Primary Productivity during the First
Decade of the 21st Century** 3216
Sergio Bernardes, The University of Georgia, United States

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Wednesday, 29 August 2012

Time	Location	Session Code	Wednesday August 29
9:00-10:30	Plenary 2		Plenary 2
11:00-12:30	Plenary 2	TS718	VII/4: Methods for Land Cover Classification-5
	208	SS915	GEO, CEOS and ISPRS: Global DEMs for the 21st century
	209	TS826	VIII/8: Landscape Biophysical Characterization
	210	TS818	VIII/6: Biophysical Parameter Retrieval
	211	TS710	VII/3: Information Extraction from Hyperspectral Data-3
	212	TS509	V/4: Image-Based and Range-Based 3D Modelling-1
	213	TS411	IV/5: Distributed and Web-Based Geoinformation Services and Applications-1
	216	TS419	IV/8: 3D Spatial Data Integration for Disaster Management & Env. Monitoring-1
	217	TS115	ICWG I/V: 3D Extraction using Unmanned Systems
	218	TS110	I/4: New and Future Satellite Mission: Modelling and Performance
	219	TS306	III/1: Image Processing
	220	TS210	II/4: Applied Spatial Uncertainty and Quality Control
	5.2.03-4	TS211	II/5: Multidimensional and Mobile Data Models
2:00-3:30	Plenary 2		GA III
	208	PS901	Special Sessions
	210	PS803	VIII/6: Agriculture, Ecosystems and Bio-Diversity
	211	PS703	VII/4: Methods for Land Cover Classification; VII/5: Methods for Change Detection and Process Modelling
	212	PS501	V/1: Vision Metrology-Best Practice, Systems and Applications; V/2: Cultural Heritage Data Acquisition and Processing; V/4: Image-Based and Range-Based 3D Modelling
	213	PS403	IV/3: Mapping from High Resolution Data
	216	PS307	III/4: Complex Scene Analysis and 3D Reconstruction; III/5: Image Sequence Analysis
	218	PS102	I/4: Geometric and Radiometric Modeling of Optical Spaceborne Sensors
	219	PS303	III/1: Pose Estimation and Surface Reconstruction from Image and/or Range Data; III/2: 3D Point Cloud Processing
	220	PS202	II/3: Spatial Analysis and Data Mining
	5.2.01-2	VS103	ESRI Vendor Session 1
	5.2.03-4	VS103	A Comprehensive Imagery System
4:00-5:30	Plenary 2		GA III
	208	TS824	VIII/7: Biomass Estimation with Active Sensors
	209	TS711	VII/3: Information Extraction from Hyperspectral Data-4
	210	TS819	VIII/6: Agricultural Management
	211	TS721	VII/5: Methods for Change Detection and Process Modelling-1
	212	TS510	V/4: Image-Based and Range-Based 3D Modelling-2
	213	TS412	IV/5: Distributed and Web-Based Geoinformation Services and Applications-2
	216	TS313	III/5: UAVs
	217	TS116	ICWG I/V: Remote Sensing in Remote Areas using Unmanned Systems
	218	TS111	I/4: Radiometric and Geometric Modelling and Adjustment
	219	TS307	III/1: Mobile Mapping Systems
	220	TS212	II/6: Geo-Visualization and Virtual Reality-1
	5.2.01-2	SS909	ICA and WG IV/8: Maps, Imagery and Crowd Sourcing for Disaster Management
	5.2.03-4	ThS421	IV/2, IV/II: GeoSensor Networks and Sensor Web

09:00-10:30   MCEC Plenary 2

Plenary 2

Co-Chair: Chen Jun, National Geomatics Center of China, China

Ammatzia Peled, University of Haifa, Israel

09:00   **Towards Dynamic GIS**

Juergen Dold, Hexagon, Switzerland

09:30   **Global Land Cover Mapping at Fine Resolutions** 4002

Peng Gong, Institute for Global Change Studies, Tsinghua University, China

10:00   **Geomatics and Disaster Management: State-of-the-art and New Perspectives** 4003

Piero Boccardo, ITHACA-Politecnico di Torino, Italy

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11:00-12:30   MCEC208

GEO, CEOS and ISPRS: Global DEMs for the 21st Century

Chair: Jan-Peter Muller, University College London, United Kingdom

11:00   **TanDEM-X: Mission Status and Science Activities**

Steffen Wollstadt, German Aerospace Centre (DLR), Germany

11:30   **ASTER Global DEM: The Kaizen approach** 4005

David J Meyer, U.S. Geological Survey, United States

11:49   **GMTED2010: Source Evaluations between the ASTER GDEM Version 2 and Comparable Higher Resolution Data Sources** 4006

Dean B Gesch, U.S. Geological Survey, United States

12:08   **NASADEM: A New NASA Digital Topographic Data Set** 4007

Michael Kobrick, NASA Jet Propulsion Laboratory, United States

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11:00-12:30   MCEC218

I/4: New and Future Satellite Mission: Modelling and Performance

Chair: Daniela Poli, AVT, Austria

11:00   **The Future Spaceborne Hyperspectral Imager EnMAP: Its In-Flight Radiometric and Geometric Calibration Concept** 4008

Mathias Schneider, German Aerospace Center (DLR), Germany

11:22   **Development of Camera Model and Geometric Calibration/Validation of XSAT IRIS Imagery** 4009

Xiaojing Huang, National University of Singapore, Singapore

11:44   **Sentinel-2 Level 1 Products and Image Processing Performances** 4010

Simon J Baillarin, Centre National d'Etudes Spatiales, France

12:06   **Introducing ZY-3: China's First Civilian High-Res Stereo Mapping Satellite** 4011

Chengzhi Sun, Satellite Surveying and Mapping Application Center, China

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11:00-12:30   MCEC217

ICWG I/V: 3D Extraction using Unmanned Systems

Chair: Armin Gruen, ETH Zurich, Switzerland

11:00   **Dense Multiple Stereo Matching of Highly Overlapping UAV Imagery** 4012

Norbert Haala, University of Stuttgart, Germany

11:37   **Processing of UAV based Range Imaging Data to Generate Detailed Elevation Models of Complex Natural Structures** 4013

Tobias K Kohoutek, ETH Zurich, Switzerland

11:54   **Aerial Images from an UAV System: 3D Modeling and Tree Species Classification in a Park Area** 4014

Rossana Gini, Politecnico di Milano, Italy

12:11   **Automatic Texture Mapping with an Omnidirectional Camera Mounted on a Vehicle Towards Large Scale 3D City Models** 4015

Fei Deng, Wuhan University, China

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Wednesday, 29 August 2012

11:00-12:30 MCEC220
II/4: Applied Spatial Uncertainty and Quality Control
Chair: Mahmoud R Delavar, University of Tehran, Iran

11:00 **The use of Random Sets to Model Uncertainties in Spatial Studies** 4016
Alfred Stein, Twente University - ITC, The Netherlands

11:17 **Quality Checking and Evaluation of Digital Line Graph Based on Rule Database and Fuzzy Comprehensive Evaluation Method** 4017
Xiaoming Gao, National Administration of Surveying, Mapping and Geoinformation, China

11:34 **Quality Evaluation of Generalized Building Groundplans** 4018
Yevgeniya Filippovska, University of Stuttgart, Germany

11:51 **Integration of Genetic Algorithms and Fuzzy Logic for Urban Growth Modeling** 4019
Mahmoud Reza Delavar, University of Tehran, Iran

12:08 **Consistency Matching in the Integration of Contour and River Data by Spatial Knowledge** 4020
Ming Yang, Wuhan University, China

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11:00-12:30 MEC5.2.03-04
II/5: Multidimensional and Mobile Data Models
Chair: Abdul A Rahman, Universiti Teknologi Malaysia (UTM), Malaysia

11:00 **Integrated Management of Heterogeneous Geodata with a Hybrid 3D Geographic Information System** 4021
Susanne Becker, Stuttgart University, Germany

11:22 **Data Oriented Algorithm for Route Choice Set Generation in a Metropolitan Area using Mobile Phone GPS Data** 4022
Toshikazu Nakamura, University of Tokyo, Japan

11:44 **Kinetic Algorithms for Harbour Management** 4023
Christopher M Gold, Universiti Teknologi Malaysia (UTM), Malaysia

12:06 **CAD Construction Method of 3D Building Models for GIS Analysis** 4024
Pawel Boguslawski, Universiti Teknologi Malaysia (UTM), Malaysia

11:00-12:30 MCEC219
III/1: Image Processing
Chair: Helmut Mayer, Bundeswehr University Munich, Germany

11:00 **Evaluation of Correction Methods of Chromatic Aberration in Digital Camera Images** 4025
Ryuji Matsuoka, Kokusai Kogyo Co., Ltd., Japan

11:30 **Detecting and Correcting Motion Blur from Images Shot with Channel-dependent Exposure Time** 4026
Mathieu Brédif, Institut Géopgraphique National - Laboratoire MATIS, France

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11:00-12:30 MCEC213
IV/5: Distributed and Web-Based Geoinformation Services and Applications-1
Chair: Maria A Brovelli, Politecnico di Milano, Italy

11:00 **Building an Integrated Web-based Environment for Exploratory Spatiotemp Data Analysis** 4027
Bing She, Wuhan University, China

11:22 **Field Ground Truthing Data Collector - A Mobile Toolkit for Image Analysis and Processing** 4028
Xiaoliang Meng, Wuhan University, China

11:44 **Extending Cyberinfrastructure to Share More Than Data: Geospatial Service Web** 4029
Huayi Wu, Wuhan University, China

12:06 **A Robust Parallel Framework for Massive Spatial Data Processing on High Performance Clusters** 4030
Xuefeng Guan, Wuhan University, China

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11:00-12:30 MCEC216
IV/8: 3D Spatial Data Integration for Disaster Management & Env. Monitoring-1
Chair: Sisi Zlatanova, Delft University of Technology, The Netherlands

11:00 **Augmenting 3D City Model Components by Geodata Joints to Facilitate Ad-hoc Geometric-Topologically Sound Integration** 4031
Robert Kaden, Technische Universität Berlin, Germany

11:22   Flood Hazard Assessment by the Integration of 3D-GIS and Flood Simulation 4032
Yulin Ding, Wuhan University, China

11:44   Three-dimensional Visualization of Spatial Data for Yangtze River Flood Prevention and Control Operation 4033
Fuling Bian, Wuhan University, China

12:06   A Pedestrian Accessible Position Extraction Method of Existing 3D Files for Large Building Evacuations 4034
Lei Niu, Henan University of Urban Construction, China

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11:00-12:30   MCEC212
V/4: Image-Based and Range-Based 3D Modelling-1
Chair: Fabio Remondino, FBK - Bruno Kessler Foundation, Italy

11:00   Automatic Texture Mapping of Architectural and Archaeological 3D Models 4035
Thomas Kersten, HafenCity University Hamburg, Germany

11:22   3D Modeling of Architecture by Edge-Matching and Integrating the Point Clouds of Laser Scanner and those of Digital Camera 4036
Nobuo Kochi, Topcon Corporation, Japan

11:44   From Geometry to Diagnosis: Experiences of Geomatics in Structural Engineering 4037
Pedro Arias Sanchez, University of Vigo, Spain

12:06   A Novel Image Acquisition and Processing Procedure for Fast Tunnel DSM Production 4038
Riccardo Roncella, Università degli Studi di Parma, Italy

11:00-12:30   MCEC211
VII/3: Information Extraction from Hyperspectral Data-3
Chair: Arnold G Dekker, CSIRO Land and Water, Australia

11:00   Hyperspectral Data Classification using Factor Graphs 4039
Rupert Mueller, German Aerospace Center (DLR), Germany

11:22   A Classification Algorithm for Hyperspectral Data based on Synergetics Theory 4040
Daniele Cerra, German Aerospace Center (DLR), Germany

11:44   Super-Resolution of Hyper Spectral Images using Compressive Sensing based Approach 4041
Rakesh C Patel, Dhirubhai Ambani Institute of Information and Communication Technology, India

12:06   A Hybrid Segmentation-based Approach for Exploiting Spectral and Spatial Information Facilitating Hyperspectral Classification 3165
Huan Xie, Tongji Univerity, China

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11:00-12:30   MCEC Plenary 2
VII/4: Methods for Land Cover Classification-5
Chair: Julian Smit, University of Cape Town, South Africa

11:00   Mapping and Monitoring Invasive Saltcedar with Landsat TM imagery and Landscape Metrics 4042
Le Wang, The State University of New York at Buffalo, United States

11:22   Identification of Land Cover in the Past using Infrared Images at Present 4043
Vaclav Safar, GEODIS BRNO, Czech Republic

11:44   Comparative Performance Analysis of a Hyper-temp NDVI Analysis Approach and a Landscape-ecological Mapping Approach 4044
Amjad Ali, University of Twente - ITC, The Netherlands

12:06   A Novel Approach to Super Resolution Mapping of Multispectral Imagery Based on Pixel Swapping Technique 4045
Milad Niroumand Jadidi, K.N. Toosi University of Technology, Iran

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11:00-12:30   MCEC210
VIII/6: Biophysical Parameter Retrieval
Chairs: Alfredo R Huete, University of Technology Sydney, Australia and N R Patel, IIRS, India

11:00   Remote Sensing Canopy Conductance for Combined Water and Carbon Studies 4047
Marta Yebra, CSIRO, Australia

11:22   Estimation of Vegetation Height through Satellite Image Texture Analysis4048
Zisis Petrou, Imperial College London AND Centre for Research and Technology Hellas, Greece

Wednesday, 29 August 2012

11:44   Remote-Sensing-Based Biophysical Models for Estimating LAI of Irrigated Crops in Murry Darling Basin 4049
Indira Wittamperuma, Charles Sturt University, Australia

12:06   Monitoring Spatial Patterns of Vegetation Phenology in an Australian Tropical Transect using MODIS EVI 4050
Xuanlong Ma, University of Technology Sydney, Australia

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11:00-12:30   MCEC209
VIII/8: Landscape Biophysical Characterization
Chair: Laurie A Chisholm, University of Wollongong, Australia

11:00   Validation of Landsat based Time-Series of Persistent Green-Vegetation Fraction for Australia 4051
Kasper Johansen, The University of Queensland, Australia

11:17   Operational Observation of Australian Bioregions With Bands 8-19 of MODIS 4052
Brendon K McAtee, Landgate Satellite Remote Sensing Services, Australia

11:34   Developments in Monitoring Rangelands using Remotely-sensed Cross-fence Comparisons 4053
Adam D Kilpatrick, The University of Adelaide, Australia

11:51   Application of High Dynamic Range Imaging for Ground-Based Monitoring of Vegetation and Photosynthetically Active Radiation 4054
Dennis G Dye, U.S. Geological Survey, United States

12:08   High Temp Frequency Biophysical and Structural Vegetation Information from Multiple Remote Sensing Sensors can Support Modelling of Event based Hillslope Erosion in Queensland 4055
Birte Schoettker, University of Queensland, Australia

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14:00-15:30   MEC5.2.01-04
Esri Presentation - A Comprehensive Imagery System

14:00   A Comprehensive Imagery System 4056
Peter Becker, Environment System Research Institute, United States
Melanie Harlow, Environment System Research Institute, United States

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14:00-15:30   MCEC218
Short+Interactive
I/4: Geometric and Radiometric Modeling of Optical Spaceborne Sensors
Chair: Peter Reinartz, German Aerospace Center (DLR), Germany

14:00   The Geometric Correction Model based on Areal Features for Multisource Images Rectification 4057
Weili Jiao, Chinese Academy of Sciences, China

14:03   The Transformation from Tilted Image to Horizontal Image based on the Rational Function Model 4058
Danchao Gong, Xi'an Institute of Surveying and Mapping, China

14:06   Accuracy Analysis of HRSI-based Geopositioning using Least Squares Collocation 4059
Gang Qiao, Tongji University, China

14:09   SENSOR++: Simulation of Remote Sensing Systems from Visible to Thermal Infrared 4060
Carsten Paproth, German Aerospace Center (DLR), Germany

14:12   Self Calibration of Small and Medium Format Digital Cameras 4061
Jon Christopherson, SGT, United States

14:15   Comparison of Particle Swarm Optimization and Genetic Algorithm in Rational Function Model Optimization 4062
Somayeh Yavari, K. N. Toosi University of Technology, Iran

14:18   Image Registration using Terrain Relief Correction based on the Rigorous Sensor Models 4063
Hyunsuk Kim, Satrec Initiative, Korea

14:21   Triple Linear-array Imaging Geometry Model of the ZiYuan-3 Surveying Satellite and Its Validation 4064
Xinming Tang, Satellite Surveying And Mapping Application Center, China

- -

14:00-15:30   MCEC220
Short+Interactive
II/3: Spatial Analysis and Data Mining
Chair: Tao Cheng, University College London, UK

14:00   **Forest Disturbance Leads to the Rapid Spread of the Invasive Leucaena Leucocephala in Taiwan** 4065
ChaurTzuhn Chen, National Pingtung University of Science and Technology, Taiwan

14:03   **Cost Analysis of Spatial Data Production as a Part of Business Intelligence within the Mapping Department** 4066
Sinan Colak, General Directrate of Land Registry and Cadastre, Turkey

14:06   **GIS-Based Spatial Statistical Analysis of College Graduates Employment** 4067
Ruidai Tang, Wuhan University, China

14:09   **Automatic Map Retrieval and Map Interpretation in the Internet** 4068
Volker Walter, University of Stuttgart, Germany

14:12   **An Efficient Algorithm for the Convex Hull of Planar Scattered Point Set** 4069
Zhongliang Fu, Wuhan University, China
Yuefeng Lu, Wuhan University, China

14:15   **A Research on Spatial Topological Association Rules Mining** 4070
Jiangping Chen, Wuhan University, China

14:18   **A Study on the Comprehensive Simulation of Nonpoint Source Pollution for Er-hai Lake's Watershed in Dali of China** 4071
Kun Yang, GIS Technology Research Center of Resource and Environment in Western China, China

14:21   **Properties of the Q-Tree Representation of a Scalar Field** 4072
Kazimierz Becek, Universiti Brunei Darussalam, Brunei Darussalam

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14:00-15:30   MCEC219
Short+Interactive
III/1: Pose Estimation and Surface Reconstruction from Image and/or Range Data; III/2: 3D Point Cloud Processing
Chair: Christoph Strecha, EPFL, Switzerland

14:00   **A New Approach of Digital Bridge Surface Model Generation** 4073
Charles Toth, The Ohio State University, United States

14:03   **SIFT for Dense Point Cloud Matching and Aero Triangulation** 4074
Jaan-Rong Tsay, National Cheng Kung University, Taiwan

14:06   **An Accuracy Assessment of Automated Photogrammetric Techniques for 3D Modeling of Complex Interiors** 4075
Athanasios Georgantas, IGN, France

14:09   **A Multi-Sensor Approach to Semi-Global Matching** 4076
William LaRocque, Intergraph, United States

14:12   **RANSAC Algorithm for Automatic Extraction of the Ground Surface from LiDAR Data** 4077
Norbert Pfeifer, Vienna University of Technology, Austria

14:15   **L1 Estimation with Different Adjustment Models** 4078
Jim Bethel, Purdue University, United States

14:18   **Classification by Using Multispectral Point Cloud Data** 4079
Chen-Ting Liao, National Chengchi University, Taiwan

14:21   **UltraMap: The all in one Photogrammetric Solution** 4080
Alexander Wiechert, Microsoft Vexcel Imaging GmbH, Austria

14:24   **Advances of Flash LiDAR Development Onboard UAV** 4081
Guoqing Zhou, Guilin University of Technology, China

14:27   **Finding Cuboid-Based Building Models in Point Clouds** 4082
William Nguatem, Bundeswehr University Munich, Germany

14:30   **Structure Line Detection from Lidar Point Clouds using Topological Elevation Analysis** 4083
Chao-Yuan Lo, National Central University, Taiwan

Wednesday, 29 August 2012

14:33 **General Mathematical Model of Least Squares 3D Surface Matching and its Application of Strip Adjustment** 4084

Zhiquan Zuo, Chinese Academy of Surveying and Mapping, China

14:36 **Algorithm for DEM Generation from Full-Waveform LIDAR Data of Forest Areas** 4085

Yungang Cao, Southwest Jiaotong University, China

14:39 **Classification of Airborne Laser Scanning Data in Wadden Sea Areas using Conditional Random Fields** 4086

Alena Schmidt, Leibniz Universität Hannover, Germany

14:42 **Automated Reconstruction of Walls from Airborne LIDAR Data for Complete 3D Building Modelling** 4087

Yuxiang He, Cooperative Research Centre for Spatial Information, Australia

14:45 **Alternative Methodologies for the Estimation of Local Point Density Index: Moving Towards Adaptive LIDAR Data Processing** 4088

Zahra Lari, University of Calgary, Canada

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14:00-15:30 **MCEC216**
Short+Interactive
III/4: Complex Scene Analysis and 3D Reconstruction;
III/5: Image Sequence Analysis
Chair: Gunho Sohn, York University, Canada

14:00 **A New Object Based Method for Automated Extraction of Urban Objects from Airborne Sensors Data** 4089

Naser El-Sheimy, University of Calgary, Canada

14:03 **Kinect-based Real-time RGB-D Image Fusion Method** 4090

Tangwu Du, Wuhan University, China

14:06 **Complex Building Model Reconstruction from Point Clouds by Smart Components** 4091

Xianfeng Huang, Wuhan University and Microsoft Research Asia, China

14:09 **Plane Matching with Object-Space Searching using Independently Rectified Images** 4092

Hiroshi Takeda, Kokusai Kogyo Co.,Ltd, Japan

14:12 **Gestalt Grouping on Façade Textures from IR Image Sequences: Comparing Different Production Systems** 4093

Dorota Iwaszczuk, TU Munich, Germany

14:15 **LIBRJMCMC: An Open-source Generic C++ Library for Stochastic Optimization** 4094

Mathieu Brédif, IGN, France

14:18 **Accuracy Assessment of Building Models Created from Laser Scanning Data** 4095

Grzegorz Jozkow, Wroclaw University of Environmental and Life Sciences, Poland

14:21 **Development of 3D Building Creation Software using Vertical and Oblique Aerial Images** 4096

Sunghoon Lee, Geontech, Korea

14:24 **3D Building Reconstruction Based on Synergistic Combination of LiDAR Data and Digital Aerial Imagery** 4097

Hossein Arefi, German Aerospace Center (DLR), Germany

14:27 **Quality Analysis on RANSAC-based Roof Facets Extraction from Airborne LIDAR Data** 4098

Jixing Yan, Wuhan University, China

14:30 **Intensity and Range Image based Features for Object Recognition in Mobile Mapping Data** 4099

Geoff Alec West, Curtin University, Australia

14:33 **Optimisation of Fuzzy based Soft Classifiers for Remote Sensing Data** 4100

S K Ghosh, Indian Institute of Technology, India

14:36 **Real Time Speed Estimation From Monocular Video** 4101

Sitki Külür, Istanbul Technical University, Turkey

14:39 **Persistent Object Tracking with Randomized Forests** 4102

Tobias Klinger, Leibniz Universität Hannover, Germany

14:42 **Spectrum-based Object Detection and Tracking Technique for Digital Video Surveillance** 4103

Yury V Vizilter, GosNIIAS, Russia

14:45 Image Acquisition Constraints for Panoramic Frame Camera Imaging 4104
Heikki J Kauhanen, Aalto University, Finland

14:48 A Novel Object of Interest Extraction Method for Mobile Mapping Systems 4190
Peng Li, National University of Defense Technology, China

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14:00-15:30 MCEC213
Short+Interactive
IV/3: Mapping from High Resolution Data
Chair: David Holland, Ordnance Survey, UK

14:00 Road Extraction from High Resolution Satellite Images 4105
Meral Özkaya, Bilisim Ltd., Turkey

14:03 Reliable and Pratical City Map Generation at 1:1000 or 1:500 Scale based on "Five Control Points" Rectification of Digitized Images 4106
Wei Ruan, Tong Ji University, China

14:06 Power Line Detection from SAR Imagery using Coherence of Co- and Cross-polarisation Estimated in the Hough Domain 4107
Shaoping Deng, Wuhan University, China

14:09 Accuracy Improvement of DEM for Generating Orthophoto by Reverse Projection Method 4108
Fuminori Sugiyama, Aeroasahi Co., Japan
Hirofumi Chikatsu, Tokyo Denki University, Japan

14:12 Research of Image Matching Algorithm Based on Rotation Vector Field 4109
YanSong Duan, Wuhan University, China

14:15 VHRS Stereo Images for 3D Modelling of Buildings 4110
Aleksandra Bujakiewicz, Warsaw University of Technology, Poland

14:18 Satellite "Canopus-V" Images Processing Technology Development for Cartography Purposes based on Prelaunch Simulation 4111
Victor V Nekrasov, VNIIEM, Russia

14:21 A Method for True Orthophoto Generation based on Projection and Iteration Strategy 4112
Xiao Wang, Chinese Academy of Sciences, China

14:24 A Class of Regression-cum-ratio Estimators in Two-phase Sampling for Utilizing Information from High Resolution Satellite Data 4113
Bijoy Krishna Handique, Department of Space, India

14:27 Extraction of Forest Stands Parameters from ASTER Data in Open Forest 4114
Hamid Reza Riyahi Bakhtyari, University of Shiraz, Iran

14:30 Orthorectification by Using GPGPU Method 4115
Hakan Sahin, General Command of Mapping, Turkey

14:33 Dense Corresoponding Pixel Matching using a Fixed Window with RGB Independent Information 4116
Teng Hu, Wuhan University, China
Huayi Wu, Wuhan University, China
Jianya Gong, Wuhan University, China

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14:00-15:30 MCEC212
Short+Interactive
V/1: Vision Metrology-Best Practice, Systems and Applications; V/2: Cultural Heritage Data Acquisition and Processing; V/4: Image-Based and Range-Based 3D Modelling
Chair: Bharat Lohani, IIT Kanpur, India

14:00 Efficient Extraction Method of the Change of Buildings for Fixed Property Investigation 4117
Yasuhiro Tanauchi, Aero Asahi Corporation, Japan

14:03 Using Vision Metrology System for Quality Control in Automotive Industries 4118
Nikrouz Mostofi, Islamic Azad University, Iran

14:06 Determining the Technical Standards of Ping Pong Table by Using Close Range Photogrammetry 4119
Ugur Acar, Yildiz Technical University, Turkey

14:09 Building 3D Model of Stairs Structure Using Close Range Photogrammetry 4120
Seyed Mohammad Ayazi, National Cartography Center (NCC), Iran

14:12 Determining Pull-out Deformations of Bonded Metal Anchors Embedded in Concrete by Means of Photogrammetry 4121
Ozgur Avsar, Istanbul Technical University, Turkey

Wednesday, 29 August 2012

14:15   Imaging a Sustainable Future in 3D 4122
Walter Schuhr, University of Applied Sciences Magdeburg, Germany
Jin-Duk Lee, Kumoh National Institute of Technology, Korea

14:18   Stereometric Modelling 4123
Pietro Grimaldi, Politecnico di Bari, Italy

14:21   Deformation Monitoring of the "Passetto di Borgo" in Rome using Geomatics Integrated Techniques 4124
Benedetto Villa, University of Palermo, Italy

14:24   High Resolution Survey of Festòs Palace (Crete) by TLS and Terrestrial Photogrammetry 4125
Vladimiro Achilli, University of Padova, Italy

14:27   Simple Room Shape Modeling with Sparse 3D Point Information using Photogrammetry and Application Software 4126
Shun Hirose, TOPCON Corporation, Japan

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14:00-15:30   MCEC211
Short+Interactive
VII/4: Methods for Land Cover Classification; VII/5: Methods for Change Detection and Process Modelling
Chair: Julian Smit, University of Cape Town, South Africa

14:00   Classification of Active Microwave and Passive Optical Data Based on Bayesian Theory and MRF 4127
Fan Yu, Chinese Academy of Surveying and Mapping, China

14:03   Spatial Interpolation as a Tool for Spectral Unmixing of Remotely Sensed Images 4128
Xi Li, Wuhan University, China

14:06   Application of MODIS Data to Assess the Latest Forest Cover Changes of Sri Lanka 4129
Kithsiri Perera, University of Southern Queensland, Australia

14:09   Accuracy Evaluation of Two Global Land Cover Data Sets Over China Wetlands 4131
Zhenguo Niu, Chinese Academy of Sciences, China

14:12   Evaluation of ASTER Images for Characterization and Mapping of Ametist Mining Residues 4132
Paulo Roberto Markoski, UFRGS, Brazil

14:15   Random Forests-Based Feature Selection for Land-Use Classification using LIDAR Data and Orthoimagery 4133
Jun Yu, Xiamen University, China

14:18   Post-classification Approach Based on Geostatistics to Remote Sensing Images: Spectral and Spatial Information Fusion 4134
Jingxiong Zhang, Wuhan University, China

14:21   Impact of Different Topographic Corrections on Prediction Accuracy of Foliage Projective Cover (FPC) in a Topographically Complex Terrain 4135
Sisira Ediriweera, Southern Cross University, Australia

14:24   Land use Mapping in Khuzestan Province by using the Satellite Imagery 4136
Maisam Toosi, Mamaghan Islamic Azad University, Iran

14:27   Defining Densities for Urban Residential Texture, through Land use Classification, from Landsat 7etm+ Imagery: Case Study of Spanish Mediterranean Coast 4137
Nicola Colaninno, Universitat Politècnica de Catalunya, Spain

14:30   Comparison of Various Techniques of Glacial Lake Mapping in Teesta River Basin, India 4138
Rahul Dev Garg, Indian Institute of Technology, India

14:33   Albedo Pattern Recognition and Time-series Analyses in Malaysia 4139
Siti Aekbal Salleh, Universiti Teknologi MARA, Malaysia

14:36   Quantitative Analysis of Urban Expansion in Central China 4140
Yongnian Zeng, Central South University, China

14:37   Combining Local Features and Progressive Support Vector Machine for Urban Change Detection of VHR Images 4141
Chunlei Huo, Chinese Academy of Sciences, China

14:42   Identifying Building Change Using High Resolution Point Clouds - An Object-based Approach 4142
Steve du Plessis, Intergraph, United States

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14:00-15:30   MCEC210

Short+Interactive
VIII/6: Agriculture, Ecosystems and Bio-Diversity
Chair: Heather McNairn, Agriculture and Agri-Food Canada, Canada

14:00   **NDVI from Active Optical Sensors as a Measure of Canopy Cover and Biomass** 4143
Elizabeth M Morse-McNabb, Department of Primary Industries, Australia

14:03   **Estimating Biochemical Parameters of Tea (Camellia sinensis (L.)) using Hyperspectral Techniques** 4144
Meng Bian, Wuhan University, China

14:06   **Evaluation Model for Rice under Heavy Metal Cd Stress using Hyperspectral Data** 4145
Ping Wang, Northeast Normal University, China
Xiangnan Liu, China University of Geosciences, China

14:09   **Subdivision of Pantanal Quaternary Wetlands: MODIS NDVI Time-series in the Indirect Detection of Sediments Granulometry** 4146
Natasha Costa Penatti, University of São Paulo, Brazil

14:12   **Estimation of the Area under Sugarcane Cultivation using Multi-scene SLC-off ETM+ Images** 4147
Hamed Fahimnejad, Sepehr Geomatics Engineering Co., Iran

14:15   **Participatory Geographic Information System for Soil Conservation in Phewa Watershed of Nepal** 4148
Krishna Prasad Bhandari, Tribhuvan University, Nepal

14:18   **Implementation of an Agricultural Environmental Information System (AEIS) for SanJiang Plain, NE-China** 4151
Quanying Zhao, University of Cologne, Germany

14:21   **Impact Assessment of Watershed in Desert Region** 4152
Vasala Madhava Rao, National Institute of Rural Development, India

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14:00-15:30   MCEC208

Short+Interactive
Special Sessions
Chair: Mark Shortis, RMIT University, Australia

14:00   **Photogrammetric and LIDAR Documentation of the Royal Chapel (Cathedral-Mosque of Cordoba, Spain)** 4153
Javier Cardenal, University of Jaén, Spain

14:03   **Comparison of Low Altitude Photogrammetric Methods for Obtaining DEMs and Orthoimages of Archaeological Sites** 4154
Antonio T Mozas-Calvache, University of Jaén, Spain

14:06   **Surveying and Monitoring the Rialto Bridge in Venice by Integrated Methodologies** 4155
Giuseppe Artese, University of Calabria, Italy

14:09   **Laser Scanner Survey to a Cultural Heritage Conservation and Restoration** 4156
Giuseppina Vacca, University of Cagliari, Italy

14:12   **Indian Remote Sensing Satellite, Resourcesat 2 for Australian Land, Water, Ecological and Environment Monitoring and Management** 4157
Murthy Remilla Rln, Antrix Department of Space, India

14:15   **Revised Coordinates for Apollo Lunar Modules and ALSEPs** 4158
Robert V Wagner, Arizona State University, United States

14:18   **Parallel and Adaptive Uniform-Distributed Registration Method for Chang'e-1 Lunar Remote Sensed Imagery** 4159
Xiaogang Ning, Chinese Academy Surveying and Mapping, China

14:21   **Precise Locations of Landed US and Soviet Lunar Spacecraft** 4160
Mark S Robinson, Arizona State University, United States

14:24   **On the National Geographical Condition Monitoring Several Strategic Issues** 4161
Dezhu Gui, State Bureau of Surveying Mapping and Geoinformation, China

14:27   **Pleiades-HR Image Quality commissioning** 4162
Laurent Lebegue, CNES, France

Wednesday, 29 August 2012

14:30 **PLEIADES Absolute Calibration: Inflight Calibration Sites and Methodology** 4163
Sophie Lacherade, CNES, France

14:33 **Restoration Technique for Pleiades-HR Panchromatic Images** 4164
Christophe Latry, CNES, France

14:36 **Attitude Assessment using PléiadesHR Capabilities** 4165
Jean-Marc Delvit, CNES, France

14:39 **Automatic and Generic Mosaicing of Multisensor Images: An Application to Pleiades HR** 4166
Simon Baillarin, CNES, France

14:42 **Pleiades HR in Flight Geometrical Calibration: Location and Mapping of the Focal Plane** 4167
Françoise de Lussy, CNES Centre Spatial de Toulouse, France

14:45 **Automatic Damaged Building Detection Using Fast Fourier Transform from Close Range Optical Imagery in Case of Natural Hazards** 4168
Chandana Dinesh Kumara Parape, Kyoto University, Japan

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16:00-17:30 MEC5.2.01-02
ICA and WG IV/8: Maps, Imagery and Crowd Sourcing for Disaster Management
Chair: Milan Konecny, Masaryk University, Czech Republic

16:00 **Three-Dimensional Maps for Disaster Management** 4169
Milan Konecny, Masaryk University, Czech Republic

16:22 **The Use of Lidar and Volunteered Geographic Information to Map Flood Extents and Inundation** 4170
Kevin McDougall, University of Southern Queensland, Australia

16:44 **The Important of Toponym in the Middle of Maps and Imagery for Disaster Management** 4171
Aji Putra Perdana, Bakosurtanal, Indonesia

17:06 **From Orthophoto to Info Clouds – Automated Image Processing for Emergency Response** 4172
Ruedi J Wagner, Hexagon Geosystems, Switzerland

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16:00-17:30 MEC5.2.03-04
IV/2, IV/II: GeoSensor Networks and Sensor Web
Chair: Anthony Stefanidis, George Mason University, USA

16:00 **A Hybrid Pull-Push System for Near Real-Time Notifications on Sensor Web** 4173
Chih-Yuan Huang, University of Calgary, Canada

16:22 **Qtrajectories: Improving the Quality of Object Tracking using Self-organizing Camera Networks** 4174
Uwe Jaenen, Leibniz University of Hannover, Germany

16:44 **Integrated Remote and In-Situ Sensing Data Processing for a Real-time Landslide Monitoring Sensor Network System** 4175
Tiantian Feng, Tongji University, China

17:06 **Deployable Non-linear Geomovies and 3D Augmented Reality Space-time Visualizations as New Forms of Situated Public Environmental Information Tools** 4176
Nick Hedley, Simon Fraser University, Canada

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16:00-17:30 MCEC218
I/4: Radiometric and Geometric Modelling and Adjustment
Chair: Gurcan Buyuksalih, BIMTAS, Turkey

16:00 **Bundle Block Adjustment with Self-Calibration of Long Orbit CBERS-02B Imagery** 4177
Maoteng Zheng, Wuhan University, China

16:22 **Interior Orientation Error Modelling and Correction for Precise Georeferencing of Satellite Imagery**4178
Chunsun Zhang, The University of Melbourne, Australia

16:44 **Study on the Influence of Spacecraft Jitter on RFM Precision and Methods for Jitter Elimination** 4179
Bin Liu, Chinese Academy of Sciences, China

17:06 **An Attribute and Orbit Parameter Fitting Method for Chinese Satellite Based on Hidden Markov Model** 4180
Xiuxiao Yuan, Wuhan University, China

16:00-17:30 MCEC217

ICWG I/V: Remote Sensing in Remote Areas using Unmanned Systems

Chair: Norbert Haala, University of Stuttgart, Germany

16:00 **UAV Photogrammetry in Remote Areas – 3D Modeling of Drapham Dzong, Bhutan** 4181

Armin Gruen, ETH Zurich, Switzerland

16:37 **Searching Lost People with UAVs: The System and Results of the CLOSE-SEARCH Project** 4182

Pere Molina, Institute of Geomatics, Spain

16:54 **Using a Micro-UAV for Ultra-high Resolution Multi-sensor Observations of Antarctic Moss Beds** 4183

Arko Lucieer, University of Tasmania, Australia

17:11 **Photogrammetric Measurements in Fixed Wing UAV Imagery** 4184

Eberhard Gülch, Stuttgart University of Applied Sciences, Germany

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16:00-17:30 MCEC220

II/6: Geo-Visualization and Virtual Reality-1

Chair: Chris Pettit, Department of Primary Industries, Australia

16:00 **3D Geovisualization - Definition and Structures for the Assessment of Usefulness** 4185

Susanne Bleisch, University of Applied Sciences Northwestern Switzerland, Switzerland

16:22 **A Framework of Online Spatial-temp Data Visualization based on HTML5** 4186

Bo Mao, Royal Institute of Technology, Sweden

16:44 **Landscape Visualisation on the Internet** 4187

Mark P Imhof, Department of Primary Industries, Australia

17:06 **Simultaneous Visualization of Different Utility Networks for Disaster Management** 4188

Thomas H Kolbe, Technische Universität Berlin, Germany

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16:00-17:30 MCEC219

III/2: Mobile Mapping Systems

Chair: Christoph Strecha, EPFL, Switzerland

16:00 **Off-line Vs. On-line Calibration of a Panoramic-Based Mobile Mapping System** 4189

Bertrand Cannelle, Institut Géographique National, France

16:30 **Trajectory-based Registration of 3D LIDAR Point Clouds Acquired with a Mobile Mapping Systems** 4191

Adrien Gressin, Institut Géographique National, France

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16:00-17:30 MCEC216

III/5: UAVs

Chair: Uwe Stilla, Technische Universitaet Muenchen, Germany

16:00 **Complex Event Detection in Pedestrian Groups from UAVs** 4192

Florian Burkert, Technische Universität München, Germany

16:30 **Developing Species Specific Vegetation Maps using Multi-spectral Hyperspatial Imagery from Unmanned Aerial Vehicles** 4193

Christoph Strecha, EPFL, Switzerland

17:00 **3D Modelling and Monitoring of Granite Quarry using Unmanned Aerial Vehicle** 4194

Diego Gonzalez-Aguilera, University of Salamanca, Spain

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Wednesday, 29 August 2012

16:00-17:30   MCEC213

IV/5: Distributed and Web-Based Geoinformation Services and Applications-2
Chair: Bert G Veenendaal, Curtin University, Australia

16:00   **A Geospatial Web Services Composition Framework Supporting Real-Time Status Monitoring** 4195
Lan You, Wuhan University, China

16:22   **Distributed Infrastructure Enabling Effective Integration of Earth Observation Information Resources for Collective Solution of Archiving, Searching, Processing and EO Data Analyzing Tasks** 4196
Victor P Savorskiy, Kotelnikov's Institute of Radioengineering and Electronics of RAS, Russia

16:44   **The Application of Digital Line Graphs and Map in the Network Environment** 4197
Xincheng Guo, Chang'an University, China

17:06   **An Automated End-to-End Multi-Agent QoS Based Architecture for Selection of Geospatial Web Services**   4198
Yogesh Verma, ISRO, India

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16:00-17:30   MCEC212

V/4: Image-Based and Range-Based 3D Modelling-2
Chair: Jan Boehm, University College London, United Kingdom

16:00   **Detailed Primitive-based 3D Modelling of Architectural Elements** 4199
Fabio Remondino, FBK Bruno Kessler Foundation, Italy

16:22   **Fully Automated Image Orientation in the Absence of Targets** 4200
Christos Stamatopoulos, CRC for Spatial Information, Australia

16:44   **Implementing an Adaptive Approach for Dense Stereo-matching** 4201
Christos Stentoumis, National Technical University of Athens, Greece

17:06   **Estimation of Tree Stem Attributes using Terrestrial Photogrammetry** 4202
Mona Forsman, Swedish University of Agricultural Sciences, Sweden
Niclas Börlin, Umeå University, Sweden

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16:00-17:30   MCEC209

VII/3: Information Extraction from Hyperspectral Data-4
Chair: Arnold G Dekker, CSIRO Land and Water, Australia

16:00   **Towards Standards for the Exchange of Spectral Datasets** 4203
Tim J Malthus, CSIRO Land and Water, Australia

16:22   **A Graph and Simplex Regularized Nonnegative Matrix Factorization for Hyperspectral Unmixing** 4204
Yuancheng Huang, Xi'an Institute of Optics and Precision Mechanics, China

16:44   **Comparison of Wavelet-Based and HHT-Based Feature Extraction Methods for Hyperspectral Image Classification** 4205
Xiu-Man Huang, National Taiwan University, Taiwan

17:06   **Study on Oil-gas Information Detecting Methods using Hyperspectral Remote Sensing** 3162
Qingjiu Tian, Nanjing University, China

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16:00-17:30   MCEC211

VII/5: Methods for Change Detection and Process Modelling-1
Chair: Qiming Zhou, Hong Kong Baptist University, Hong Kong

16:00   **Seasonal Trends in Tibetan Lake Level Changes as Observed by ICESat Laser Altimetry** 4206
Vu H Phan, Delft University of Technology, The Netherlands

16:37   **Analysis of Thickness Changes on Amery Ice Shelf and its Surroundings, East Antarctica, using ICESat Crossovers** 4207
Hongchao Fan, Tongji University, China

16:54   **On the use of Dual-co-polarized TerraSAR-X Data for Wetland Monitoring** 4208
Andreas Schmitt, German Aerospace Center (DLR), Germany

17:11   **Feasibility to Detect Signs of Potential CO2 Leakage with Multi-temp SPOT Satellite VEGETATION Imagery in Otway, Victoria** 4209
Paula Rattanasuda Cholathat, The University of New South Wales, Australia
Linlin Ge, The University of New South Wales, Australia

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16:00-17:30   MCEC210
VIII/6: Agricultural Management
Chair: Shibendu S Ray, Indian Space Research Organisation, India

16:00   **Exploiting the DMC Satellite Constellation for Applications in Agriculture, Forest Monitoring and Disaster Response** 4210
Gary Holmes, DMC International Imaging, United Kingdom

16:17   **Satellite-based Measurements for Benchmarking Regional Irrigation Performance in Goulburn-Murray Catchment** 4211
Mohammad Abuzar, Department of Primary Industries, Australia

16:34   **Global Monitoring for Food Security and Sustainable Land Management – Recent Advances of Remote Sensing Applications to African and Siberian Show Cases** 4212
Klaus U Komp, EFTAS, Germany

16:51   **Regionalization of Agricultural Management by using the Multidata Approach (MDA)** 4213
Georg Bareth, University of Cologne, Germany

17:08   **Monitoring of Agricultural Landscape in Norway** 4214
Hanne Gro Wallin, Norwegian Forest and Landscape Institute, Norway

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16:00-17:30   MCEC208
VIII/7: Biomass Estimation with Active Sensors
Chair: Erwan Renaudin, University of Calgary, Canada

16:00   **Improved Interpretation of ALOS PALSAR Backscattering Coefficients for Estimation of Forest Stem Volume at Mountainous Stand Level** 4215
Min-Gee Hong, Kookmin University, Korea

16:22   **Voxel-based Approach for Estimating Urban Tree Volume From Terrestrial Laser Scanning Data** 4216
Thomas Voegtle, Karlsruhe Institute of Technology, Germany

16:44   **Biomass Estimation using Vertical Forest Structure from SAR Tomograghy: A Case Study in Canadian Boreal Forest** 4217
Erwan Renaudin, University of Calgary, Canada

Thursday, 30 August 2012

Time	Location	Session Code	Thursday August 30
9:00-10:30	208	CATCON-1	CATCON-1: Presentations
	209	TS712	VII/3: Information Extraction from Hyperspectral Data-5
	210	TS820	VIII/6: Wetland Ecosystems
	211	TS722	VII/5: Methods for Change Detection and Process Modelling- Session 2
	212	TS511	V/5: Sensor Calibration-1
	213	TS413	IV/5: Distributed and Web-Based Geoinformation Services and Applications-3
	216	TS420	IV/8: 3D Spatial Data Integration for Disaster Management & Env. Monitoring-2
	217	TS314	III/5: Image Sequence Analysis
	218	TS117	ICWG I/V: Instruments and Methods for Unmanned Systems Based Remote Sensing
	219	TS308	III/2: Façades
	220	TS213	II/6: Geo-Visualization and Virtual Reality-2
11:00-12:30	208	CATCON-2	CATCON-2: User Evaluations
	209	TS829	VIII/8: Drought, Moisture and Stress Detection
	210	TS821	VIII/7: Forest Change Detection
	211	TS723	VII/5: Methods for Change Detection and Process Modelling- Session 3
	212	TS512	V/5: Sensor Calibration-2
	213	TS414	IV/6: Global DEM Interoperability-1
	216	TS422	ICWG IV/VIII: Updating and Maintenance of Core Spatial Databases-1
	217	TS603	VI/4: Cross-Border Education - Joint Educational Programs
	218	TS118	ICWG I/V: Unmanned Systems for Mapping
	219	TS309	III/4: Building Outlining
	220	TS214	II/6: Geo-Visualization and Virtual Reality-3
2:00-3:30	210	PS804	VIII/7: Forestry; VIII/10: Cryosphere
	211	PS704	VII/5: Methods for Change Detection and Process Modelling; VII/6: Remote Sensing Data Fusion
	212	PS502	V/3: Terrestrial Laser Scanning and 3D Imaging; V/6: Close Range Morphological Measurement for the Earth Sciences
	213	PS404	IV/3: Mapping from High Resolution Data
	216	PS308	III/5: Image Sequence Analysis; TCs III and V: Medical Imaging and Human Motion
	219	PS304	III/2: 3D Point Cloud Processing
	5.2.01-2	VS104	ESRI Vendor Session 2
	5.2.03-4	VS104	Easily Manage and Make Large Collections of Imagery and Remote Sensing Data Accessible
4:00-5:30	208	TS830	VIII/9: Ocean Temperature, Salinity and Carbon
	209	ThS733	VII/7, III/2, V/1, V/3, ICWG V/I: Low-cost UAVs (UVSs) and Mobile Mapping Systems-1
	210	TS822	VIII/7: Classification and Lidar
	211	TS724	VII/5: Methods for Change Detection and Process Modelling-4
	212	TS513	V/6: Close Range Morphological Measurement for the Earth Sciences
	213	TS415	IV/6: Global DEM Interoperability-2
	216	TS316	III/1: Image Orientation
	217	SS913	ISPRS and OGC: Open Geospatial Consortium Forum
	218	TS112	I/5: Integrated Systems for Sensor Georeferencing and Navigation-1
	219	TS310	III/2: Efficient Algorithm Implementation and Data Management
	220	TS215	II/7: Spatial Decision Support and Location-Based Services-1

09:00-10:30   MCEC208
CATCON-1: Presentations

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09:00-10:30   MCEC218
ICWG I/V: Instruments and Methods for Unmanned Systems Based Remote Sensing
Chair: Eberhard Gulch, Stuttgart University of Applied Sciences, Germany

09:00   **Development of Four Vision Camera System for a Micro-UAV** 5001
Görres J Grenzdörffer, Rostock University, Germany

09:22   **Measurement of Large-Scale Solar Power Plant by Using Images Acquired by Non-Metric Digital Camera on board UAV** 5002
Ryuji Matsuoka, Kokusai Kogyo Co., Ltd., Japan

09:44   **Comparison and Analysis of Nonlinear Least Squares Methods for Vision Based Navigation (VBN) Algorithms**
5003
Bassem I Sheta, University of Calgary, Canada

10:06   **The Performance Analysis of a UAV based Mobile Mapping System** 5004
Meng-Lun Tsai, National Cheng Kung University, Taiwan

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09:00-10:30   MCEC220
II/6: Geo-Visualization and Virtual Reality-2
Chair: Bo Wu, The Hong Kong Polytechnic University, Hong Kong

09:00   **Visualisation Support for Exploring Urban Space and Place** 5005
Christopher J Pettit, The University of Melbourne, Australia

09:22   **An Open Source Geovisual Analytics Toolbox for Multivariate Spatio-temp Data for Environmental Change Modeling** 5006
Arzu Coltekin, University of Zurich, Switzerland

09:44   **A Geo-Visual Analytics Approach to Biological Shepherding: Modelling Animal Movements and Impacts** 5007
Jean-Philippe Aurambout, Department of Primary Industries, Australia

10:06   **Spatio-Temp Clustering of Movement Data: An Application to Trajectories Generated by Human-Computer Interaction**
5008
Gavin McArdle, National University of Ireland Maynooth, Ireland

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09:00-10:30   MCEC219
III/2: Façades
Chair: Qingming Zhan, Wuhan University, China

09:00   **Streamed Vertical Rectangle Detection in Terrestrial Laser Scans for Facade Database Production**
5009
Jerome Demantke, IGN, France

09:30   **Learning a Compositional Representation for Facade Object Categorization** 5010
Susanne Wenzel, University of Bonn, Germany

10:00   **Building Facade Separation in Vertical Aerial Images** 5011
Philipp Meixner, Graz University of Technology, Austria

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09:00-10:30   MCEC217
III/5: Image Sequence Analysis
Chair: Stefan Hinz, University of Karlsruhe, Germany

09:00   **Integration of Video Images and CAD Wireframes for 3D Object Localization** 5012
Costas Armenakis, York University, Canada
Gunho Sohn, York University, Canada

09:30   **Optical Flow for Glacier Motion Estimation** 5013
Christoph Vogel, ETH Zurich, Switzerland

10:00   **Real-time Camera Guidance for 3D Scene Reconstruction** 5014
Wolfgang Förstner, University of Bonn, Germany

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Thursday, 30 August 2012

09:00-10:30   MCEC213

IV/5: Distributed and Web-Based Geoinformation Services and Applications-3

Chair: Songnian Li, Ryerson University, Canada

09:00   **Hierarchical Optimization Model on GeoNetwork** 5015

Jie Jang, National Geomatics Center of China, China

09:22   **Results of an Evaluation of the Orchestration Capabilities of the ZOO Framework and the 52° North Platform for an Intelligent Geoportal** 5016

Victoria Rautenbach, University of Pretoria, South Africa

09:44   **Virtual Cultural Landscape Laboratory based on Internet GIS Technology** 5017

Frank Niemeyer, Rostock University, Germany

10:06   **Incorporating Load Balancing Spatial Analysis into XML-based WebGIS** 5018

Haosheng Huang, Vienna University of Technology, Austria

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09:00-10:30   MCEC216

IV/8: 3D Spatial Data Integration for Disaster Management & Env. Monitoring-2

Chair: Zhizhong Kang, China University of Geosciences, China

09:00   **Aerial Images and Lidar Data Fusion for Disaster Change Detection** 5019

John C Trinder, University of New South Wales, Australia

09:22   **Strategic Multiple sensor Data Fusion for Time-critical Natural Disaster Response** 5020

Seongsam Kim, National Disaster Management Institute, Korea

09:44   **Role Assessment of GIS Analysis and its Reliability while Ranking Urban Sustainability using Scenarios Specific to Regional Climate, Community and Culture** 5021

Huda Al Salmi, Abu Dhabi City Municipality, United Arab Emirates

10:06   **The Use of Satellite Imagery to Guide Field Plot Sampling Scheme for Biomass Estimation in Ghanaian Forest** 5022

Bhuwneshwar P Sah, PASCO Corporation, Japan

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09:00-10:30   MCEC212

V/5: Sensor Calibration-1

Chair: Ralf Reulke, Humboldt University of Berlin, Germany

09:00   **Comparison of Methods for Geometric Camera Calibration** 5023

Jan Hieronymus, Humboldt University of Berlin, Germany

09:22   **Accuracy Evaluation of Stereo Camera Systems with Generic Camera Models** 5024

Dominik Rueß, German Aerospace Center (DLR), Germany

09:44   **Assessing the Photogrammetric Potential of Cameras in Portable Devices** 5025

Martin J Smith, The University of Nottingham, United Kingdom

10:06   **"Kanopus-V" Perspective Satellite. "Kanopus-V" Satellite Images Processing Technology in the "Photomod" Digital Photogrammetric System** 5026

Elena V Kravtsova, GeoInnovation Agency "Innoter", Russia
Victor V Lavrov, GeoInnovation Agency "Innoter", Russia

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09:00-10:30   MCEC209

VII/3: Information Extraction from Hyperspectral Data-5

Chair: Megan Lewis, The University of Adelaide, Australia

09:00   **Spectral Information Retrieval for Sub-Pixel Building Edge Detection** 5027

Janja Avbelj, German Aerospace Center (DLR) and Technical University Munich, Germany

09:22   **Classification of Roof Materials using Hyperspectral Data** 5028

Chembe Chisense, Stuttgart University of Applied Sciences, Germany

09:44   **Robust Metric Based Anomaly Detection in Kernel Feature Space** 5029

Bo Du, Wuhan University, China
Liangpei Zhang, Wuhan University, China

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09:00-10:30 MCEC211

VII/5: Methods for Change Detection and Process Modelling-2

Chair: Qiming Zhou, Hong Kong Baptist University, Hong Kong

09:00 **Evaluating the Consistency of Remote Sensing based Snow Depth Products in Arid Zone of Western China** 5030

Bo Sun, Hong Kong Baptist University, Hong Kong

09:22 **An Improved Method of Tracking Large-Area Mangrove Deforestation with Time Series of High-Fidelity MODIS Imagery** 5031

Abdullah Faiz Rahman, Indiana University, United States

09:44 **Automatic Moving Vehicle's Information Extraction from One-Pass WorldView-2 Satellite Imagery** 5032

Rakesh Kumar Mishra, University of New Brunswick, Canada

10:06 **Soybean Crop Area Estimation and Mapping in Mato Grosso State, Brazil** 5033

Anibal Gusso, Federal University of Rio Grande do Sul, Brazil

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09:00-10:30 MCEC210

VIII/6: Wetland Ecosystems

Chair: Ross Lunetta, U.S. Environmental Protection Agency, USA

09:00 **Multi-sensor Synergies Provide New Understanding of Great Artesian Basin Wetlands** 5034

Megan M Lewis, The University of Adelaide, Australia

09:22 **Spectral Characteristics of Selected Hermatypic Cs from Gulf of Kachchh, India** 5035

Nandini Ray Chaudhury, ISRO, India

09:44 **Low-cost, Ultra-high Spatial and Temp Resolution Mapping of Intertidal Rock Platforms** 5036

Mitch Bryson, The University of Sydney, Australia

10:06 **Impact of The Atatürk Dam Lake on Agro-Meteorological Aspects of the Southeastern Anatolia Region Using Remote Sensing and GIS Analysis** 5037

Orkan Ozcan, Istanbul Technical University, Turkey

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11:00-12:30 MCEC208

CATCON-2: User Evaluations

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11:00-12:30 MCEC218

ICWG I/V: Unmanned Systems for Mapping

Chair: Armin Gruen, ETH Zurich, Switzerland

11:00 **Evaluation of the Navigational Performance of Micro UAVs for Swarm Applications** 5038

Dietmar J Backes, University College London, United Kingdom

11:22 **Determination of Exterior Orientation Parameters through Direct Geo-referencing in a Real time Aerial Monitoring System** 5039

Hojun Kim, The University of Seoul, Korea

11:44 **Land Survey from Unmanned Aerial Vehicle** 5040

Vid Peterman, Modri Planet, Slovenia

12:06 **Introducing a Low-cost Mini-UAV for Thermal- and Multispectral-Imaging** 5041

Juliane V Bendig, University of Cologne, Germany

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11:00-12:30 MCEC220

II/6: Geo-Visualization and Virtual Reality-3

Chair: Arzu Coltekin, University of Zurich, Switzerland

11:00 **Visualization and Analysis of Light Pollution: A Case Study in Hong Kong** 5042

B Wu, The Hong Kong Polytechnic University, Hong Kong

11:22 **An Interactive Tool for Analysis and Optimization of Texture Parameters in Photorealistic Virtual 3D Models** 5043

Aleksandra Anna Sima, Centre for Integrated Petroleum Research, Norway

11:44 **A Cache Design Method for Spatial Information Visualization in 3D Real-time Rendering Engine** 5044

Hanjiang Xiong, Wuhan University, China

12:06 **Experimental Evaluation of LiDAR Data Visualization Schemes** 5045

Bharat Lohani, IIT Kanpur, India

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Thursday, 30 August 2012

11:00-12:30   MCEC219
III/4: Building Outlining
Chair: Franz Rottensteiner, Leibniz University Hannover, Germany

11:00   **Building Edge Detection Using Small-footprint Airborne Full-waveform Lidar Data** 5046
Clement Mallet, IGN, France

11:30   **Automatic Building Outlining from Multi-view Oblique Images** 5047
Jing Xiao, University of Twente - ITC, The Netherlands

12:00   **An Automated Method for 3D Roof Outline Generation and Regularization in Airborne Laser Scanner Data** 5048
Sanka Nirodha Perera, Technische Universität Dresden, Germany

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11:00-12:30   MCEC213
IV/6: Global DEM Interoperability-1
Chair: Jan-Peter Muller, University College London, United Kingdom

11:00   **Extracting Precise and Affordable DEMs Despite of Clouds. Ajax: The Joining of Radar and Optical Strengths** 5049
Marc Bernard, Astrium Services GEO Information, France

11:22   **Global DEM Resolution and Accuracy Enhancements** 5050
Robert E Crippen, NASA Jet Propulsion Laboratory, United States

11:44   **DEM Registration based on Mutual Information** 5051
Mehdi Ravanbakhsh, The University of Melbourne, Australia
Clive Fraser, The University of Melbourne, Australia

12:06   **Validation Study on ALOS PRISM DSM Mosaic and ASTER GDEM 2** 5052
Takeo Tadono, Japan Aerospace Exploration Agency, Japan

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11:00-12:30   MCEC216
ICWG IV/VIII: Updating and Maintenance of Core Spatial Databases-1
Chairs: Ammatzia Peled, University of Haifa, Israel and Zhao Renliang, National Geomatics Center of China

11:00   **Maintenance of Core Geospatial Databases in India: Search for an Appropriate Legal and Policy Framework** 5053
Pramod K Singh, Institute of Rural Management Anand, India

11:22   **Upgrading to PostGIS 2.0 in the Brazilian Federal Police forensics GIS** 5054
Daniel A Miranda, Brazilian Federal Police, Brazil

11:44   **Conflation of National Bridge Inventory Database with TIGER-Based Road Vectors** 5055
Bryan Mercer, University of Calgary, Canada

12:06   **Towards Automated GIS Feature Verification for Terrestrial Mobile Mapping Systems** 5056
Cheng Wang, Xiamen University, China

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11:00-12:30   MCEC212
V/5: Sensor Calibration-2
Chair: Martin J Smith, The University of Nottingham, United Kingdom

11:00   **Accuracy Aspects of Utilizing RAW Imagery in Photogrammetric Measurement** 5057
Christos Stamatopoulos, The University of Melbourne, Australia

11:22   **Geometric Properties of a Mechanical Forward Motion Compensation System Controlled by a Piezoelectric Drive** 5058
Julien Losseau, Optech Incorporated, Belgium

11:44   **Study on Shadow Effects of Various Features on Close Range Thermal Images** 5059
Chia-Ling Liao, National Chengchi University, Taipei, Taiwan

12:06   **New Airborne Sensors and Platforms for Solving Specific Tasks in Remote Sensing** 5060
Gerhard Kemper, GGS GmbH, Germany

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11:00-12:30   MCEC217

VI/4: Cross-Border Education - Joint Educational Programs
Chair: P S Roy, Indian Institute of Remote Sensing, India

11:00   **The African Geospatial Sciences Institute (AGSI) - A New Approach to Geospatial Training in North Africa** 5061
Stefan Oeldenberger, German GeoConsultants Group, Tunisia

11:30   **Satellite Based Education and Training in Remote Sensing and Geo-Information: An E-Learning Approach to Meet the Growing Demands in India** 5062
Penumetcha Lakshmi Narasa Raju, Indian Institute of Remote Sensing, India

11:50   **The Status of Geospatial Information Capacity in Africa and the Way Forward** 5063
Olajide Kufoniyi, Obafemi Awolowo University, Nigeria

12:10   **Transfer of Technology for Cadstral Mapping in Tajikistan using High Resolution Satellite Data** 5064
Romuald Kaczynski, Military University of Technology, Poland

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11:00-12:30   MCEC211

VII/5: Methods for Change Detection and Process Modelling-3
Chair: Jean-Francois Cretaux

11:00   **Determining Cropping Patterns and Intensities through the use of Multi-temp MODIS Imagery for the Murray-Darling Basin, Queensland Australia** 5065
Andries B Potgieter, The University of Queensland, Australia

11:22   **Multi-temp SAR Change Detection and Monitoring** 5066
Ferdaous Chaabane, Ecole Supérieure des Communications de Tunis, Tunisia

11:44   **Multitemp Spaceborne SAR Data for Urban Change Detection: A Case Study in Beijing** 5067
Yifang Ban, Royal Institute of Technology , Sweden

12:06   **Determining Landsat's Potential as a Rapid Response Compliance Tool** 5068
Jeremy R Anderson, Queensland Department of Environment and Resource Management, Australia

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11:00-12:30   MCEC210

VIII/7: Forest Change Detection
Chair: Noam Levin, The Hebrew University of Jerusalem, Israel

11:00   **Wildfire Regime in Israel in the 2000s – A National Analysis using Satellite Images** 5069
Noam Levin, The Hebrew University of Jerusalem, Israel

11:22   **Application of Spatial Modeling Approaches, Sampling Strategies and 3S Technology within an Ecological Framework** 5070
Hou-Chang Chen, Chung-Hsing University, Taiwan

11:44   **Species-specific Forest Variable Estimation using Non-parametric Modeling of Multi-spectral Photogrammetric Point Cloud Data** 5071
Jonas Bohlin, Swedish University of Agricultural Sciences, Sweden

12:06   **Impact of Climate Variability on Forest Fire Vulnerability in Chhattisgarh India** 5072
Bijan Debnath, National Remote Sensing Centre, India

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11:00-12:30   MCEC209

VIII/8: Drought, Moisture and Stress Detection
Chairs: Laurie Chisholm, University of Wollongong, Australia and Alfredo Huete, University of Technology Sydney, Australia

11:00   **Gullies, Google Earth and the Great Barrier Reef: A Remote Sensing Methodology for Mapping Gullies over Extensive Areas** 5073
Uri Gilad, Queensland Department of Environment and Resource Management, Australia

11:22   **Improvement of Thermal Estimation at Land Cover Boundary by Using Quantile** 5074
Tsukasa Hosomura, Tokyo Denki University, Japan

11:44   **Sediment Yield Estimation and Prioritization of Watershed using Remote Sensing and GIS** 5075
Sreenivasulu Vemu, Jawaharlal Nehru Technical University, India

12:06   **Remote Sensing Techniques as a Tool for Environmental Monitoring** 5076
Kamil Faisal, Ryerson University, Canada

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Thursday, 30 August 2012

14:00-15:30   MEC5.2.01-04

Esri Workshop - Easily Manage and Make Large Collections of Imagery and Remote Sensing Data Accessible

14:00   **Easily Manage and Make Large Collections of Imagery and Remote Sensing Data Accessible** 5077

Peter Becker, Environment Systems Research Institute, United States

Mark Romero, Environment Systems Research Institute, United States

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14:00-15:30   MCEC219

Short+Interactive

III/2: 3D Point Cloud Processing

Chair: George Vosselman, ITC, The Netherlands

14:00   **Eigenvalues Analysis for Range Image Segmentation** 5078

Jorge AS Centeno, Federal University of Paraná, Brazil

14:03   **Reconstruction of Building Outlines in Dense Urban Areas based on LiDAR Data and Address Points** 5079

Malgorzata Jarzabek-Rychard, Wroclaw University of Environmental and Life Sciences, Poland

14:06   **Hierarchical Algorithm in DTM Generation and Automatic Extraction of Road from LiDAR Data** 5080

Hui-ying Li, Jilin University, China

14:09   **3D Modeling of Architectural Elements with a Complex Structure using the Convex-hull Method** 5081

Przemyslaw Tymkow, Wroclaw University of Environmental and Life Sciences, Poland

14:12   **Classification of Mobile Laser Scanning Data with Fast Point Feature Histograms** 5082

Tingting Cui, Wuhan University, China

14:15   **A Recognition Method for Airplane Targets Using 3D Point Clouds Data** 5083

Mei Zhou, Chinese Academy of Sciences, China

14:18   **Terrestrial Laser Scanning Data Classification Using Expectation Maximization Algorithm** 5084

Chao Luo, York University, Canada

14:21   **A Novel Approach for Segmentation of Airborne Laser Scanning Point Cloud Located on Roof Structure** 5085

Hongchao Fan, The University of Heidelberg, Germany

14:24   **Knowledge-based Object Detection in Laser Scanning Point Clouds** 5086

Frank Boochs, University of Applied Sciences Mainz, Germany

14:27   **Evaluation Model for Pavement Surface Distress on 3D Point Clouds from Mobile Mapping System** 5087

Kazuya Aoki, PASCO Corporation, Japan

14:30   **A Least Squares Collocation based Elevation Error Correction Method for Laser-point Cloud** 5088

Liang Zhang, Wuhan University, China

14:33   **Progressive Densification and Region Growing Methods for LiDAR Data Classification** 5089

Jose Luis Pérez-García, Universidad de Jaén, Spain

14:36   **Quality Monitoring of Large-Scale Steel Buildings Using Terrestrial LIDAR Technology** 5090

Yanmin Wang, Beijing University of Civil Engineering and Architecture, China

14:39   **Combined Geometric/Radiometric Point Cloud Matching for Shear Analysis** 5091

Stephan Gehrke, North West Geomatics, Canada

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14:00-15:30   MCEC216

Short+Interactive

III/5: Image Sequence Analysis; TCs III and V: Medical Imaging and Human Motion

Chair: Uwe Stilla, Technische Universitaet Muenchen, Germany

14:00   **Location Determination in Urban Environment from Image Sequences** 5092

Qingming Zhan, Wuhan University, China

14:03   **Quality Analysis of Vehicle-based Sequence Images Relative Orientation based on Computer Vision** 5093

Zhenliang Xu, Wuhan University, China

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14:06   Multiple Human Tracking in Complex Situation by Data Assimilation with Pedestrian Behavior Model 5094
Wataru Nakanishi, The University of Tokyo, Japan

14:09   Co-registration between Multisource Remote-sensing Images 5095
Joz Wu, National Central University, Taiwan

14:12   Mapping Major Cropping Patterns in Southeast Asia from MODIS Data using Wavelet Transform and Artificial Neural Networks 5096
Nguyen-Thanh Son, National Central University, Taiwan

14:15   Retrieving Surface Soil Moisture from MODIS and AMSR-E Data: A Case Study in Taiwan 5097
Chi-Farn Chen, National Central University, Taiwan

14:18   Quality Assessment of Mapping Building Textures from Infrared Image Sequences 5098
Ludwig Hoegner, Technische Universität München, Germany

14:21   A Step Towards Dynamic Scene Analysis with Active Multi-view Range Imaging Systems 5099
Boris Jutzi, Karlsruhe Institute of Technology, Germany

14:24   An Investigation on the Use of the Independent Component Analysis (ICA) Techniques for Elimination of the Changes of the Unwanted Lighting Conditions from Video Images 5100
Sedat Dogan, Ondokuz Mayis University, Turkey

14:27   Investigating the Dynamics of Wandoo Crown Decline with Time Series Landsat Imagery 5101
Katherine Zdunic, Department of Environment and Conservation Western Australia, Australia

14:30   Photogrammetric Network for Evaluation of Human Faces for Face Reconstruction Purpose 5102
Peter Schrott, Budapest University of Technology and Economics, Hungary

14:33   3D Geometric Accuracy Analysis of CT devices 5103
Karoly Fekete, Budapest University of Technology and Economics, Hungary

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14:00-15:30   MCEC213
Short+Interactive
IV/3: Mapping from High Resolution Data
Chair: Zhanguo He, Aerophotogrammetry and Remote Sensing of China Coal

14:00   Object-oriented Information Extraction of High Resolution Imagery Based on Multi-Classifier Fuzzy Integration 5104
Yu Zeng, Chinese Academy of Surveying and Mapping, China

14:03   Characterising Upland Swamps using Object-based Classification Methods and Hyper-spatial Resolution Imagery Derived from an Unmanned Aerial Vehicle 5105
Alex M Lechner, The University of Queensland, Australia

14:06   Ultra-high Resolution Aerial Photography – Bridging the Gap between Ecology and Spatial Sciences 5106
Bertram Ostendorf, The University of Adelaide, Australia

14:09   UltraMap V3 – A Revolution in Aerial Photogrammetry 5107
Bernhard Reitinger, Microsoft, Austria

14:12   True Ortho Generation from Multi Angular World-View Imagery 5108
Masoome Shariat, University of Tehran, Iran

14:15   Impact of Terrain Slope on Vegetation Canopy Height Extraction from X-HH InSAR 5110
M Lorraine Tighe, Intermap Technologies, United States

14:18   Precise Close Range UAV Mapping in Difficult Field Conditions 5111
Jakub Mirijovsky, Palacky University in Olomouc, Czech Republic

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Thursday, 30 August 2012

14:00-15:30   MCEC212
Short+Interactive
V/3: Terrestrial Laser Scanning and 3D Imaging; V/6: Close Range Morphological Measurement for the Earth Sciences
Chair: Simon Buckley, University of Bergen, Norway

14:00   **Cylinder-based Self-calibration of a Panoramic Terrestrial Laser Scanner** 5112
Ting On Chan, University of Calgary, Canada

14:03   **A New Approach for Subway Tunnel Deformation Monitoring: High-Resolution Terrestrial Laser Scanning** 5114
Jian Li, Wuhan University, China

14:06   **Acquiring Underwater DSM Using Green-wavelength Terrestrial Laser Scanner** 5115
Pu-Hsin Hsu, National Cheng-Kung University, Taiwan
Chi-Kuei Wang, National Cheng-Kung University, Taiwan

14:09   **Integration of Photogrammetric and Laser Scanning Data Based on Selected Examples** 5116
Slawomir W Mikrut, AGH University of Science and Technology, Poland

14:12   **Photogrammetry and Laser Scanning for the Earth Sciences- Working Group V6** 5117
Rene Wackrow, Loughborough University, United Kingdom

14:15   **Kilimanjaro Ice Cliff Monitoring with Close Range Photogrammetry** 5118
Klaus Hanke, University of Innsbruck, Austria

14:18   **Dem Assessment Derived from Close Range Photogrammetry: A Case Study from Kadavur Area, Karur District, Tamil Nadu, India**5119
Anbarasan S Anbarasan, Oxford Engineering College Tiruchirappalli, India

14:21   **Close-range Photogrammetry for Deformation Measurement of Small-scale Object in Geotechnical Application by Using Consumer-grade Digital Camera** 5120
Gang Qiao, Tongji University, China

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14:00-15:30   MCEC211
Short+Interactive
VII/5: Methods for Change Detection and Process Modelling; VII/6: Remote Sensing Data Fusion
Chair: Qiming Zhou, Hong Kong Baptist University

14:00   **Object-based Changed Detection Using High-Resolution Remotely Sensed Data and GIS** 5121
Manfred Ehlers, University of Osnabrueck, Germany

14:03   **Object-oriented Change Detection using Discriminant Function** 5122
Brian R Kloer, Intergraph, United States

14:06   **A Method to Analyze Neighborhood Spatial Scale Effects in Cellular Automata Simulation of Land Use** 5123
Hao Wu, Wuhan University of Technology, China

14:09   **Environmental Changes Analysis in Bucharest City Using CORONA, SPOT HRV and IKONOS Images** 5124
Ioan I Noaje, Technical University of Civil Engineering Bucharest, Romania

14:12   **A Multi-band Remote Sensing Image Change Detection Algorithm based on the MRF** 5125
Liangpei Zhang, Wuhan University, China
Pingxiang Li, Wuhan University, China

14:15   **Forest Resources Study in Mongolia using Advanced Spatial Technologies** 5126
Damdinsuren Amarsaikhan, Mongolian Academy of Sciences, Mongolia

14:18   **Semi-automated Cloud/Shadow Removal and Land Cover Change Detection using Satellite Imagery** 5127
Nami Kubo, PASCO Corporation, Japan

14:21   **Object-level Change Detection Based on High-resolution Remote-sensing Images and Its Application in Japanese Earthquake on March 11, 2011** 5128
Kaimin Sun, Wuhan University, China

14:24   **Methods for Multitemp Analysis of Satellite Data Aimed at Environmental Risk Monotoring** 5129
Mauro Caprioli, Politecnico di Bari, Italy

14:27   Ice-sheet Mass Change Analysis in Antarctic Area based on Multiple Geodetic Measurements from 2003 to 2010 5130
Jian Zhao, Tongji University, China

14:30   Determination of Magnitude and Direction of Land Use/ Land Cover Changes in Terkos Water Basin, Istanbul 5131
Cigdem Goksel, Istanbul Technical University, Turkey

14:33   Geospatial Modelling for Urban Sprawl using IRS-1C and P-6 Signatures of Remote Sensing: A Case Study of Gurgaon City, NCR Region, India 5132
Madan Mohan, Jamia Millia Islamia (Central University), India

14:36   Texture Analysis Based Fusion Experiments Using High-Resolution SAR and Optical Imagery 5133
Shuhe Zhao, Nanjing University, China

14:39   Large Area Land Cover Classification with LANDSAT ETM+ Images Based on Decision Tree 5134
Liang Zhai, Chinese Academy of Surveying and Mapping, China

14:42   Construction of Disaster Prevention Map based on Digital Imagery 5135
Hee Cheon Yun, Chungnam National University, Korea

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14:00-15:30   MCEC210
Short+Interactive
VIII/7: Forestry; VIII/8: Land; VIII/9: Oceans; VIII/10: Cryosphere
Chair: Kohei Cho, Tokai University, Japan

14:00   Estimating Mixed Broadleaves Forest Stand Volume using DSM Extracted from Digital Aerial Images 5136
Hormoz Sohrabi, Tarbiat Modares University, Iran

14:03   Developing a 3D Waveform LiDAR Simulator for Forest 5137
Takahiro Endo, The University of Tokyo, Japan

14:06   Investigating the Capability of IRS-P6-LISS IV Satellite Image for Pistachio Forests Density Mapping (Case study: Northeast of Iran) 5138
Ali Asghar Darvishsefat, University of Tehran, Iran

14:09   A Case Study of a Forest Carbon Stock Monitoring System for REDD+ in Lao PDR 5139
Mitsuru Nasu, Asia Air Survey Co., Ltd., Japan

14:12   Extreme Airborne LiDAR - Validating Aerial Surveys Over Antarctic Pack Ice 5140
Adam D Steer, University of Tasmania, Australia

14:15   Monitoring Glacier Variations in the Southern Patagonia Icefield Utilizing Images Landsat 7 ETM+ 5141
Luís Felipe Ferreira, Universidade Federal do Rio Grande do Sul, Brazil

14:18   3D Volumetric Modeling on Trunk Volumes Using Ground-Based Lidar 5186
Shou-Tsung Wu, Shih Chien University, Taiwan

14:21   Cloud Detection based on Decision Tree Over Tibetan Plateau with MODIS Data 6124
Lina Xu, Wuhan University, China

14:24   Detecting Slums from Quick Bird Data in Pune using an Object Oriented Approach 6125
Sulochana Shekhar, Central University of Karnataka Gulbarga, India

14:27   Trajectory Analysis of Forest Changes in Northern Area of Changbai Mountains, China from Landsat TM Image 6126
Fang Huang, Northeast Normal University, China

14:30   Automated Construction of Coverage Catalogues of ASTER Satellite Image for Urban Areas of the World 6127
Hiroyuki Miyazaki, The University of Tokyo, Japan

14:33   A Glimpse into the Past: Using Historical Aerial Photography to Map Seagrass Distribution Dynamics in Port Phillip Bay, Victoria, Australia 6128
Mariela Soto-Berelov, RMIT University, Australia

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ISPRS 2012 Congress Scientific Program

Thursday, 30 August 2012

16:00-17:30   MCEC217
ISPRS and OGC: Open Geospatial Consortium Forum
Chair: Ian Dowman, University College London, UK

16:00   **A Partnership for Geospatial Information - OGC Activities Relevant to ISPRS** 5142
George S Percivall, Open Geospatial Consortium (OGC), United States

16:22   **Web Mapping Services in a Crowdsource Environment for Disaster Management: State-of-the-art and Further Development** 5143
Paolo Pasquali, ITHACA, Italy

16:44   **Assessment of the Homogeneity/Evolution of Volunteered Geographic Information in South Africa** 5144
Lindy-Anne Siebritz, National Geospatial Information, South Africa

17:06   **Photogrammetry and Remote Sensing: New German Standards (DIN) Setting Quality Requirements of Products Generated by Digital Airborne Cameras, Pan Sharpening and Classification** 5145
Ralf Reulke, Humboldt-Universität zu Berlin, Germany

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16:00-17:30   MCEC209
VII/7, III/2, V/1, V/3, ICWG V/I: Low-cost UAVs (UVSs) and Mobile Mapping Systems-1
Chair: Harri Kaartinen, Finnish Geodetic Institute, Finland

16:00   **An Accuracy Assessment of Georeferenced Point Clouds Produced Via Multi-view Stereo Techniques Applied to Imagery Acquired Via Unmanned Aerial Vehicle** 5146
Steve J Harwin, University or Tasmania, Australia

16:37   **Hyperspectral Reflectance Signatures and Point Clouds for Precision Agriculture by Light Weight UAV Imaging System** 5147
Lauri Markelin, Finnish Geodetic Institute, Finland

16:54   **Aerial Terrain Mapping Using Unmanned Aerial Vehicle Approach**
5148
Khairul Nizam Tahar, Universiti Teknologi MARA, Malaysia

17:11   **Assessing the Feasibility of UAV-based LiDAR for High Resolution Forest Change Detection** 5149
Luke O Wallace, University of Tasmania, Australia

16:00-17:30   MCEC218
I/5: Integrated Systems for Sensor Georeferencing and Navigation-1
Chair: Ismael Colomina, Institute of Geomatics, Spain

16:00   **Integrated Georeferencing of Stereo Image Sequences Captured with a Stereovision Mobile Mapping System – Approaches and Practical Results** 5150
Hannes Eugster, University of Applied Sciences Northwestern Switzerland, Switzerland

16:22   **Automated Blur Detection and Removal in Airborne Imaging Systems using IMU data** 5151
Chintan A Shah, United States

16:44   **A Lunar Astronaut Spatial and Orientation Information System** 5152
Rongxing Li, The Ohio State University, United States

17:06   **The Need and Keys for a New Generation Network Adjustment Software** 5153
Ismael Colomina, Institute of Geomatics, Spain

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16:00-17:30   MCEC220
II/7: Spatial Decision Support and Location-Based Services-1
Chair: Alireza Sharifi, Tehran University, Iran

16:00   **Evaluation of Photogrammetric Approach of Image-based Positioning** 5154
Xun Li, University of New South Wales, Australia

16:22   **Solar Radiation Estimation on Building Roofs and Web-based Solar Cadastre** 5155
Giorgio Agugiaro, FBK - Bruno Kessler Foundation, Italy

16:44   **Building Analysis for Urban Energy Planning using Key Indicators on Virtual 3D City Models - The Energy Atlas of Berlin** 5156
Andreas Krüger, Technische Universität Berlin, Germany

17:06   **Tracking Vehicles in GSM Network to Support Intelligent Transportation Systems** 5157
Zoltan Koppanyi, Budapest University of Technology and Economics, Hungary

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16:00-17:30   MCEC219

III/2: Efficient Algorithm Implementation and Data Management

Chair: George Vosselman, ITC, The Netherlands

16:00   Memory Efficient Semi-Global Matching 5158

Maximilian Buder, German Aerospace Center (DLR), Germany

16:30   The OPALS Data Manager - Efficient Data Management for Processing Airborne Laser Scanning Projects 5159

Johannes Otepka, Vienna University of Technology, Austria

17:00   Octree-Based SIMD Strategy for ICP Registration and Alignment of 3D Point Clouds 5160

Daniel Eggert, Leibniz Universitaet Hannover, Germany

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16:00-17:30   MCEC216

III/1: Image Orientation

Chair: Yongjun Zhang, Wuhan University, China

16:00   Bundle Adjustment for Multi-camera Systems with Points at Infinity 5161

Johannes Schneider, University of Bonn, Germany

16:30   Relative Pose Estimation from Airborne Image Sequences 5162

Tanja Reize, German Aerospace Center (DLR), Germany

17:00   Detection and Correction of Changes in Exterior and Interior Orientations while Estimating 3-D Object Deformations from Multiple Images with Weak or Strong Imaging Geometry 5163

Henrik Haggrén, Aalto University, Finland

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16:00-17:30   MCEC213

IV/6: Global DEM Interoperability-2

Chair: Takeo Tadono, JAXA Earth Observation Research Center, Japan

16:00   Data Acquisition Strategies for ASTER Global DEM Generation 5164

Minoru Urai, Geological Survey of Japan, Japan

16:22   Summary of the Validation of the Second Version of the ASTER GDEM 5165

David Meyer, U.S. Geological Survey, United States

16:44   Removal of Tree Offsets from SRTM and Other Digital Surface Models 5166

Arthur M Read, CSIRO Land and Water, Australia

17:06   The Use of Existing Global Elevation Dataset for Absolute Orientation of High Resolution Image without GCPs 5167

Jaehoon Jeong, Inha University, Korea

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16:00-17:30   MCEC212

V/6: Close Range Morphological Measurement for the Earth Sciences

Chair: Jim H Chandler, Loughborough University, United Kingdom

16:00   Multidimensional Roughness Characterization for Microwave Remote Sensing Applications using a Simple Photogrammetric Acquisition System 5168

Philip Marzahn, Ludwig-Maximilians-University of Munich, Germany

16:17   Studying Glacial Melt Processes using Sub-centimeter DEM Extraction and Digital Close-range Photogrammetry 5169

Jim H Chandler, Loughborough University, United Kingdom

16:34   Laboratory Flume Experiment with a Coded Structured Light System 5170

Devrim Akca, Isik University, Turkey

16:51   In Situ Measurement of Bedrock Erosion 5171

Dirk H Rieke-Zapp, University of Bern, Switzerland

17:08   Close Range Hyperspectral Imaging Integrated with Terrestrial Lidar Scanning Applied to Rock Characterisation at Centimetre Scale 5172

Tobias H Kurz, University of Bergen, Norway

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Thursday, 30 August 2012

16:00-17:30   MCEC211

VII/5: Methods for Change Detection and Process Modelling-4
Chair: Jean-Francois Crétaux, Laboratoire d´Etudes en Géophysique et Océanographie Spatiales, France

16:00   **CEST Analysis: Automated Change Detection from Very-High-Resolution Remote Sensing Images** 5173
Manfred Ehlers, University of Osnabrueck, Germany
Ulrich Michel, University of Education Heidelberg, Germany

16:22   **Kernel-Composition for Change Detection in Medium Resolution Remote Sensing Data** 5174
Uwe Weidner, Karlsruhe Institute of Technology, Germany

16:44   **Absolute Relative Spectral Mixture Analysis: A New Remote Sensing Tool for Quantifying Changes in Fractional Ground Cover** 5175
Ken D Clarke, University of Adelaide, Australia

17:06   **A Shape Similarity Based Change Detection Approach of Multi-resolution Remote Sensing Images** 5176
Penglin Zhang, Wuhan University, China

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16:00-17:30   MCEC210

VIII/7: Classification and Lidar
Chair: William L Woodgate, RMIT University, Australia

16:00   **A Proposed New Vegetation Index, the Total Ratio Vegetation Index (TRVI), for Arid and Semi-arid Regions** 5177
Hadi Fadaei, Japan Agency for Marine-Earth Science and Technology, Japan

16:17   **Change Analysis of the Spectral Characteristics of Rubber Trees at Canopy and Leaf Scales during the Brazilian Autumn** 5178
Cibele Hummel do Amaral, University of São Paulo, Brazil

16:34   **Time-series Analysis of Coastal Erosion in the Sundarbans Mangrove**5179
Mahmudur Rahman, Bangladesh Space Research and Remote Sensing Organization, Bangladesh

16:51   **A Comparison of Different Point Density for Detecting tree position of a Subtropical Forest from Airborne Lidar Data** 5180
Chung-Cheng Lee, National Cheng Kung University, Taiwan
Chi-Kuei Wang, National Cheng Kung University, Taiwan

17:08   **An Intercomparison of Passive Terrestrial Remote Sensing Technologies to Derive LAI and Canopy Cover Metrics** 5181
William L Woodgate, RMIT University, Australia

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16:00-17:30   MCEC208
VIII/9: Ocean Temperature, Salinity and Carbon
Chairs: Samantha Lavender, RSPSoc, United Kingdom and Timothy Liu, Jet Propulsion Laboratory, United States

16:00   **Using Satellite Sea Surface Temperature Data to Measure Diurnal Warming in the Tropical Warm Pool Region** 5182
Helen M Beggs, Bureau of Meteorology, Australia

16:22   **Satellite Sea Surface Temperature Products for the Australian Region from IMOS** 5183
Leon Majewski, Bureau of Meteorology, Australia

16:44   **Spacebased Observation of Ocean-atmosphere Carbon Dioxide Exchange** 5184
W Timothy Liu, Jet Propulsion Laboratory, United States

17:06   **SAC-D Aquarius a Satellite for Ocean, Climate and Environment. One Year of Data** 5185
Sandra Torrusio, CONAE (Argentine Space Agency), Argentina

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Notes

Friday, 31 August 2012

Time	Location	Session Code	Friday August 31
9:00-10:30	Plenary 2		Plenary 3
11:00-12:30	Plenary 2	TS719	VII/4: Methods for Land Cover Classification-6
	208	SS917	NASMG and WG II/1: ZY-3 Satellite Data Processing and Application
	209	TS831	VIII/9: Ecology
	210	TS823	VIII/7: Biomass
	211	TS725	VII/5: Methods for Change Detection and Process Modelling-5
	212	ThS514	V/6, IV/8: Morphological Change Detection
	213	TS416	IV/6: Global DEM Interoperability-3
	216	TS423	ICWG IV/VIII: Updating and Maintenance of Core Spatial Databases-2
	217	ThS325	WGs from TCs III and I: Pléïades System Applications
	218	ThS735	VII/7, III/2, V/3: Waveform Lidar for Remote Sensing
	219	TS315	III/2: Object Detection in 3D Point Clouds
	220	TS216	II/7: Spatial Decision Support and Location-Based Services-2
2:00-3:30	Plenary 2		GA IV
	211	PS705	VII/6: Remote Sensing Data Fusion; VII/7, III/2, V/1, V/3, ICWG V/I:Low-cost UAVs (UVSs) and mobile mapping systems; VII/7, III/2, V/3: Waveform lidar for remote sensing; VII/7: Theory and Experiments in Radar and Lidar
	212	PS503	V/5: Image Sensor Technology; ICWG V/I: Land-Based Mobile Mapping Systems
	213	PS405	IV/5: Distributed and Web-Based Geoinformation Services and Applications; IV/6: Global DEM Interoperability
	218	PS104	I/5: Integrated Systems for Sensor Georeferencing and Navigation; ICWG I/V: Unmanned Vehicle Systems (UVS) for Mapping and Monitoring Applications
	219	PS305	III/2: 3D Point Cloud Processing; III/3: Image Analysis for Indexation and Image Retrieval
	220	PS203	II/4: Uncertainty Modeling and Quality Control for Spatial Data; II/6: Geo-Visualization and Virtual Reality; II/7: Spatial Decision Support and Location-Based Services
	5.2.01-2	VS105	ESRI Vendor Session 3
	5.2.03-4	VS105	Working with Lidar in a GIS Environment
4:00-5:30	Plenary 2		GA IV
	208	TS832	VIII/10: Cryosphere: Sea Ice
	209	TS732	VII/7: Theory and Experiments in Radar and Lidar-2
	210	TS827	VIII/8: Land Cover Dynamics
	211	TS726	VII/5: Methods for Change Detection and Process Modelling-6
	212	TS515	ICWG V/I: Land-Based Mobile Mapping Systems-1
	213	TS417	IV/7: Planetary Mapping and Databases - Moon
	216	TS318	III/1: Registration-2
	217	SS912	ISPRS and IAA: Pléïades Inflight Calibration and Performance Assessment
	218	TS114	I/5: Integrated Systems for Sensor Georeferencing and Navigation-2
	219	TS317	III/2: Registration-1
	220	ThS734	VII/7, III/2, V/1, V/3, ICWG V/I: Low-cost UAVs (UVSs) and Mobile Mapping Systems-2
	5.2.01-2	TS217	ICWG II/IV: Semantic Interoperability
	5.2.03-4	ThS426	IV/5,4,1,8, II/6, VI/1,2: Web-based Virtual and Shared Geospatial Environments

09:00-10:30   MCEC Plenary 2

Plenary 3

Co-Chair: Cliff Ogleby, University of Melbourne, Australia
Mike Renslow, Renslow Mapping Services, USA

09:00   **Earth Observation for Early Warning Systems** 6001
Ranganath R Navalgund, Indian Space Research Organization, India

09:30   **Developments in Photogrammetry**
Stewart Walker, BAE System, United States

10:00   **Developments in Computer Vision**
Konrad Schindler, ETH Zurich, Institute of Geodesy and Photogrammetry, Switzerland

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11:00-12:30   MCEC208

NASMG and WG II/1: ZY-3 Satellite Data Processing and Application

Chair: Wolfgang Kainz, University of Vienna, Austria

11:00   **An Introduction of ZY-3 Satellite** 6004
Xinming Tang, State Bureau of Surveying and Mapping, China

11:25   **Calibration and Data Processing of ZY-3 Satellite** 6005
Guo Zhang, Wuhan University, China

11:42   **Exploring the Environmental Monitoring Potentials of ZY-3 Satellite** 6006
Xiaoliang Wu, CSIRO, Australia

11:59   **An Introduction of ZY-3 Satellite Data Products and Distribution Service** 6007
Guoyuan Li, Satellite Surveying and Mapping Application Center of National Administration of Surveying, Mapping and Geoinformation, China

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11:00-12:30   MCEC217

WGs from TCs III and I: Pléïades System Applications

Chair: Nicolas Paparoditis, IGN, France

11:00   **3D Capabilities of Pleiades Satellite** 6008
Marc Bernard, Astrium Services GEO Information, France

11:22   **ORFEO, the PLEIADES Accompaniment Program and its In-flight Thematic Commissioning** 6009
Alain Giros, CNES, France

11:44   **Pléiades: Responsiveness, Flexibility, Reactivity** 6010
Robert Lees, Astrium Geoinformation Services, Australia

12:06   **Automatic Cloud Detection from Multi-temp Satellite Images: Towards the use of Pléiades Time Series** 6011
Nicolas Champion, IGN-F, France

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11:00-12:30   MCEC212

V/6, IV/8: Morphological Change Detection

Chair: Dirk Rieke-Zapp, Universität Berne, Switzerland

11:00   **Pilot Studies with a Photogrammetric Glacier Lake Outburst Flood Early Warning System** 6012
Hans-Gerd Maas, Technische Universität Dresden, Germany

11:22   **Geospatial Data Integration for Assessing Landslide Hazard on Engineered Slopes** 6013
Pauline E Miller, Newcastle University, United Kingdom

11:44   **Terrestrial Laser Scanning for Coastal Geomorphologic Research in Western Greece** 6014
Dirk Hoffmeister, University of Cologne, Germany

12:06   **Detection and Quantification of Rock Glacier Creep using Image Data of Virtual Globes** 6015
Viktor Kaufmann, Graz University of Technology, Austria

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Friday, 31 August 2012

11:00-12:30   MCEC218
VII/7, III/2, V/3: Waveform Lidar for Remote Sensing
Chair: Wolfgang Wagner, Vienna University of Technology, Austria

11:00   **Full Waveform LiDAR Exploitation Technique and its Evaluation in the Mixed Forest Hilly Region**6016
Subas Chhatkuli, PASCO Corporartion, Japan

11:22   **Identifying Standing Dead Trees in Forest Areas Based on 3D Single Tree Detection from Full Waveform LIDAR Data**
6017
Wei Yao, Munich University of Applied Sciences, Germany

11:44   **Comparison of Discrete Return and Waveform Terrestrial Laser Scanning for Dense Vegetation Filtering**
6018
Alberto Guarnieri, University of Padova, Italy

12:06   **Exploring Weak and Overlapped Returns of a LiDAR Waveform with a Wavelet-based Echo Detector**
6019
Cheng-Kai Wang, National Cheng-Kung University, Taiwan

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11:00-12:30   MCEC220
II/7: Spatial Decision Support and Location-Based Services-2
Chair: Shattri Mansor, Universiti Putra Malaysia, Malaysia

11:00   **Optimization of Land use Suitability for Agriculture using Integrated Geospatial Model and Genetic Algorithms** 6020
Shattri B Mansor, Universiti Putra Malaysia, Malaysia

11:22   **A New Model for Emergency Evacuation under the Disaster Condition** 6021
Luliang Tang, Wuhan University, China

11:44   **Modelling Vague Knowledge for Decision Support in Planning Archaeological Prospections** 6022
Hartmut Mueller, Mainz University of Applied Sciences, Germany

12:06   **Multi-Criteria Path Finding** 6023
Ehsan Mohammadi, University of Calgary, Canada

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11:00-12:30   MCEC219
III/2: Object Detection in 3D Point Clouds
Chair: Qingming Zhan, Wuhan University, China

11:00   **Implicit Shape Models for Object Detection in 3D Point Clouds** 6024
Alexander Velizhev, 1) Lomonosov Moscow State University 2) Moscow State University of Geodesy and Cartography, Russia

11:30   **A Marked Point Process Model for Vehicle Detection in Aerial LIDAR Point Clouds** 6025
Csaba Benedek, MTA SZTAKI, Hungary

12:00   **Reconstruction of Rectangular Windows in Multi-looking Oblique View ALS Data** 6026
Sebastian Tuttas, Technische Universität München, Germany

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11:00-12:30   MCEC213
IV/6: Global DEM Interoperability-3
Chair: Dean Gesch, U.S. Geological Survey, United States

11:00   **Validation of the ASTER Global Digital Elevation Model Version 2 over the Conterminous United States**
6027
Dean Gesch, U.S. Geological Survey, United States

11:22   **Evaluation of ASTER GDEM v. 2 using GPS Checkpoints, OSGB DEM Values and Photogammetrically Derived DEMs** 6029
Jane Drummond, University of Glasgow, United Kingdom

11:44   **Evaluation of ASTER GDEM ver2 Using GPS Benchmarks and SRTM ver4.1 in China** 6030
Jan-Peter Muller, University College London, United Kingdom
Jane Drummond, University of Glasgow, United Kingdom

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11:00-12:30   MCEC216

ICWG IV/VIII: Updating and Maintenance of Core Spatial Databases-2

Chairs: Costas Armenakis, York University, Canada and Ammatzia Peled, University of Haifa, Israel

11:00   **Understanding the Past, Managing the Future** 6031

Orhan Altan, Istanbul Technical University, Turkey

11:37   **An Updating Production Line System for National Topographical Database at 1:50k of China based on Digital Map Generalization** 6032

Renliang Zhao, National Geomatics Center of China, China

11:54   **Object-Based Building Extraction from High Resolution Satellite Imagery** 6033

Reza Attarzadeh, Islamic Azad University, Iran

12:11   **An Iterative Terrain Recovery Approach to Automated DTM Generation from Airborne LiDAR Point Clouds** 6034

Ming Cheng, Xiamen University, China

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11:00-12:30   MCEC Plenary 2

VII/4: Methods for Land Cover Classification-6
Chair: Peijun Li, Peking University, China

11:00   **Improving Markov Random Field based Super Resolution Mapping Through FUZZY Parameter Integration** 6035

Duminda R Welikanna, Kyoto University, Japan

11:22   **Empirical Distribution Analysis (EDA)- based Object Classification** 6036

Brian R Kloer, Intergraph, United States

11:44   **A New Integrated Pixel- and Object Based Techniques for Efficient Urban Classification using WorldView-2 Data** 6037

Ahmed S Elsharkawy, University of Calgary, Canada

12:06   **Hierarchical Classification of Polarimetric SAR Image Based on Statistical Region Merging** 6038

Fengkai Lang, Wuhan University, China

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11:00-12:30   MCEC211

VII/5: Methods for Change Detection and Process Modelling-5

Chair: Jean-Francois Crétaux, Laboratoire d´Etudes en Géophysique et Océanographie Spatiales, France

11:00   **Detection and Quantification of Morphological Changes using Multi-resolution Terrestrial Laser Scans** 6039

Reuma Arav, Technion - Israel Institute of Technology, Israel

11:22   **Super-pixel Unsupervised Change Detection using Multi-dimensional Change Vector Analysis and SVM-based Classification** 6040

Zhaocong Wu, Wuhan University, China

11:44   **Accuracy Improvement of Change Detection Based on Color Analysis** 6041

Jing Wang, NEC System Technologies, Ltd., Japan

12:06   **A Semiautomatic Anomalous Change Detection Method for Monitoring Aims** 6042

Giuseppe Artese, University of Calabria, Italy

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11:00-12:30   MCEC210

VIII/7: Biomass
Chair: Mitsunori Yoshimura, PASCO Corporation, Japan

11:00   **Development of Photogrammetry System for Grasping Forest Resources Information** 6043

Yoichi Uramoto, PASCO Corporation, Japan

11:22   **Forest Resource Management System by Standing Tree Volume Estimation using Aerial Stereo Photos** 6044

Hirokazu Koizumi, NEC System Technologies, Ltd., Japan

11:44   **Crown Delineation Influence on Standing Volume Calculations in Protected Area** 6045

Krzysztof Jan Sterenczak, Warsaw University of Life Sciences, Poland

12:06   **Fusion of LiDAR Data with High Resolution Optical Image for Biomass and Carbon Estimation in Bois Noir Forests in the French Alps** 6046

Yousif Ali Hussin, University of Twente - ITC, The Netherlands

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Friday, 31 August 2012

11:00-12:30   MCEC209
VIII/9: Ecology
Chairs: Samantha Lavender, RSPSoc, UK and Joji Ishizaka, University of Nagasaki, Japan

11:00   **The use of MODIS Data to Define Natural Boundaries and Regions in the Marine Water Column** 6047
Joseph H Leach, University of Melbourne, Australia

11:17   **Satellite Ocean Color in Yangtze Estuarine and Coastal Waters** 6048
Yunxuan Zhou, East China Normal University, China

11:34   **Extraction of Benthic Cover Information From Video Tows and Photographs Using Object-based Image Analysis** 6049
Mari Trix L Estomata, University of Philippines Diliman, Philippines
Ariel Blanco, University of Philippines Diliman, Philippines

11:51   **Fluorescent Analysis of Photosynthetic Microbes and Polycyclic Aromatic Hydrocarbons Linked to Optical Remote Sensing** 6050
Daoxi Zhang, Univerisity College London, United Kingdom

12:08   **Improved Capability for Marine Oil Spill Detection using New Generation of SAR Imaging Satellites** 6051
Jonathan Li, University of Waterloo, Canada

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14:00-15:30   MEC5.2.01-04
Esri Presentation - Working with Lidar in a GIS Environment

14:00   **Working with Lidar in a GIS Environment** 6052
Lindsay Weitz, ESRI, United States
Melanie Harlow, ESRI, United States

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14:00-15:30   MCEC218
Short+Interactive
I/5: Integrated Systems for Sensor Georeferencing and Navigation; ICWG I/V: Unmanned Vehicle Systems (UVS) for Mapping and Monitoring Applications
Chair: Ismael Colomina, Institute of Geomatics, Spain

14:00   **An Autonomous Star Identification Algorithm Based on the Directed Circularity pattern** 6053
Junfeng Xie, State Bureau of Surveying and Mapping, China

14:03   **Misalignment Calibration of Ultracam D and XP** 6054
Shirin Malihi, NCC, Iran

14:06   **A Route Backtracking Method Based on Video and Road Network** 6055
Tao Hu, Wuhan University of China

14:09   **Preliminary Estimation on Pointing Accuracy of Japanese Quasi-Zenith Satellite-1 (Michibiki) L1-SAIF** 6056
Mitsuharu Tokunaga, Kanazawa Institute of Technology, Japan

14:12   **Application of Mobile Lidar Mapping for Damage Survey after Great East Japan Earthquake** 6057
Megumi Koizumi, Asia Air Survey Co., Ltd, Japan
Emiko Ariyasu, Asia Air Survey Co., Ltd, Japan

14:15   **Study on Construction of 3D Building Based on UAV Images** 6058
Feifei Xie, Wuhan University; Chinese Academy of Surveying and Mapping, China

14:18   **Application of UAV System for Low Altitude Photogrammetry in Shanxi** 6059
Zongjian Lin, Chinese Academy of Surveying and Mapping, China

14:21   **Sensor Correction and Radiometric Calibration of a 6-Band Multispectral Imaging Sensor for UAV Remote Sensing** 6060
Joshua M Kelcey, University of Tasmania, Australia

14:24   **UAVRS Application in Linear Engineering** 6061
Jinkuan Yin, National Engineering Research Center of Surverying and Mapping, China

14:27 **Visual UAV Trajectory Plan System based on Network Map** 6062

Zongjian Lin, Chinese Academy of Surveying and Mapping, China

Guozhong Su, Chinese Academy of Surveying and Mapping, China

14:30 **Method for Stereo Mapping Based on ObjectARX and Pipeline Technology** 6063

Fengzhu Liu, Shandong University of Science and Technology, China

14:33 **1:500 Aerial Triangulation Accuracy Test for Unmanned Airship** 6064

Ying Yang, Chinese Academy of Surveying and Mapping, China

14:36 **Relative Orientation in Low Altitude Photogrammetry Survey** 6065

Jin Wang, Wuhan University, China

14:39 **The Features of the Geodetic Reference of the Satellite Images**6066

Magsad Huseyn Gojamanov, Baku State University, Azerbaijan

14:42 **3D Building Modeling based on Low Altitude Mapping System** 6067

Yuan Zhou, Chinese Academy of Surveying and Mapping, China

14:45 **Today and Future of Mobile Mapping via Low-cost UAV Systems** 6068

Mehmet Zeki Coskun, Istanbul Technical University, Turkey

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14:00-15:30   MCEC220

Short+Interactive
II/4: Uncertainty Modeling and Quality Control for Spatial Data; II/6: Geo-Visualization and Virtual Reality; II/7: Spatial Decision Support and Location-Based Services
Chair: Bo Wu, The Hong Kong Polytechnic University, Hong Kong

14:00 **Designing a Spatial Model of Residential Energy Consumption to Assess Urban Environment Sustainability** 6069

Maryam Saydi, The University of Melbourne, Australia

14:03 **Trusting Geospatial Data and Modeling: A Recent Progress** 6070

Xiaohua Tong, Tongji University, China

14:06 **3D Visualization System for Cadastres** 6071

Davood Shojaei, The University of Melbourne, Australia

14:09 **Information Systems for Architecture: An Application for Prisons of the Inquisition in Palermo, Italy** 6072

Andrea Scianna, Institute for Data Processing and High Performance Networks, Italy

14:12 **Controlling Virtual Clouds and Making it Rain Particle Systems in Real Spaces using Situated Augmented Simulation and Portable Virtual Environments**6073

Nick Hedley, Simon Fraser University, Canada

14:15 **Using Situated Citizen Sampling, Augmented Geographic Spaces and Geospatial Game Design to Improve Resilience in Real Communities at Risk from Tsunami Hazards** 6074

Nick Hedley, Simon Fraser University, Canada

14:18 **Land Transactions in Peri-Urban Ghana – A Dynamic Approach in a GIS Environment: A Case Study of Juaben Ekyiniso** 6075

Agnes Addai, Building and Road Research Institute, Ghana

14:21 **Spatial Comparison Between Densely Built-up Districts from the Viewpoint of Vulnerability to Road Blockades with Respect to Evacuation Behaviour** 6076

Kiichiro Kumagai, Setsunan University, Japan

14:24 **The Evaluation of Potential Slope Failure of Forest Roads Using Artificial Neural Network and GIS** 6077

Zahra Azizi, Tarbiat Modares University, Iran

14:27 **A GIS Based Multi-criteria Evaluation System for Selection of Landfill Sites: A Case Study frin Abu Dhabi, United Arab Emirates** 6078

Salem Mohammad Issa, United Arab Emirates University, United Arab Emirates

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Friday, 31 August 2012

14:00-15:30   MCEC219
Short+Interactive
III/2: 3D Point Cloud Processing; III/3: Image Analysis for Indexation and Image Retrieval
Chair: Qingming Zhan, Wuhan University, China

14:00   **Min-cut based Segmentation of Airborne LiDAR Point Clouds** 6079
Serkan Ural, Purdue University, United States

14:03   **Planar Projection of Mobile Laser Scanning Data in Tunnels** 6080
Jose A Gonçalves, University of Porto, Portugal

14:06   **Research on the Three Angular Resolution of Terretrial Laser Scanning** 6081
Ronghua Yang, Chongqing University, China

14:09   **A Comparison of Two Different Approaches of Point Cloud Classification Based on Full-waveform LiDAR Data** 6082
Jinhu Wang, Academy of Opto-Electronics, China

14:12   **Multi Times Image Fusion based on Wavelet Theory** 6083
Mahmoud Reza Delavar, University of Tehran, Iran

14:15   **Study on the Necessity of Introduction NIR into Ground Close-range Building RGB Images for Automatic Removal and Repair Vegetation Occlusion** 6084
Yawen Liu, Wuhan University, China

14:18   **Indexing of Satellite Images of Different Spatial Resolutions using Multi Features** 6085
Bin Luo, Wuhan University, China

14:21   **Image Fusion Applied to Satellite Imagery for the Improved Mapping and Monitoring of C Reefs: A Proposal** 6086
Mahdi M Gholoum, University of South Australia, Kuwait

14:24   **A Joint Pixel and Region Based Multiscale Markov Random Field for Image Classification** 6087
Tiancan Mei, Wuhan University, China

14:27   **Analysis on the Utility of Satellite Imagery for Detection of Agricultural Facility** 6088
Joon Mook Kang, Chungnam National University, Korea

14:30   **Evaluating Tasselled Cap Transform Coefficients for KOMPSAT-2 IMAGES of Korea Peninsula** 6089
Choen Kim, Kookmin University, Korea

14:00-15:30   MCEC213
Short+Interactive
IV/5: Distributed and Web-Based Geoinformation Services and Applications; IV/6: Global DEM Interoperability
Chair: Ludovico Biagi, Politecnico di Milano, Italy

14:00   **Database Organisation in a Web-enabled Free and Open-source Software (FOSS) Environment for Spatio-temp Landslide Modelling** 6090
Iswar Das, Indian Institute of Remote Sensing, India

14:03   **Using Imagery Information Easily with Online GIS** 6091
Renee Brandt, Esri, United States

14:06   **A KML-based Approach for Distributed Collaborative Interpretation of Remote Sensing Images in the Geo-browser** 6092
Liang Huang, Wuhan University, China

14:09   **Towards Thematic Web Services for Generic Data Visualization and Analysis** 6093
Teerayut Horanont, The University of Tokyo, Japan

14:12   **Automating Mapping Production for the Enterprise: From Contract to Delivery** 6094
Belai T Beshah, North West Geomatics Ltd, United States

14:15   **Online Maps and Cloud-Supported Location-Based Services Across a Manifold of Devices** 6095
Daniel Buchmueller, Microsoft Corporation, United States

14:18   **Implementation of the Distributed Parallel Program for Geoid Heights Computation using MPI and OpenMP** 6096
Seongkyu Lee, Pukyong National University, Korea

14:21   **TANDEM-X: A New Era of Global Digital Elevation Data** 6097
Thomas Schrage, Astrium Services, Germany

14:24   **DTM Cross Validation and Merging: Problems and Solutions for a Case Study within the HELI-DEM Project** 6098
Laura Carcano, Politecnico di Milano, Italy

14:27   **Estimation of Accuracy of EuroDEM on the Area of the Poland** 6099
Ireneusz Ewiak, Institute of Geodesy and Cartography, Poland

14:00-15:30   MCEC212
Short+Interactive
V/5: Image Sensor Technology; ICWG V/I: Land-Based Mobile Mapping Systems
Chair: Pauline Miller, Newcastle University, United Kingdom

14:00   **Robust Person Tracking with Multiple Non-Overlapping Cameras in an Outdoor Environment** 6100
Sebastian Hellwig, Humboldt-Universität zu Berlin, Germany

14:03   **The Scanning Photogrammetry** 6101
Tao Ke, Wuhan University, China

14:06   **Investigations on a Combined RGB / Time-of-Flight Approach for Dynamic Close Range Applications** 6102
Heidi Hastedt, Jade University Oldenburg, Germany

14:09   **Simulation of Images MUX(Camera Multispectral) from CBERS-3 (Brazil-China Satellite Earth Resources)** 6103
Giovanni A Boggione, National Institute for Space Research, Brazil

14:12   **Assisted Control Point Measurement for Close Range Photogrammetry** 6104
Emilio Mata, University of Jaen, Spain

14:15   **Calibration and Epipolar Geometry of Generic Heterogeneous Camera Systems** 6105
Andreas Luber, German Aerospace Center, Germany

14:18   **The Range and Intensity Calibration of the Mobile Laser Scanner using Portable Calibration Targets** 6106
Eero Ahokas, Finnish Geodetic Institute, Finland

14:21   **Applications of Mobile GIS in Forestry South Australia** 6107
Peter Mackenzie, Forestry South Australia, Australia

14:24   **Error Distribution Evaluation of the Third Vanishing Point Based on Random Statistical Simulation** 6108
Chang Li, Central China Normal University, China

14:27   **Object-space Multi-image Matching of Mobile-Mapping-System Image Sequences** 6109
Yung-Chuan Chen, De-Lin Institute of Technology., Taiwan

14:30   **The Rail Mapper – A Dedicated Mobile Lidar Mapping System for Railway Networks** 6110
Jens Kremer, IGI mbH, Germany

14:33   **Terrestrial Mobile Laser Scanning for 3D Urban Infrastructure Mapping** 6111
Jun Li, Xiamen University, China

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14:00-15:30   MCEC211
Short+Interactive
VII/6: Remote Sensing Data Fusion; VII/7, III/2, V/1, V/3, ICWG V/I:Low-cost UAVs (UVSs) and mobile mapping systems; VII/7, III/2, V/3: Waveform lidar for remote sensing; VII/7: Theory and Experiments in Radar and Lidar
Chair: Yifang Ban, Royal Institute of Technology, Sweden

14:00   **Urban Detection, Delimitation and Morphology: Comparative Analysis of Selective "Megacities"** 6112
Blanca Ramos Arellano, Technical University of Catalonia, Spain

14:03   **Planning Tripoli Metro Network by the Use of Remote Sensing Imagery** 6113
Othman Alhusain, Budapest University of Technology and Economics, Hungary

14:06   **An Improved High Frequency Modulating Fusion Method Based on Modulation Transfer Function Filters** 6114
Yonghong Jia, Wuhan University, China

14:09   **A Transformation Method for Texture Feature Description under Different Imagine Conditions** 6115
Zequn Guan, Tongji University, China

14:12   **Synthetic Aperture Radar (SAR) and Optical Imagery Data Fusion: Crop Yield Analysis in Southeast Asia** 6116
Susan M Parks, Exelis Visual Information Solutions, United States

14:15   **The Performance Analysis of an AKF Based Tightly Coupled INS/GPS Integrated Positioning and Orientation Scheme with Odometer and Non-holonomic Constraints** 6117
Cheng-An Lin, National Cheng Kung University, Taiwan

Friday, 31 August 2012

14:18 Reconstruction of 3D Landscapes from UAV Images and Flight-Control Data 6118
Zhi Wang, Northeastern University, China

14:21 Waveform Analysis for the Extraction of Post-fire Vegetation Characteristics 6119
Francesco Pirotti, CIRGEO - Interdepartmental Research Center in Geomatics, Italy

14:24 Canopy Profiling for Vegetation Mapping in South-western Australian Forested Ecosystems 6120
Antonius GT Schut, Curtin University, Australia

14:27 LIDAR Waveform Simulation over Complex Targets 6121
Seongjoon Kim, The University of Seoul, Korea

14:30 PolInSAR Experiments of Multi-mode X-Band Data Over South Area of China 6122
Lijun Lu, Chinese Academy of Surveying and Mapping, China

14:33 Tensor-based Quality Prediction for Building Model Reconstruction from LiDAR Data and Topographic Map 6123
Bo-Cheng Lin, National Cheng Kung University, Taiwan

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16:00-17:30 MCEC217
ISPRS and IAA: Pléïades Inflight Calibration and Performance Assessment
Chair: Nicolas Paparoditis, Institut Géographique National, France

16:00 PLEIADES System Architecture and Main Performances 6129
Alain Gleyzes, CNES, France

16:17 PLEIADES-HR System Products Performance after In-orbit Commissioning Phase 6130
Chantal Panem, CNES, France

16:34 Pleiades-HR Innovative Techniques for Radiometric Image Quality Commissioning 6131
Gwendoline Blanchet, CNES, France

16:51 Pleiades-HR Innovative Techniques for Geometric Image Quality Commissioning 6132
Daniel Greslou, CNES, France

17:08 Star-Based Methods for Pleiades HR Commissioning 6133
Sebastien Fourest, CNES, France

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16:00-17:30 MEC5.2.03-04
IV/5,4,1,8, II/6, VI/1,2: Web-based Virtual and Shared Geospatial Environments
Chair: Maria A Brovelli, Politecnico di Milano, Italy

16:00 Feature Positioning on Google Street View Panoramas 6134
Victor J D Tsai, National Chung Hsing University, Taiwan

16:22 3D Town Project: Augmented Urban Spaces 6135
Gunho Sohn, York University, Canada

16:44 pRasterBlaster: High-Performance Small-Scale Raster Map Projection Transformation Using the Extreme Science and Engineering Discovery Environment 6136
Michael P Finn, U.S. Geological Survey, United States

17:06 An Integrated Web-Based 3D Modeling and Visualization Platform to Support Sustainable Cities 6137
Sam Amirebrahimi, Centre for SDIs and Land Administration, Australia

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16:00-17:30 MCEC220
VII/7, III/2, V/1, V/3, ICWG V/I: Low-cost UAVs (UVSs) and Mobile Mapping Systems-2
Chair: Antero Kukko, Finnish Geodetic Institute, Finland

16:00 Automatic Exterior Orientation Procedure for Low-cost UAV Photogrammetry using Video Image Tracking Technique and GPS Information6138
Tetsuji Anai, TOPCON Corporation, Japan

16:22 Direct Georeferencing with Onboard Navigation Components of Light Weight UAV Platforms 6140
Norbert Pfeifer, Vienna University of Technology, Austria

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16:00-17:30 MCEC218

I/5: Integrated Systems for Sensor Georeferencing and Navigation-2

Chair: Ismael Colomina, Institute of Geomatics, Spain

16:00 **Pose Estimation of Unmanned Aerial Vehicles Based on Multisensor Data Fusion** 6141

Ghasem Abdi, University of Tehran, Iran

16:22 **Photogrammetry for Mapping Underground Utility Lines with Ground Penetrating Radar in Urban Areas** 6142

Diana Pagliari, Politecnico di Milano, Italy

16:44 **UAV Borne Low Altitude Photogrammetry System** 6143

Zongjian Lin, Chinese Academy of Surveying and Mapping, China

17:06 **Update on the DMC Constellation and Next Generation Satellites** 6144

Gary Holmes, DMC International Imaging, United Kingdom

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16:00-17:30 MEC5.2.01-02

ICWG II/IV: Semantic Interoperability

Chair: Ryosuke Shibasaki, The University of Tokyo, Japan

16:00 **Toward Real Time Semantic Interoperability in AD HOC Networks of Geospatial Data Sources: Challenges, Achievements and Perspectives** 6145

Mir Abolfazl Mostafavi, Laval University, Canada

16:17 **A Comparison of Semantic Similarity Models in Evaluating Concept Similarity** 6146

Qianxiang Xu, The Hong Kong Polytechnic University, China

16:34 **Critical Metadata Protocols in Hyperspectral Field Campaigns for Building Robust Hyperspectral Datasets** 6147

Barbara Rasaiah, RMIT University, Australia

16:51 **Facilitating Integrated Spatio-temp Visualization and Analysis of Heterogeneous Archaeological and Palaeoenvironmental Research Data** 6148

Christian Willmes, University of Cologne, Germany

17:08 **Non-spatial and Geospatial Semantic Query of Health Information** 6149

François Anton, DTU Informatics, Denmark

16:00-17:30 MCEC219

III/2: Registration-1

George Vosselman, ITC, The Netherlands

16:00 **Improving 3D LiDAR Point Cloud Registration using Optimal Neighborhood Knowledge** 6150

Adrien Gressin, Institut Géographique National, France

16:30 **Probabilistic Feature Matching Applied to Primitive based Registration of TLS Data** 6151

Jean-Francois Hullo, INSA, France

17:00 **3D Feature-Based Matching by RSTG Approach** 6152

Tzu-Yi Chuang, National Taiwan University, Taiwan

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16:00-17:30 MCEC216

III/2: Registration-2

Chair: Christoph Strecha, EPFL, Switzerland

16:00 **Registration of Laser Scanning Point Clouds and Aerial Images using Either Artificial or Natural Tie Features** 6153

Petri N Rönnholm, Aalto University, Finland

16:30 **Automated Registration of Terrestrial Laser Scanner Point Clouds using Natural Planar Surfaces** 6154

Pascal Theiler, ETH Zurich, Switzerland

17:00 **Semi-Automatic Co-Registration of Photogrammetric and Lidar Data using Buildings** 6155

Costas Armenakis, York University, Canada

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16:00-17:30 MCEC213

IV/7: Planetary Mapping and Databases – Moon

Chairs: Randolph L Kirk, U.S. Geological Survey, United States and Konrad Willner, Technische Universität Berlin, Germany

16:00 **Rigorous Photogrammetric Processing Of Chang'E-1 And Chang'E-2 Stereo Imagery for Lunar Topographic Mapping** 6156

Kaichang Di, Chinese Academy of Sciences, China

Friday, 31 August 2012

16:17 Comparison of Lunar Topographic Models Derived from Multiple Sources Based on Least Squares Matching 6157

Jian Guo, The Hong Kong Polytechnic University, Hong Kong
Bo Wu, The Hong Kong Polytechnic University, Hong Kong

16:34 Lunar Topographic Mapping using OSU OrbiterMapper and LROC NAC Stereo Images 6158

Rongxing Li, The Ohio State University, United States

16:51 Topographic Modeling of Wide- and Narrow-angle Stereo Images Obtained by the LRO Camera – and Applications in Lunar Geodesy and Geology6159

Jürgen Oberst, German Aerospace Center (DLR), Germany

17:08 Jigsaw: The ISIS3 Bundle Adjustment for Extraterrestrial Photogrammetry 6160

Kenneth L Edmundson, U.S. Geological Survey, United States

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16:00-17:30 MCEC212
ICWG V/I: Land-Based Mobile Mapping Systems-1
Chair: Jonathan Li, Waterloo Laboratory for GeoSpatial Technology and Remote Sensing, Canada

16:00 Panoramic Epipolar Image Generation for Mobile Mapping System 6161

Tianen Chen, PASCO Corporation, Japan

16:22 Stereovision Mobile Mapping: System Design and Performance Evaluation 6162

Joel Burkhard, University of Applied Sciences Northwestern Switzerland, Switzerland

16:44 Benchmarking Mobile Laser Scanning Systems using a Permanent Test Field 6163

Harri Kaartinen, Finnish Geodetic Institute, Finland

17:06 Implementation and Evaluation of a Mobile Mapping System based on Integrated Range and Intensity Images for Traffic Signs Localization 6164

Mozhdeh Shahbazi, University of Tehran, Iran

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16:00-17:30 MCEC211
VII/5: Methods for Change Detection and Process Modelling-6
Chair: Georg Bareth, University of Cologne, Germany

16:00 Processing Australia's AVHRR HRPT Archive to a Long-term Record of Australian Land Surface Dynamics 6165

Ian F Grant, Australian Bureau of Meteorology, Australia

16:22 3D Building Change Detection using High Resolution Stereo Images and a GIS Database 6166

Gholam Reza Dini, Leibniz University Hannover, Germany

16:44 Updating Building Maps Based on Object Extraction and Building Height Estimation 6167

Lin Zhu, PASCO Corporation, Japan

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16:00-17:30 MCEC209
VII/7: Theory and Experiments in Radar and Lidar-2
Chair: Wolfgang Wagner, Vienna University of Technology, Austria

16:00 Automatic Extraction of Water in High-resolution SAR Images based on Multi-scale Level Set Method and OTSU Algorithm 6168

Haigang Sui, Wuhan University, China
Chuan Xu, Wuhan University, China

16:22 Evaluation of Filters for ENVISAT ASAR Speckle Suppression in Pasture Area 6169

Linlin Ge, The University of New South Wales, Australia

16:44 Research on DEM Extraction with StereoSAR in Difficult Mapping Area 6170

Shucheng Yang, Chinese Academy of Surveying and Mapping, China

17:06 Spaceborne SAR Imagery Stereo Positioning Based on Range-Coplanarity Equation 6171

Chunquan Cheng, Chinese Academy of Surveying and Mapping, China

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16:00-17:30   MCEC210
VIII/8: Land Cover Dynamics
Chair: Laurie Chisholm, University of Wollongong, Australia

16:00   **Quantifying Land Use/cover Change and Landscape Fragmentation in Danang City, Vietnam: 1979-2009** 6172
Linh Hoang Khanh Nguyen, Goettingen University, Germany

16:17   **Global Land Cover Classification Using MODIS Surface Reflectance Products** 6173
Haruhisa Shimoda, Tokai University, Japan

16:34   **Dynamics of the Yellow River Delta** 6174
Igor Klein, German Remote Sensing Data Center, Germany

16:51   **Observed Changes and Vulnerability of Philippine Forestry and Agriculture** 6175
Gay Jane P Perez, University of the Philippines/NASA Goddard Space Flight Center, Philippines

17:08   **Spectral Unmixing of Blended Reflectance for Denser Time-series Mapping of Wetlands** 6176
Ryo Michishita, University of Utah, Japan

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16:00-17:30   MCEC208
VIII/10: Cryosphere: Sea Ice
Chair: Josefino C Comiso, NASA Goddard Space Flight Center, United States

16:00   **Rapid Changes in Sea Ice Cover and Productivity in the Arctic** 6177
Josefino C Comiso, NASA Goddard Space Flight Center, United States

16:37   **A Study on Extracting Thin Sea Ice Area from Space** 6178
Kohei Cho, Tokai University, Japan

16:54   **Interannual Variability in Antarctic Sea-ice Motion Derived from (A)SAR Imagery** 6179
Petra Heil, AAD and ACE CRC, Australia

17:11   **Assessment of Sea Ice Freeboard and Thickness in McMurdo Sound, Antarctica, Derived by Ground Validated Satellite Altimeter Data** 6180
Daniel DF Price, University of Canterbury, New Zealand

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Saturday, 1 September 2012

Time	Location	Session Code	Saturday September 1
9:00-10:30	208	TS833	VIII/10: Cryosphere: Glaciers and Ice Sheets
	209	SS916	GEO, GOFC-GOLD and ISPRS: Global Land Cover Mapping at Fine Resolutions
	212	TS516	ICWG V/I: Land-Based Mobile Mapping Systems-2
	213	TS418	IV/7: Planetary Mapping and Databases - Mars
	216	ThS427	IV/II, IV/8, IV/1: Volunteered Geospatial Information
	217	TS319	III/1: Image Orientation and Reconstruction
	218	TS119	I/6 and IAA: Small Satellites for Earth Observation
	219	TS323	III/2: 3D Point Cloud Classification
	220	TS218	ICWG II/IV: Ontologies for Geospatial Applications
11:00-12:30	Plenary 2		Plenary 4
2:00-3:30	Plenary 2		Closing Ceremony

09:00-10:30   MCEC209
GEO, GOFC-GOLD and ISPRS: Global Land Cover Mapping at Fine Resolutions
Chair: Peng Gong, Tsinghua University, China

09:00   **US GEO Global 30 m Land Cover Initiative: Progress and Plans**
Chandra P Giri, U.S. Geological Survey, United States

09:17   **Preliminary Results on 250m Global Land Cover Map of 2010 from MODIS Time Series Data**
Peng Gong, Tsinghua University, China

09:34   **Preliminary Study on Global Land Cover Mapping Based on Hierarchical Classification Strategy**
Lijun Chen, National Geomatics Center of China, China

09:51   **Land Cover Change Knowledge Representation using Temp Logic and Operation Relations**
7004
Chen Jun, National Geomatics Center of China, China

10:08   **GEO Global Land Cover task and its critical role to the development of the Global Earth Observation System of Systems (GEOSS)**
Georgios Sarantakos, GEO, Switzerland

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09:00-10:30   MCEC216
IV/II, IV/8, IV/1: Volunteered Geospatial Information
Chair: Anthony Stefanidis, George Mason University, USA

09:00   **Exploring The Application of Volunteered Geographic Information to Catchment Management: A Survey Approach** 7005
Dev Raj Paudyal, University of Southern Queensland, Australia

09:22   **Automated Matching Crowdsourcing Road Networks using Probabilistic Relaxation** 7006
Yunfei Zhang, Wuhan University, China

09:44   **Comprehensive Evaluation and Analysis of China's Mainstream Online Map Service Websites** 7007
Qian Wang, National Geomatics Center of China, China

10:06   **Visual-Aided Context-Aware Framework for Personal Navigation Services** 7008
Sara Saeedi, University of Calgary, Canada

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09:00-10:30   MCEC218

I/6 and IAA: Small Satellites for Earth Observation
Chair: Xiaoliang Wu, CSIRO, Australia

09:00   Hypxim, an Advanced Hyperspectral Satellite for Environment, Security and Defence 7009
Marie-José Lefevre-Fonollosa, Centre National d'Etudes Spatiales, France

09:22   An Optimal Imaging-scheduling Algorithm for the Multi-strip Imaging-mode of the High-resolution Agile Satellites Based on Certain Step-size Search7010
Mi Wang, Wuhan University, China

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09:00-10:30   MCEC220

ICWG II/IV: Ontologies for Geospatial Applications
Chair: Mir Abolfazl Mostafavi, Laval University, Canada

09:00   Integration of Spatial Planning and Environmental Data using Ontologies 7011
Adam Iwaniak, Wroclaw University of Environmental and Life Sciences, Poland

09:17   Ontological Standardization for Historical Map Collections: Studying the Greek Borderlines of 1881 7012
Eleni Gkadolou, Harokopio University of Athens, Greece

09:34   The Development of Cadastral Domain Model Oriented at Unified Real Estate Registration of China based on Ontology 7013
Ming Li, Wuhan University, China

09:51   Cardinal Direction Relations Query Modeling Based on Geo-ontology 7014
Xinyan Zhu, Wuhan University, China
Di Chen, Wuhan University, China

10:08   Earth Observation Data Interoperability Arrangement with Ontology Registry 7015
Ryosuke Shibasaki, University of Tokyo, Japan

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09:00-10:30   MCEC217

III/1: Image Orientation and Reconstruction
Chair: Helmut Mayer, Bundeswehr University Munich, Germany

09:00   Orientation and Dense Reconstruction of Unordered Terrestrial and Aerial Wide Baseline Image Sets 7016
Jan Bartelsen, Bundeswehr University Munich, Germany

09:30   Efficient Reconstruction of Large Unordered Image Datasets for High Accuracy Photogrammetric Applications 7017
Dieter Fritsch, University of Stuttgart, Germany

10:00   Combined Multi-View Matching Algorithm with Multiple Long-Strip Satellite Images from Different Orbits 7018
Yong-jun Zhang, Wuhan University, China

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09:00-10:30   MCEC219

III/2: 3D Point Cloud Classification
Chair: Qingming Zhan, Wuhan University, China

09:00   Moving Window Segmentation Framework for Point Clouds 7019
George Sithole, University of Cape Town, South Africa

09:30   Automatic Powerline Scene Classification and Reconstruction using Airborne LIDAR Data 7020
Heungsik Brian Kim, York University, Canada

10:00   Object-based Classification of Urban Airborne Lidar Point Clouds with Multiple Echoes using SVM 7021
Jixian Zhang, Chinese Academy of Surveying and Mapping, China

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Saturday, 1 September 2012

09:00-10:30   MCEC213

IV/7: Planetary Mapping and Databases - Mars
Chairs: Kaichang Di, Chinese Academy of Sciences, China
and Jürgen Oberst, German Aerospace Center (DLR),
Germany

09:00   **Automatic Registration of Multi Sensor Remotely Sensed Images from the Mars** 7022
Bin Luo, Wuhan University, China

09:17   **Evaluation of Area-based Image Matching Applied to DTM Generation with Hirise Images** 7023
Cristina Re, Università di Padova, Italy

09:34   **Improved Phobos Shape and Gravity Working Models** 7024
Konrad Willner, Technische Universität Berlin, Germany

09:51   **A Generalized Matching Concept for Area-based Reconstruction of Planetary** 7025
Jürgen Oberst, German Aerospace Center (DLR), Germany

10:08   **Systematic Bundle Adjustment of HRSC Image Data** 7026
Jonas Bostelmann, Leibniz Universität Hannover, Germany

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09:00-10:30   MCEC212

ICWG V/I: Land-Based Mobile Mapping Systems-2
Chair: Antonio MG Tommaselli, UNESP, Brazil

09:00   **Generation of High Resolution and High Precision Orthorectified Road Imagery from Mobile Mapping System** 7027
Mitsuteru Sakamoto, PASCO Corporation, Japan

09:22   **Multiplatform Approach to Mobile Laser Scanning** 7028
Antero Kukko, Finnish Geodetic Institute, Finland

09:44   **Empirical Accuracy Assessment of MMS Laser Point Clouds** 7029
Koji Mano, PASCO Corporation, Japan

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09:00-10:30   MCEC208

VIII/10: Cryosphere: Glaciers and Ice Sheets
Chair: Josefino C Comiso, NASA Goddard Space Flight
Center, United States

09:00   **The ICESat-2 Mission: Concept, Applications and Pre-launch Performance Assessments for Monitoring Cryoshperic Changes** 7030
Beata Csatho, University at Buffalo, United States

09:37   **Comparison of Microwave Backscatter Anisotropy Parameterisations Over the Antarctic Ice Sheet** 7031
Alexander D Fraser, Antarctic Climate and Ecosystems Cooperative Research Centre, Australia

09:54   **Application of Surface Matching for Improved Measurements of Historic Glacier Volume Change in the Antarctic Peninsula** 7032
Jon P Mills, Newcastle University, United Kingdom

10:11   **A Novel Approach for Change Detection from Laser Altimetry Data** 7033
Tony Schenk, University at Buffalo, United States

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11:00-12:30   MCEC Plenary 2

Plenary 4
Co-Chair: Armin Gruen, ETH Zurich, Switzerland and Rainer Sandau, International Academy of Astronautics (IAA), German Aerospace Center (DLR), Germany

11:00   **Climate Change Futures, Earth Surface Processes and Landscapes Across-scales: The Critical Role of Terrain Measurement** 7034
Stuart Lane, Université de Lausanne, Switzerland

11:30   **Geoinformation in Brazil**
Gilberto Camara, INPE, Brazil

12:00   **The Future Belongs to The Simple & The Quick - A New Era in Remote Sensing and GIS** 7036
Lawrie Jordan, ESRI, United States

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Notes

Business Meetings

Saturday 25 August

09:30 - 15:00 MCEC Plenary 2
General Assembly I

16:00 - 17:30 MCEC Plenary 2
Opening Ceremony of the Congress

18:00 - 20:00 MCEC Foyer
Welcome Reception

Sunday 26 August

10:00 - 11:00 MCEC 207
Accompanying Persons Reception

13:00 - 14:00 MCEC 218
Open Meeting Technical Commission I

13:00 - 14:00 MCEC 220
Open Meeting Technical Commission II

13:00 - 14:00 MCEC 219
Open Meeting Technical Commission III

13:00 - 14:00 MCEC 210
Open Meeting Technical Commission VIII

13:00 - 18:00 MCEC 207
Joint Board of Geospatial Information Societies

14:00 - 17:30 MEC 5.2.03-04
ALCM Consortium

17:30 - 18:30 Crown Metropol
Brock Award Reception

Monday 27 August

09:00 - 12:30 MCEC Plenary 2
General Assembly II

12:30 - 13:30 MCEC 207
ASIERA Meeting

12:45 - 13:45 MEC 5.2.01-04
Hexagon UGM

13:00 - 14:00 MCEC 213
Open Meeting Technical Commission IV

13:00 - 14:00 MCEC 212
Open Meeting Technical Commission V

13:00 - 14:00 MCEC 217
Open Meeting Technical Commission VI

13:00 - 14:00 MCEC 211
Open Meeting Technical Commission VII

13:30 - 14:30 MEC Exhibit Area
Opening of Technical Exhibition

13:30 - 15:30 MEC 5.1.02
IJIDF Journal Editorial Board

14:00 - 15:30 MCEC 207
Meeting Incoming - Outgoing TCPs and Council

16:00 - 17:30 MCEC 207
Foundation Board Meeting

18:30 - 20:30 MEC Exhibit Area
Exhibitors Reception

Tuesday 28 August

10:30 - 12:30 MCEC 207
White Elephant Meeting

12:45 - 13:45 MCEC 216
SSSI RS&P Commission Meeting

13:00 - 14:00 MCEC 220
Incoming/Outgoing TCP II Candidate WG Chairs

13:00 - 14:00 MCEC 219
Incoming/Outgoing TCP III Candidate WG Chairs

13:00 - 14:00 MCEC 213
Incoming/Outgoing TCP IV Candidate WG Chairs

13:00 - 14:00 MCEC 210
Incoming/Outgoing TCP VIII Candidate WG Chairs

13:30 - 17:30 Albert Park Indoor Sports Centre
Indoor Football Competition

14:00 - 15:00 MCEC 207
Sustaining Members Meeting

14:00 - 17:00 MEC 5.1.02
GSIS Journal Editorial Board

17:30 - 18:30 Clarendon Room
Earth Observation Forum Reception

Wednesday 29 August

11:00 - 12:30 MCEC 207
EuroSDR + New TCPs

13:00 - 14:00 MCEC 218
Incoming/Outgoing TCP I Candidate WG Chairs

13:00 - 14:00 MCEC 212
Incoming/Outgoing TCP V Candidate WG Chairs

13:00 - 14:00 MCEC 217
Incoming/Outgoing TCP VI Candidate WG Chairs

13:00 - 14:00 MCEC 211
Incoming/Outgoing TCP VII Candidate WG Chairs

14:00 - 17:30 MCEC Plenary 2
General Assembly III

19:00 - 22:00 The Meat Market
Foundation Dinner

19:30 - 22:30 Regent Theatre
VSEA Dinner

Thursday 30 August

07:30 - 08:30 Hilton Hotel
Breakfast Meeting Incoming - Outgoing Council

09:00 - 10:30 MEC 5.2.01-02
Visit of the Exhibitors

10:00 - 11:30 MEC 5.1.02
Business Meeting: Intergraph Board Meeting

12:00 - 18:00 MEC 5.1.02
Business Meeting: ICSM

Friday 31 August

14:00 - 17:30 MCEC Plenary 2
General Assembly IV

19:00 - 23:00 Flemington Racecourse
Conference Gala Dinner

Saturday 1 September

13:30 - 15:00 MCEC Plenary 2
Closing Ceremony

16:00 - 17:00 MCEC 207
Meeting of the Incoming TCPs with Regional Chairs and Sister Societies

18:30 - 22:30 MCG Football Ground
Australian Rules Football Game Essendon v Collingwood

www.isprs2012.org

Congress Social Program

Welcome Reception

Date: Saturday, 25 August 2012
Time: 18:00 – 20:00
Venue: Melbourne Convention and
             Exhibition Centre

Exhibitors' Reception

Date: Monday, 27 August 2012
Time: 18:30 – 20:30
Venue: Exhibition Hall, Melbourne
Convention and Exhibition Centre

Foundation Function

Date: Wednesday, 29 August 2012
Time: 19:00 – 22:00
Venue: The Meat Market

Congress Dinner

Date: Friday, 31 August 2012
Time: 19:00 – 23:00
Venue: Flemington Racecourse

The Inaugural ISPRS International Indoor Soccer Cup

Date: Tuesday, 28 August 2012
Time: 13:30 – 17:30
Venue: Albert Park

Website: www.apisc.com.au/indoor-soccer-locations.htm

Registration Desk Hours

Friday 24 August	0800 – 1730
Saturday 25 August	0800 – 1900
Sunday 26 August	0800 – 1730
Monday 27 August	0830 – 1730
Tuesday 28 August	0830 – 1730
Wednesday 29 August	0830 – 1730
Thursday 30 August	0830 – 1730
Friday 31 August	0830 – 1730
Saturday 1 September	0830 – 1400
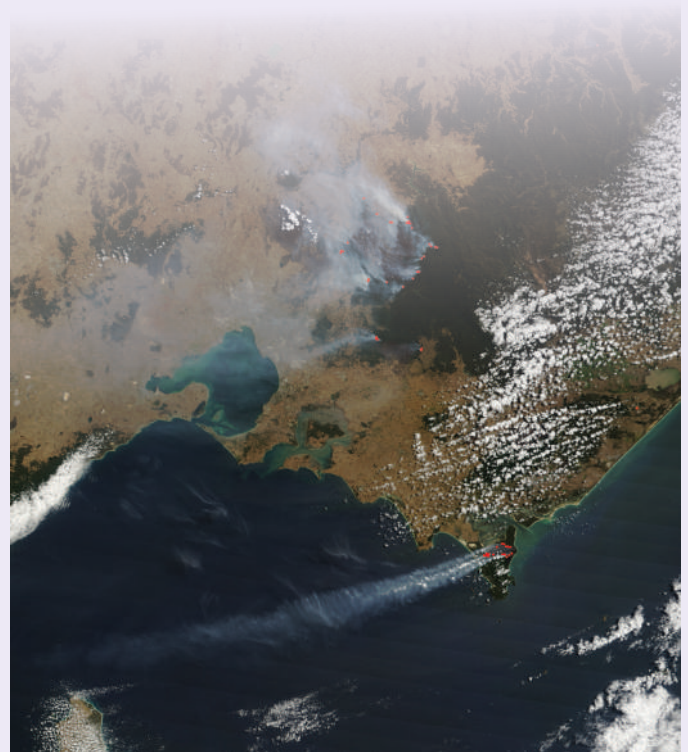
Presentation Information

Session Chairs
Please ensure that you are available in your presentation room at least ten minutes prior to the start of the session.

Oral Presentations
It is important that all speakers upload their presentation in the Speakers' Preparation Room at least two hours prior to the commencement of their allocated session. Speakers who are presenting at an early morning session should check-in their presentation the day before their presentation. An audio visual technician will be available in the Speakers' Preparation Room to assist with this process.

Short + Interactive Presentations
ePosters will be available for viewing from Sunday 26 August through to Friday 31 August. ePoster presenters must upload their presentation at the Speakers' Preparation Room.

Speakers are requested to register at the registration desk at least two hours prior to the scheduled presentation.

Speakers' Preparation Room
The Speaker's Preparation Room is located adjacent to the registration desk.

Friday 24 August	0800 – 1730
Saturday 25 August	0800 – 1900
Sunday 26 August	0800 – 1730
Monday 27 August	0830 – 1730
Tuesday 28 August	0830 – 1730
Wednesday 29 August	0830 – 1730
Thursday 30 August	0830 – 1730
Friday 31 August	0830 – 1730
Saturday 1 September	0830 – 1000

IMAGING A SUSTAINABLE FUTURE WITH HEXAGON AT ISPRS2012

Together, Intergraph®/ERDAS, Leica Geosystems and Z/I Imaging provide leading hardware and software tools to support the complete geospatial information lifecycle – accurately capturing high-quality imagery, providing photogrammetry and remote sensing data analysis, and managing and delivering data to transform vector, raster and terrain information into fully integrated geospatial solutions.
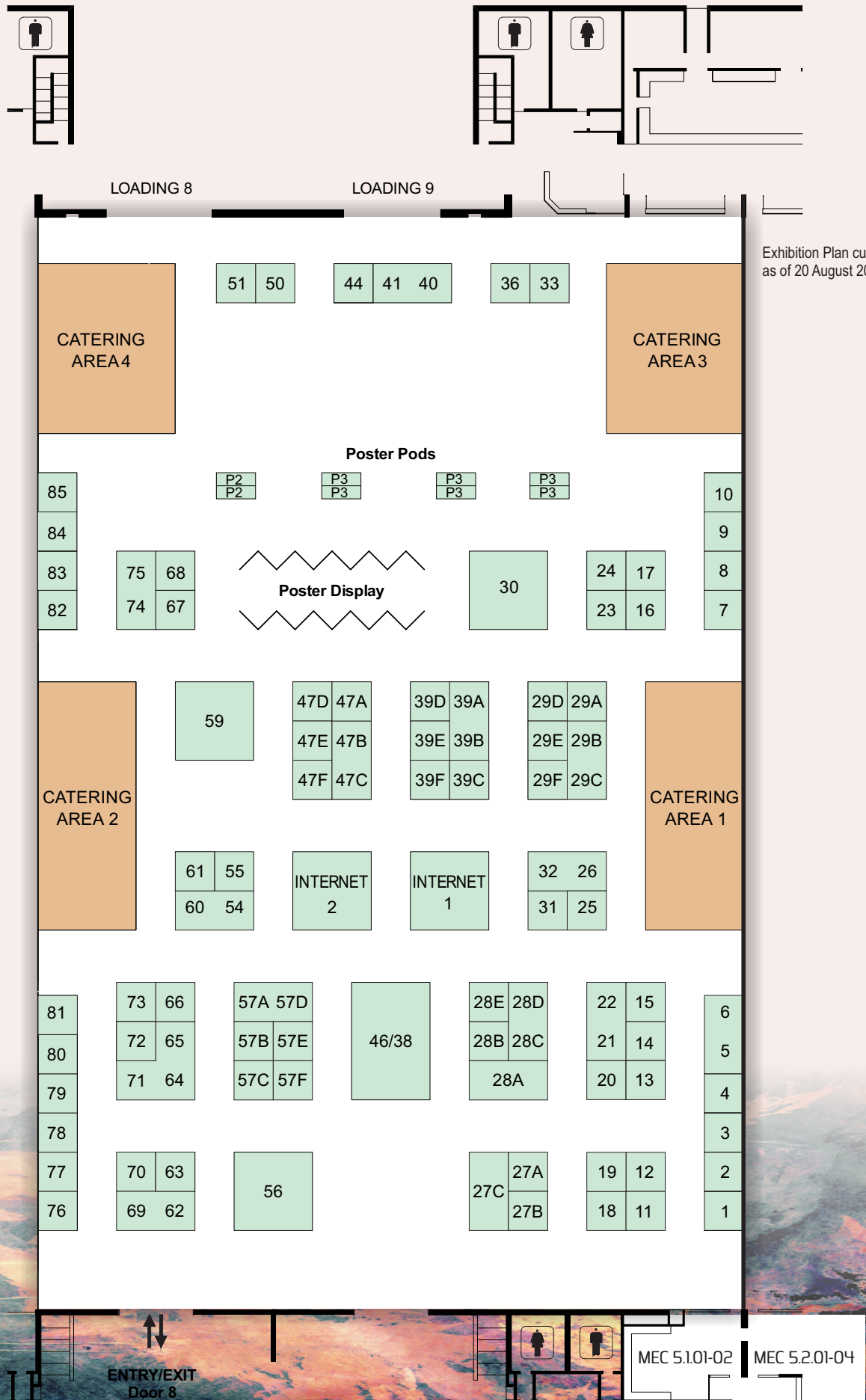
HEXAGON | INTERGRAPH | erdas an Intergraph brand | Leica Geosystems | Z/I IMAGING

Exhibition Information

LOADING 8   LOADING 9

Exhibition Plan current as of 20 August 2012

| 51 | 50 | | 44 | 41 | 40 | | 36 | 33 |

CATERING AREA 4

CATERING AREA 3

Poster Pods

| P2 | | P3 | | P3 | | P3 |
| P2 | | P3 | | P3 | | P3 |

| 85 | | | | | | | 10 |

| 84 | | | | | | | 9 |

| 83 | | 75 | 68 | **Poster Display** | | 30 | | 24 | 17 | | 8 |

| 82 | | 74 | 67 | | | | | 23 | 16 | | 7 |

| 59 |

47D	47A		39D	39A		29D	29A
47E	47B		39E	39B		29E	29B
47F	47C		39F	39C		29F	29C

CATERING AREA 2

CATERING AREA 1

| 61 | 55 | | INTERNET 2 | | INTERNET 1 | | 32 | 26 |
| 60 | 54 | | | | | | 31 | 25 |

81		73	66		57A	57D				28E	28D		22	15		6
80		72	65		57B	57E		46/38		28B	28C		21	14		5
79		71	64		57C	57F					28A		20	13		4
78															3
77		70	63		56					27A		19	12		2
76		69	62					27C		27B		18	11		1

MEC 5.1.01-02   MEC 5.2.01-04

ENTRY/EXIT Door 8

Exhibition Hours

The Exhibition is located in Main Foyer of the Melbourne Convention Centre and will be open during the following hours:

Sunday 26 August	1000 - 1730
Monday 27 August	1000 - 2030
Tuesday 28 August	1000 - 1730
Wednesday 29 August	1000 - 1730
Thursday 30 August	1000 - 1730
Friday 31 August	1000 - 1600

Exhibitors

3D Laser Mapping / Terrasolid	57F
AAM	66
Adam Technology	31
Adept Turnkey Pty Ltd	23
Aerodata Australia Pty Ltd	5&6
AEROmetrex Pty Ltd	57B
American Society for Photogrammetry & Remote Sensing	25
Antrix Corporation Ltd	72
APPLANIX	79
ASD Inc.	36
Asia Air Survey Co Ltd	16
Astrium Services	74;75
Auletris, SRO	18
BAE Systems	57A;57D
Beijing Ceke Spacial Info-Tech Co Ltd	47F
Beijing Geo-Vision Technology Company Limited	39C
Beijing GEOWAY Software Co. Ltd	47D
Blue Marble Geographics	27B
Chinese Academy of Surveying and Mapping	47B;47C
DAT/EM Systems International	26;32
DMCii Ltd	70
Earthmine, Inc	76
Eastdawn Corporation	29B;29C
Elsevier BV	7
Environmental Systems Research Institute, Inc	28D
Esri	28C;28D
Euclideon	51
Exelis Visual Information Solutions	28E
Fugro Spatial Solutions	27A
GAIA3D, Inc	77
GeoCue Corporation / QCoherent Software	19
GeoFly GmbH	13
GGS – Geotechnik, Geoinformatik & Service GmbH	55
GoeInnovation Agency "Innoter"	73

GPSat Systems Australia Pty Ltd	28B
Hexagon	38;46
Hi-Target Surveying Instrument Co., Ltd	39F
HyVista Corporation	78
IGI mbH	3
Intergraph	38;46
ISPRS Student Consortium	1
ISPRS WGI-1 Airborne Platform Interface	2
ITRES Research Limited	44
KLT Associates Inc	10
KQ GEO Technologies	39D
Maptek	12
National Administration of Surveying, Mapping and Geoinformation of China	39E
National Geomatics Centre of China	29D
NZ Aerial Mapping Ltd	57C
Optech Incorporated	20
PASCO Corporation	5;6
PCI Geomatics	11
Phase One A/S	61
Photomapping Services Pty Ltd	82
PRAGUE 2016 – ISPRS CANDIDACY	
Racurs	54;60
RapidEye AG	24
RIEGL Laser Measurement Systems GmbH	40;41
Satellite Surveying And Mapping Application Centre, NASG	29A
SFPT – Paris 2016 Candidate City	50
Shaanxi Tirain Science & Technology Co Lyd	47E
Silver Data Spatial-GIS Co. Ltd (Xiamen)	81
Simactive Inc	80
South Surveying & Mapping Instrument Co Ltd	39A;39B
Spatial Scientific Pty Ltd	68
Supresoft Inc.	30
Taylor & Francis	85
Trimble Germany GmbH	62;69
Ultimate Positioning	63
USQ Engineering and Surveying	27C
Vekta Pty Ltd	15
Vexcel Imaging GMBH	64,65,71
VisionMap	21;22
Wuda Geoinformatics Co Ltd	56
Wuhan HuaZheng Duowei Software Company	67
Wuhan Visiontek Inc.	47A
Xi'an ARSC Information Industry Co. Ltd	29E;29F

Exhibitor Profiles

Booth 57F

3D Laser Mapping Ltd & Terrasolid Ltd

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Website	www.3dlasermapping.com / www.terrasolid.com

3D Laser Mapping is a world-leading integrator of laser scanning technology for the mining, mapping and modelling industries.

Our technology draws on many years of developing highly effective solutions to multinational companies around the world.

Terrasolid Ltd is the world leader in airborne and mobile laser scanning software solutions.

Booth 31

Adam Technology

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ADAM Technology is a Western Australian company that has been developing innovative photogrammetric solutions since 1986. 3DM Analyst Mine Mapping Suite, the current flagship product, is used worldwide for numerous aerial, terrestrial, underground, and underwater surveying, mapping, and modelling applications by mining companies, service providers, researchers, and many government departments.

Booth 66

AAM Pty Ltd

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Email	info@aamgroup.com
Website	www.aamgroup.com

AAM's proven technology leadership includes a range of advanced systems for the collection, analysis and presentation of geospatial information. Comprising a multi- disciplinary team of more than 350 geospatial professionals, AAM operates from an extensive office network throughout Australia, New Zealand, Malaysia and South Africa. AAM has a long- standing reputation for adopting the latest technologies and tailoring innovative, customised solutions to meet client needs.

Booth 23

Adept Turnkey Pty Ltd

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Website	www.specim.fi

Adept Turnkey specialises in supplying Vision and imaging technology to the Aust/NZ markets. Adept Turnkey represents Specim, a world-leading manufacturer of hyperspectral imaging instrumentation. We provide solutions for the most demanding applications in laboratory, field and remote sensing. AISA airborne hyperspectral sensors are the market leader in remote sensing with more than 80 systems successfully being deployed.

Aerodata Australia Pty Ltd

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Website	www.aerodata-australia.com

Aerodata Australia has been established in mid 2010 to respond to the growing demand for updated aerial imagery and geospatial data over large areas in the Australian and Pacific region. The branch benefits of the experience and resources of one of the largest aerial survey group in the world, Aerodata International Surveys part of the PASCO group of companies.

The company operates 8 aircraft equipped with state-of-the art aerial survey digital mapping cameras Microsoft Vexcel UC Xp and WA, VisionMap A3 as well as LiDAR, Hyperspectral and Thermography systems. We provide a range of services and products from high resolution vertical and 3d aerial imagery to digital terrain models and mapping via photogrammetric data capture and LiDAR.

AEROmetrex Pty Ltd

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Website	www.aerometrex.com.au

AEROmetrex provides accurate digital image mapping and geospatial engineering solutions by exploiting both existing and emerging air and ground imaging technologies.

We specialize in digital orthophoto and seamless mosaic production, survey accurate terrain and feature capture.

Our various markets and industries include: Environment, Infrastructure & Transport, Urban Planning, Energy & Mining and all tiers of Governments.

American Society for Photogrammetry and Remote Sensing

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Website	www.asprs.org

American Society for Photogrammetry and Remote Sensing (ASPRS) is an international professional organization of geospatial professionals. ASPRS is devoted to advancing knowledge and improving understanding of the mapping sciences to promote responsible application of photogrammetry, remote sensing, geographic information systems and supporting technologies. For information, visit www.asprs.org.

Antrix Corporation Ltd

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Antrix Corporation Limited is the commercial wing of Indian Space Research Organisation (ISRO) for promotion and commercial exploitation of space products and services to international customers worldwide. With fully equipped state-of-the-art facilities, Antrix provides solutions for satellite manufacturing, launch services, earth observation data & services, transponders lease, mission support services.

Booth 79

APPLANIX

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Applanix has a simple mission - to be the industry leader in the development, manufacture, sales, and support of Mobile Mapping products and solutions. Our technology is specifically designed for commercial applications, including aerial survey and remote sensing, land-based mobile mapping, and marine survey operations – markets we helped pioneer.

Booth 16

Asia Air Survey Co Ltd

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Website	www.ajiko.co.jp

Asia Air Survey is an aerial surveying and geomatics company excelling in surveying, soft technology development and consulting solutions. Since 1947, AAS has been providing solutions for our clients in a wide range of fields such as disaster, environment and land management using our innovative geomatics.

Booth 36

ASD Inc.

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Website	www.asdi.com

ASD Inc. is a recognized world leader in reflectance spectroscopy for remote sensing. Researchers across the globe trust our instruments because they are portable, rugged and easy to use - providing research critical measurements in the field. ASD FieldSpec® instruments and accessories can be adapted for unique field research needs.

Booth 74 & 75

Astrium Services

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Website	www.astrium-geo.com

Astrium GEO-Information Services (former Spot Image and Infoterra), one of the leaders in the geo-spatial information market, provides decision-makers with complete solutions for security, agriculture, oil, gas and mining, natural resources and environment monitoring and also has exclusive access to data from the SPOT, TerraSAR-X, TanDEM-X and Pléiades satellites.

BAE Systems

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BAE Systems' software SOCET GXP v4.0 offers rigorous photogrammetry, including 3-D site and city modeling, automatic feature extraction, and advanced terrain editing (TIN and Grid, including LiDAR point clouds). In addition, our newest product offering, GXP Xplorer, introduces a revolutionary way to access, catalog, and share data. www.baesystems.com/gxp

Beijing Ceke Spacial Info-Tech Co Ltd

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Beijing GEOWAY Software Co Ltd

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Beijing GEOWAY is the leading provider of geomatic solutions in China, and is competitive in imagery processing and database-based mapping worldwide. GEOWAY is engaged in research and development of geoinformation processing system, image processing system and digital photogrammetric system, while carrying out stereo mapping, image processing, electronic map production, 3D modelling and other spatial data processing business.

Blue Marble Geographics

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Blue Marble Geographics of Gardiner, ME is a leading developer and provider of software products and services for highly accurate geospatial data conversion solutions. Blue Marble is known for the Blue Marble Desktop, Geographic Calculator, GeoCalc SDK, and as of November 2011, Global Mapper Desktop and SDK.

Booth 47C

Chinese Academy of Surveying and Mapping

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Booth 70

DMCii Ltd

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Website	www.dmcii.com

DMC International Imaging Ltd (DMCii) supplies imagery from the DMC satellite constellation. Each satellite carries a wide (650km) swath multispectral sensor with 22m-32m spatial resolution - ideal for monitoring large land areas on a regular basis for applications such as land cover mapping, forest monitoring, agricultural monitoring and disaster response.

Booth 26 & 32

DAT/EM Systems International

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DAT/EM Systems International is a leader in the development of software for digital mapping and photogrammetric applications. DAT/EM Systems serves over 500 photogrammetric firms, engineering firms, and government agencies in more than 70 countries worldwide. We take pride in a reputation for delivering quality systems and superior customer service at a fair price.

Booth 76

Earthmine, Inc

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Earthmine is a world leader in 3D street-level imagery delivering a full end-to-end solution including collection hardware, software and cloud-based hosting.

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Booth 7

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Elsevier is the leading publisher in remote sensing and photogrammetry, renowned for its high quality and high impact factor journals, offering a variety of open access solutions. Elsevier partners with experts worldwide to drive innovation. Elsevier publishes the ISPRS Journal of Photogrammetry and Remote Sensing.

Booth 28D

Environmental Systems Research Institute, Inc

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Booth 28C & 28D

Esri

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Esri® develops geographic information systems solutions used by more than a million people on any given day and over 350,000 organizations worldwide. Our main product, ArcGIS, is a comprehensive imagery system for managing, visualizing, analyzing and disseminating all forms of geospatial data.

Booth 51

Euclideon

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Booth 28E

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Exelis VIS offers software solutions that help geographers, GIS specialists, and scientists make important discoveries using remotely sensed imagery. Regardless of the kinds of data you use, from airborne and spaceborne imagery to complex numerical and LiDAR data, Exelis products allow you to access and analyze data and disseminate results.

Booth 27A

Fugro Spatial Solutions

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Fugro Spatial Solutions is a leading provider of geospatial products and services, utilising LiDAR, Aerial and Satellite Imaging, GeoSAR, Land Survey and Geospatial solutions. Through Fugro's international network, we can deliver local expertise, specialist disciplines, pioneering technologies and world-class resources that combine to provide unified support for your projects worldwide.

Booth 77

GAIA3D, Inc

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Booth 19

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GeoCue Corporation is a software development and consulting services company specializing in geospatial production management solutions. We will be demonstrating our GeoCue product family of integrated solutions at booth #208. These products provide an integrated end-to-end processing framework that, when combined with industry leading production tools, significantly reduces production time from data acquisition to finished product.

Qcoherent is an innovative provider of high-capacity LIDAR software. Our extensive knowledge of LIDAR and geospatial software has been applied to LP360 for ArcGIS desktop solutions and LIDAR Server for point cloud visualization and distribution via the web. With unparalleled performance in point cloud processing, classification, extraction, and operating environment options, QCoherent is the provider of choice for LIDAR software.

Booth 13

GeoFly GmbH

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GeoFly is one of the leading German companies for aerial data acquisition. Digital aerial photo¬flights are the base of a photogrammetric project. Scope of work is providing 3-D data set for True-Ortho-Maps and 3D-City-Models. GeoFly is also providing Thermography and Airborne Laser Scan.

GGS – Geotechnik, Geoinformatik & Service GmbH

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Facsimile	+49 6232 629 274
Email	kemper@ggs-speyer.de
Website	www.aerotopol.com

We provide innovative solutions for aerial survey work

AeroTopoL: Mission Planning and Flightmanagement System
AeroStab 3: Small Camera Stabilizer
AeroStab Twin: Stabilizer for Dual Midformat Cameras
AeroDiDOS: Direct Referencing System
AeroCam: Midformat Metric Aerial Cameras
AeroScan: Laserscanner

We provide integration of your existing equipment and consulting in aerial survey.

GoeInnovation Agency "Innoter"

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GPSat Systems delivers innovative satellite navigation equipment, system solutions and technical services to Australian markets. As the distributor for both NovAtel and Spirent equipment, our dedicated team of engineers with broad multidisciplinary skills in electronics, software, geomatics and communication engineering, maintain elite technical expertise with the world's leading GNSS components and test equipment.

Hexagon (Platinum Sponsor)

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Hexagon (Nordic exchange: HEXA B) is a leading global provider of design, measurement and visualisation technologies. Our customers design, measure and position objects, and process and present data, to stay one step ahead of a changing world.
Hexagon's technologies increase productivity, enhance quality and allow for faster, better operational decisions, saving time, money and resources.
Hexagon has over 13 000 employees in more than 40 countries and net sales of about 2 200 MEUR. Our products are used in a broad range of industries including surveying, power and energy, aerospace and defence, safety and security, construction and manufacturing. Learn more at www.hexagon.com.

Booth 39F

Hi-Target Surveying Instrument Co., Ltd

HI▸TARGET

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Facsimile	+86 20 2288 3900
Email	daisylei@zhdgps.com
Website	www.hi-target.com.cn

Hi-Target Surveying Instrument Co., Ltd is a leading company specializing in R&D, manufacturing and sales of Landing Surveying Instrument, GIS, Marine Products and CORS system development for more than 12 years. It owns more than 1000 staff and has established a nationwide sales and service centers. Now Hi-Target is the No.1 Chinese GNSS brand.

Booth 78

HyVista Corporation

HyVista CORPORATION

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HyVista specialises in the world-wide supply of airborne hyperspectral remote sensing imagery and information products for applications including geological mapping, mineral exploration, and environmental monitoring. Providing a significant advantage over conventional satellite-imaging, HyMap sensors produce unprecedented maps of the Earth's surface, revealing complex mineralogy and chemistry and simplifying mapping.

Hewlett-Packard Company

hp

Contact	Cathy Brett
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Website	www.hp.com

Accelerate your geospatial applications with HP Workstations. When you perform spatial and spectral analysis, carry out photogrammetric processes, or produce maps and visual representations, you have a distinct set of workstation needs. You need high performance I/O sub-systems, large memory capacities, robust processing and 3D visualization capabilities, and highly reliable systems. You'll find all of this pnd more in the HP portfolio of desktop and mobile workstations. HP Workstations deliver the I/O, memory, processing, and visualization performance you need to accelerate your work with large data sets. Better still, they give you the assurance that comes with rigorous system testing with key software applications and a full three-year warranty.

Booth 38 & 46

Intergraph

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Intergraph Security, Government & Infrastructure (SG&I) provides geospatially powered solutions to the public safety and security, defence and intelligence, government, transportation, photogrammetry, utilities and communications industries. Now part of Intergraph, ERDAS provides integrated products for remote sensing, photogrammetry, and geospatial data management and delivery. Intergraph Government Solutions (IGS) is an independent subsidiary for SG&I's U.S. federal business. Intergraph SG&I is one of two divisions of Intergraph Corporation, a wholly owned subsidiary of Hexagon AB.

Booth 3

IGI mbH

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Website	www.igi-systems.com

IGI mbH was founded in 1978. The primary goal of the company was to manage airborne sensor systems for flight guidance, sensor control using GNSS (Global Navigation Satellite System) and INS (Inertial Navigation Systems). Today the portfolio includes customised sensor systems using LiDAR, digital camera systems and thermal camera systems.

Booth 1

ISPRS Student Consortium

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The ISPRS Student Consortium(SC) is an important connection between young generation and ISPRS. It provides a platform for exchange of information and organise student-specific events either independently (e.g. international summer schools) or within larger ISPRS events. SC also cooperate with other international and regional student organisations. Advanced Diploma, Master, PhD students and young professionals in ISPRS fields can become a SC member. SC reached 800 members from 87 countries by 2012.

Booth 2

ISPRS WGI-1 Airborne Platform Interface

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Booth 44

ITRES Research Limited

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Website	www.itres.com

ITRES (1979) manufactures airborne hyperspectral electro-optical imagers for high resolution remote sensing applications (coastlines, water quality, minerals, heat loss, fire mapping, search and rescue target detection). Custom imager design services are offered in the VNIR, SWIR, MWIR, and LWIR infrared spectral regions. Worldwide hyperspectral mapping and derived product generation services also offered.

Booth 10

KLT Associates Inc

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Website	www.kltassoc.com

KLT ASSOCIATES, ATLAS provides the latest tools for all photogrammetric software applications processes. Today using the same data structure that was developed 25 years ago, a user can take an archived MAPPS 300 file, MAP/CE file, and many other formats and use the file with the latest Windows version of ATLAS, KLT's feature based vector data collection software(ATLAS), integrated into a user friendly digital stereo plotter (ATLAS/DSP). This philosophy, of data migration continues today with each KLT product. The benefits of this philosophy is a user can prepare a job, compile the data, TIN the data (ATLAS/TIN), produce an ortho mosaic (ATLAS/ORTHO) and deliver a product without changing neither environments nor moving or translating data. All data is maintained in an easy to use and easy to understand ASCII format for manipulation and modification. Driven by our customers and technologies, KLT Associates continues to develop and enhance the KLT products, be it digital aerial cameras, Aerial Triangulation (KLT/AT), LIDAR, close range, or simply stream lining a process, minimizing time factors by using batch processes, KLT Associates is always listening to our customers. We pride ourselves in customer support and response; we provide toll free numbers to our customers with support at no additional cost available through out the world. Look us up at ISPRS, email or call us, we will be happy to discuss your needs and requirements and show you how KLT Associates can address your specific photogrammetric needs.

KQ GEO Technologies

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Founded in May, 2001, KQ GEO TECHNOLOGIES CO., LTD. is one of the few A level surveying and mapping service providers qualified by the State Bureau of Surveying and Mapping in China. With over 200% annual sales growth rates, the sales exceeded $30 million in 2009, of which software sales were up to more than $15 million. With over 800 employees, 25 regional offices in China, KQ GEO TECHNOLOGIES CO., LTD. has become one of the leading suppliers of GIS platforms, GNSS technologies & equipments, spatial data service, and GPS technologies. The company is dedicated to providing superior and comprehensive solutions for customers. It founded two research centers in Beijing and Wuhan, and one research lab in the University of Nottingham, providing powerful technical support for various applications. KQ GEO TECHNOLOGIES CO., LTD. delivers many well-proven products which have lots of successful applications in industries such as land, conservation, forestry, water, transportation, communication, electric power, municipal facility, real estate, navigation and so on. The company has complete solutions for land resource management, 3D urban scenery, real estate management, comprehensive municipal management, road administration, management of underground pipelines and GIS-based e-government. All the solutions have been widely used.

Maptek

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Maptek I-Site™ systems combine accurate 3D laser scanners with advanced point cloud processing software for survey, civil, mining and forensic applications. Products include the I-Site 8800 and I-Site 8400 laser scanners, I-Site Studio intuitive point cloud software and I-Site Forensic software.

National Geomatics Centre of China

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National Geomatics Center of China (NGCC) is a governmental agency, subordinating to National Administration of Surveying, Mapping and Geoinformaton of China (NASG). The responsibilities for NGCC are construction, management, distribution, archiving and application of national fundamental geoinformation data; planning, designing and execution of national major surveying and mapping projects etc.

Booth 57C

NZ Aerial Mapping Ltd

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NZAM provide aerial photography and LiDAR capture, photogrammetry and data processing services to clients worldwide. Employing over 40 staff and with 76 years experience, NZAM utilise a fleet of six aircraft with state of the art equipment and leading edge technologies.

Booth 5 & 6

PASCO Corporation

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Established since 1953, PASCO CORPORATION is a Japan-based leading company specialized in providing comprehensive geospatial information services. The company is actively involved in referencing, measuring and analysing the data captured from spaceborne, airborne, on the ground and even ship-borne systems and presents customized value-added products.

Booth 20

Optech Incorporated

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Optech is the world leader in the development, manufacture and support of advanced lidar and camera survey instruments. Optech offers both standalone and fully integrated lidar and camera solutions in airborne mapping, airborne lidar bathymetry, mobile mapping, terrestrial laser scanning, mine cavity monitoring, industrial process control, and space-proven sensors.

Booth 11

PCI Geomatics

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PCI Geomatics is a world-leading developer of software and systems to process aerial and satellite imagery. The company provides integrated Esri imagery workflows, standalone image processing capability, and large volume processing throughput, giving customers the ability to produce high-quality image products and derived information for any project.

Booth 61

Phase One A/S

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Team Phase One
Our products are known for their quality, flexibility and speed enabling shooting in a wide range of formats to achieve visions without compromise. Phase One iXA aerial camera and lenses are designed to deliver superior quality image capture and investment value. Phase One companies include Leaf-Imaging and Mamiya Camera company.

Booth 18

PRAGUE 2016 – ISPRS CANDIDACY

Contact	Lena Halounova – Chairperson of the Czech Society for Photogrammetry and Remote Sensing
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The Czech Society for Photogrammetry and Remote Sensing (SFDP), representing Prague 2016 – ISPRS Candidacy, is an organization engaged in photogrammetry, remote sensing, laser scanning and GIS. The Photogrammetry Society was founded in our country by Czechoslovakian pioneers in 1930 and constant progress accompanies the Society since then.

Booth 82

Photomapping Services Pty Ltd

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Photomapping are mapping and airborne imagery specialists delivering economical spatial solutions. Focusing on acquisition, manipulation, management and presentation of geospatial data.

Comprising
- Four aircraft with state of the art Optech LiDAR, Leica ADS80 digital acquisition, Zeiss film cameras.
- Australia wide film archive from 1930.
- Five precise scanners.

Booth 54 & 60

Racurs

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Racurs successfully works in the Russian and international market of geoinformatics and is one of the recognized leaders of this area in Russia. Our flagship product PHOTOMOD was one of the first DPW on the market designed to work on off-the-shelf PCs. PHOTOMOD is a powerful toolkit for processing of RSD.

Booth 24

RapidEye AG

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Website	www.rapideye.com

RapidEye is a leading provider of quality high-resolution satellite imagery. With a constellation of five Earth Observation satellites, RapidEye images over 4 million square kilometers of earth every day, and adds approximately one billion square kilometers of earth to its archive yearly. Viewing RapidEye's extensive archive is easy with EyeFind! www.rapideye.net

Booth 40 & 41

RIEGL Laser Measurement Systems GmbH

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With 30 years of experience in the research, development and production of laser scanners, rangefinders and distance-meters RIEGL delivers proven innovations in 3D. Dedicated to producing the best possible laser sensors for the desired application in order to perfectly fulfill the given measurement task and therefore fully satisfy the customers' expectations worldwide.

Booth 29A

Satellite Surveying And Mapping Application Centre, NASG

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Booth 50

SFPT – Paris 2016 Candidate City

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The French Society for Photogrammetry and Remote Sensing would be pleased to welcome the ISPRS Congress in Paris in 2016. This application is organized in partnership with Colloquium, a recognized professional congress organiser, and supported by the French government, the city of Paris, CNES (French Space Agency), IGN (French Institute for Geographic and Forestry Information) and the national scientific and industrial community, which are strongly involved in ISPRS. Know more about our activities and publications on our booth N°50.

Booth 47E

Shaanxi Tirain Science & Technology Co Ltd

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Shaanxi Tirain Science & Technology Co., Ltd specialize in aerial Photogrammetry and Remote Sensing, engineering survey, cadastral survey, map compilation, GIS projects, GIS software design, mobile GIS, WebGIS and other related areas. We provide high quality geoinformation products and solutions to support a wide range of land-use and natural resource management activities.We possessed Surveying and Mapping Class A Qualification Certificate, passed the ISO9001 Quality System Certification and obtained the High-tech Enterprise Certificate in July 2005. Also, we have the honor that being awarded the title of "Excellent Credit Company" by the Xi'an Municipal Government for consecutive years. Over the years, our company have focused on the market, adhered to custom-centric philosophy, developed with innovative technologies and pursued high quality. With the excellent services and high-quality products we have won the trust of all users.

Booth 81

Silver Data Spatial-GIS Co. Ltd (Xiamen)

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Established in 2003, with total capital RMB 50 million. Our business scope covers surveying & mapping, aerial photogrammetry, aerial surveying and remote sensing, engineering surveying, digital city information platform development, GIS application and development. We offer one-stop service from data acquisition, processing, establishment to GIS comprehensive application and development.

Booth 39A & 39B

South Surveying & Mapping Instrument Co Ltd

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Website	www.southinstrument.com

SOUTH, the top Chinese manufacturer as well as an uprising star in the global geomatics community, has recently landed in Australia for further developments. A variety of surveying equipments and solutions are available such as GNSS products, Total Stations and other regular instruments, Lasers, plus automatic deformation monitoring system, high-speed railway measurement, etc.

Booth 80

Simactive Inc

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Website	www.simactive.com

SimActive is the developer of Correlator3D™ software, a patented end-to-end photogrammetry solution for the generation of high-quality geospatial data from satellite and aerial imagery. Correlator3D™ produces dense digital surface models (DSM), digital terrain models (DTM), orthomosaics and vectorized 3D features. Powered by GPU technology, Correlator3D™ ensures matchless processing speed to support rapid production of large datasets.

Booth 68

Spatial Scientific Pty Ltd

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Spatial Scientific is a leading provider of airborne thermal imaging services. We are an authorized reseller and integrator of FLIR thermal imaging technologies. We also provide custom-designed geospatial software and camera control software for a wide range of imaging applications. Clients include multi-national mining companies, environmental consultants, government and academia.

Booth 30

Supresoft Inc.

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Website	www.supresoft.com

Supresoft's proprietary spatial data processing software products are including VirtuoZo (a full digital photogrammetric system), DPGRID (the new generation of digital photogrammetric system) and 3D GIS. VirtuoZo is remarked to be one of the most advanced surveying and mapping software suites available today.

Booth 62 & 69

Trimble Germany GmbH

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Trimble applies geospatial technologies to a variety of industry-specific workflows, enabling the seamless creation of geo-information from raw data. Trimble's land and aerial mobile sensors capture geo-referenced images and point clouds that are interpreted using Trimble's production-scale photogrammetry, terrain modeling and feature extraction software. The resulting high-fidelity models increase business productivity and improve decision-making for a diverse community of global customers, including aerial and land mapping service companies, governments, utilities and transportation.

Booth 85

Taylor & Francis

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Email	enquiries@tandf.com.au
Website	www.tandfonline.com

Publishing books and journals in Science, Built Environment, Humanities, Social Science, Education, Health, Behavioral Science, and other professional subjects, Taylor & Francis is a leading international academic publisher since 1798. Our global publishing program comprises more than 1,800 books and 1,500 journals each year, including 100 journals published from the Asia Pacific region.

Booth 63

Ultimate Positioning

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	Victoria, Australia
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Ultimate Positioning has teamed up with senseFly, Gatewing and Pix4D to provide a booth dedicated to the latest UAV technology. Ultimate Positioning represents these companies for Eastern and Central Australia. This fast developing technology is revolutionising the world or photogrammetry for cost effective, accurate, and on demand imagery and DTMs.

Booth 27C

USQ Engineering and Surveying

UNIVERSITY OF SOUTHERN QUEENSLAND
Faculty of Engineering and Surveying

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Website	www.usq.edu.au

USQ is renowned for its delivery of online (distance education) Engineering and Spatial Science programs. Students can study while they work and tailor their studies to meet individual needs. USQ is able to deliver consistently high quality courses and research supervision in areas such as Surveying, Photogrammetry, Geographic Information Systems and Remote Sensing.

Booth 64,65 & 71

Vexcel Imaging GMBH

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Website	www.iFlyUltraCam.com

Aerial Mapper Takes Digital Images 30 Percent Faster with Large-Format Camera Driven by customer demand for high-quality aerial images, Peace Map switched from film cameras to the UltraCam digital aerial cameras. Peace Map purchased six cameras: one UltraCamD, two UltraCamXp, and three UltraCamLp photogrammetric digital aerial cameras. The company now delivers superior images with up to 30 percent more efficiency and plans to purchase more UltraCam cameras in the future.

Booth 15

Vekta Pty Ltd

VEKTA

Contact	David Lowe
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Vekta is Australia's premier survey and spatial company providing professional surveying consultancy and project services to some of the country's largest resource infrastructure projects. Vekta's ability to combine the use of aerial and land surveying methods and technologies makes them ideally suited to partner on major infrastructure projects on a long term basis to deliver all spatial requirements throughout the project lifecycle.

Booth 21 & 22

VisionMap

VISIONMAP
Digital mapping systems

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Website	www.visionmap.com

VisionMap is a leading provider of state-of-the-art digital automatic aerial survey and mapping systems. VisionMap's unique technology created innovative data acquisition and data processing system which optimizes mapping work and sets a new standard for productivity in the geospatial data industry.

Booth 56

Wuda Geoinformatics Co Ltd

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Wuda Geoinformatics Co., Ltd. is an enterprise that transfers scientific and technological achievements of Wuhan University. Founded in 1999 and with its IPR, it is the only high-tech company in China which provides service covering the entire life cycle of geospatial information, including spatial data acquisition and production, integration and management, sharing and publishing.

Booth 47A

Wuhan Visiontek Inc.

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Accurate Measuring, Colourful World.
Wuhan Visiontek Inc., a high-tech enterprise, is specialized in developing photogrammetric software, providing spatial information digitization solutions, digital city comprehensive solutions, and 4D products production. It owns over 20 core products of proprietary intellectual property rights.

Booth 67

Wuhan HuaZheng Duowei Software Company

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Website	www.hzgeospace.com

HuaZheng Duowei Software Co., Ltd is a geospatial data and services provider. The company currently has offices in Wuhan and Beijing, China and a representative office in Maryland, USA. HuaZheng Duowei Software Co., Ltd is an innovative company with its own proprietary software tools that are leading in the production and applications of 3D urban models.

Booth 29E & 29F

Xi'an ARSC Information Industry Co., Ltd

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Website	www.arscmh.com

Xi'an ARSC Information Industry Co.,Ltd, subordinated to Aerial Photogrammetry and Remote Sensing Bureau of China National Administration of Coal Geology(ARSC) which was founded in 1965, was approved as "National Western 3S Spatial Information Industry Base" by Ministry of Science and Technology and Shaanxi Provincial Geographic Information Engineering Technology Research Center.
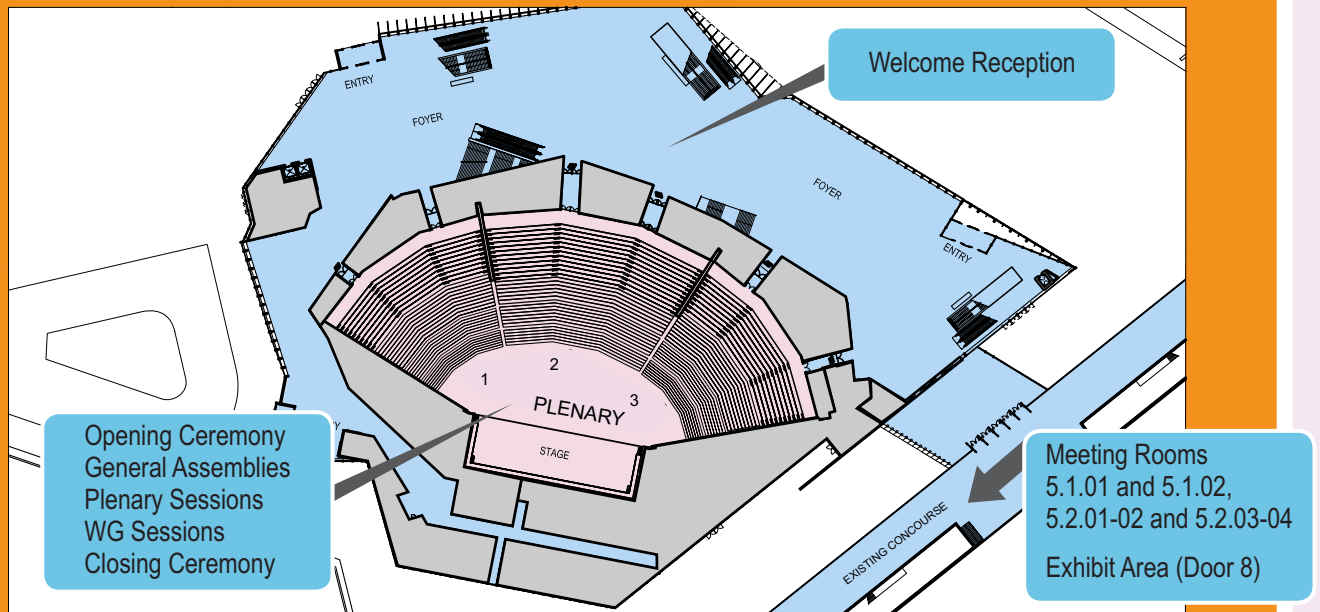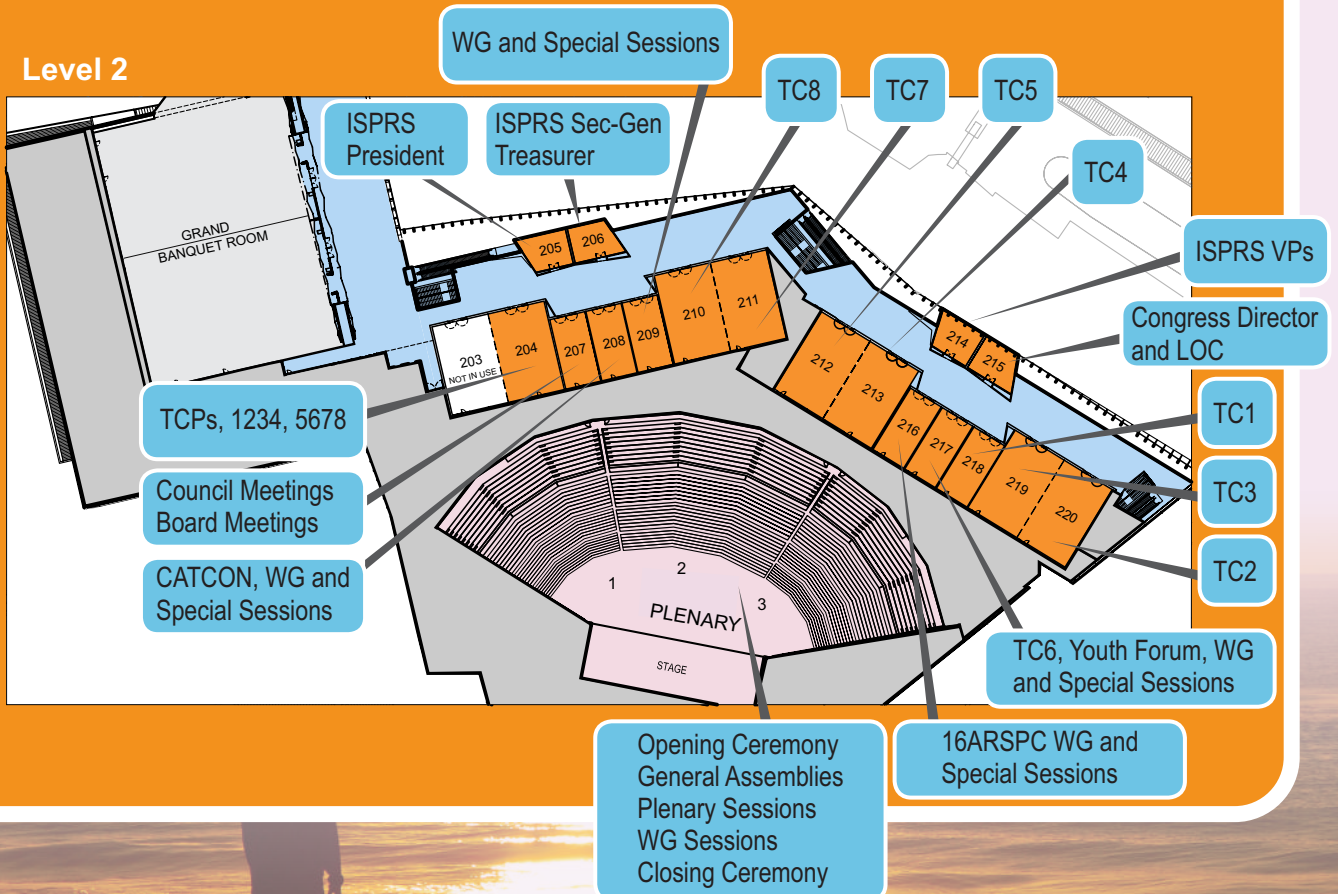
Accommodation and Venue Location

1. **Crown Metropol** (Congress Hotel) ★★★★★
    Cnr Whiteman and Clarendon Street, Southbank
    +61 3 9292 8888

2. **Hilton South Wharf** ★★★★★
    2 Convention Centre Place, South Wharf
    +61 3 9027 2000

3. **Crown Towers** ★★★★★
    8 Whiteman Street, Southbank
    +61 3 9292 8888

4. **Crown Promenade** ★★★★
    8 Whiteman Street, Southbank
    +61 3 9292 6688

5. **Crowne Plaza Melbourne** ★★★★✦
    1-5 Spencer Street, Melbourne
    +61 3 9648 2777

6. **Vibe Savoy Hotel Melbourne** ★★★★✦
    630 Little Collins Street, Melbourne
    +61 3 9622 8888

7. **Travelodge Docklands** ★★★★
    66 Aurora Lane, Docklands
    +61 3 8615 1000

8. **Medina Executive Northbank** ★★★★
    550 Flinders Street, Melbourne
    +61 3 9246 0000

9. **Melbourne Short Stay Apartments** ★★★★✦
    63 Whiteman Street, Southbank
    +61 3 8256 7500

10. **Oaks on Market** ★★★★✦
    60 Market Street, Melbourne
    +61 31300 790 687

Venue Information - Melbourne Convention and Exhibition Centre

Ground Floor

ENTRY
FOYER
FOYER
ENTRY

Welcome Reception

PLENARY
1 2 3
STAGE

Opening Ceremony
General Assemblies
Plenary Sessions
WG Sessions
Closing Ceremony

EXISTING CONCOURSE

Meeting Rooms
5.1.01 and 5.1.02,
5.2.01-02 and 5.2.03-04

Exhibit Area (Door 8)

Level 2

WG and Special Sessions

TC8   TC7   TC5

ISPRS
President

ISPRS Sec-Gen
Treasurer

TC4

GRAND
BANQUET ROOM

ISPRS VPs

Congress Director
and LOC

205 206

210 211

214 215

203
NOT IN USE

204 207 208 209

212
213

TC1

TCPs, 1234, 5678

216 217 218 219 220

TC3

Council Meetings
Board Meetings

TC2

CATCON, WG and
Special Sessions

PLENARY
1 2 3
STAGE

TC6, Youth Forum, WG
and Special Sessions

Opening Ceremony
General Assemblies
Plenary Sessions
WG Sessions
Closing Ceremony

16ARSPC WG and
Special Sessions

General Information

Attendance Certificate
A certificate of attendance is included in your name badge.

Car Parking
Parking is available at the Melbourne Exhibition Centre and adjacent car parks.

Basic Registration Entitlements
- Entry to all sessions
- Attendance at Welcome Reception
- Congress Satchel
- Copy of Final Program
- Digital Copy of Proceedings
- Entry to the Exhibition
- Morning and Afternoon Tea each day of the Congress
- Attendance at the Exhibitors' Reception

Standard Registration Entitlements
- Entry to all sessions
- Attendance at Welcome Reception
- Congress Satchel
- Copy of Final Program
- Digital Copy of Proceedings
- Entry to the Exhibition
- Lunch each day of the Congress
- Morning and Afternoon Tea each day of the Congress
- Attendance at the Exhibitors' Reception

Full Registration Entitlements
- Entry to all sessions
- Attendance at Welcome Reception
- Congress Satchel
- Copy of Final Program
- Digital Copy of Proceedings
- Entry to the Exhibition
- Morning and Afternoon Tea each day of the Congress
- Lunch each day of the Congress
- Attendance at the Congress Gala Dinner
- Attendance at the Exhibitors' Reception

Day Registration Entitlements
- Entry to all sessions, ceremonies and receptions on the day of registration
- Congress Satchel
- Copy of Final Program
- Entry to the Exhibition
- Lunch on day of attending Congress

Accompanying Persons Entitlements
- Access to the Exhibition
- Attendance at the Welcome Reception
- Attendance at the Opening Ceremony
- Congress Satchel
- Attendance at the Closing Ceremony
- Attendance at the Exhibitors' Reception
- Accompanying Persons' Morning Tea

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Mobile Phones and Pagers
As a courtesy to speakers and other delegates, we request that all mobile phones and pagers are in silent mode or switched off before entering sessions.

Messages
The Congress registration desk staff will take messages for delegates during the Congress. Messages will be posted on the message board, located next to the registration desk. Delegates are requested to check the message board during breaks.

Congress App
The official ISPRS2012 App will keep you organized during the congress. Within the App you can view the entire program, plan your own schedule, and make direct contact with colleagues at the congress.

Downloading the ISPRS 2012 Mobile App is easy!
For iPhone (plus, iPod Touch & iPad) and Android phones: visit your App Store or Android Market on your phone and search for 'ISPRS 2012' and download the app like you would any other! For All Other Phone Types (including BlackBerry and all other web browser-enabled phones): Point your mobile browser to: http://m.core-apps.com/invisage-isprs2012.
(Username and Password: Photogrammetry)

From there you will be directed to your native app store to download the app for your particular device, or on some phones, bookmark this page for future reference.

Additionally you can also scan the QR code to download.

Name Badges

Your name badge is your entrance ticket to all Congress sessions and the Exhibition. Please wear your name badge at all times. Your tickets for the pre-Congress workshops, lunches and Congress dinner are also included in your name badge holder.

No Smoking Policy

Delegates should be aware that smoking is banned in all public buildings, hotels and restaurants throughout Victoria, including the Congress venue.

Tickets

Delegates will receive all pre-booked tickets at registration. Tickets are required for the pre-Congress workshops, site tours, welcome reception and Congress dinner. If you have misplaced your tickets or have not received tickets for functions you wish to attend, please see the staff at the Registration Desk.

WiFi

WiFi access is available free of charge throughout the MCEC and Exhibition.

Congress Proceedings

All delegates registered for the Technical Program receive two USB drives, one containing PDF copies of the papers in the ISPRS Annals of Photogrammetry, Remote Sensing and Spatial Information Sciences and one containing PDF copies of the papers in the International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences. Papers in the Annals are accepted based on double blind, peer review and comprise four volumes. Papers in the Archives are accepted based on the abstract only and comprise eight volumes.

All twelve volumes are available as printed proceedings and will be despatched to delegates post-congress. Orders for any of the twelve volumes can be placed at the registration desk. A nominal fee for surface mail or air mail postage will be included as an additional cost.
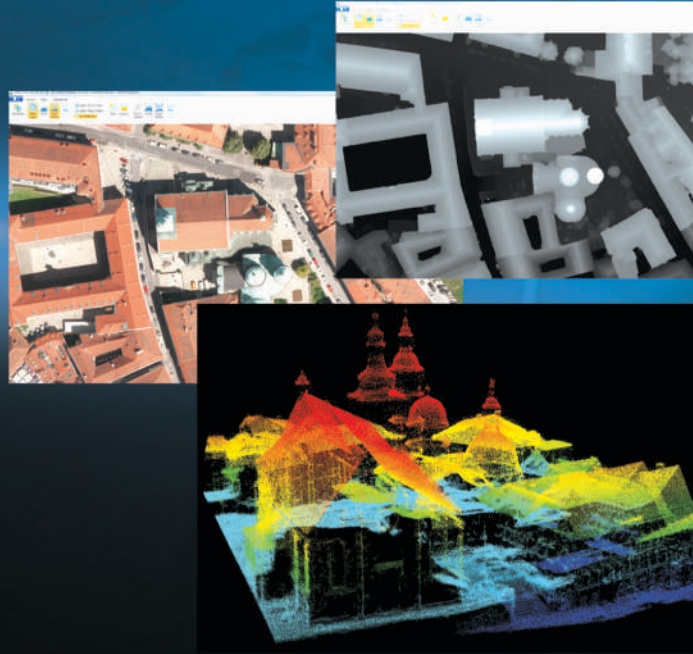
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Commission 1 (1 Volume)	$75
Commission 2 (2 Volumes)	$90
Commission 3 (2 Volumes)	$120
Commission 4 (2 Volumes)	$100
Commission 5 (1 Volume)	$75
Commission 6 (1 Volume)	$60
Commission 7 (2 Volumes)	$120
Commission 8 (1 Volume)	$70
All Volumes	$700

Notes

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ISPRS 2012 Final Program

Time	Saturday August 25	Sunday August 26	Monday August 27	Tuesday August 28	Wednesday August 29	Thursday August 30	Friday August 31	Saturday September 1
9:00 / 9:30 / 10:00	Workshops and Tutorials	Plenary	Technical, Theme and Special / ARSPC Plenary / Youth Forum	Technical, Theme and Special / ARSPC Plenary	Plenary	Technical, Theme and Special / CATCON	Plenary	Technical, Theme and Special
10:30				Coffee	Break			
11:00 / 11:30 / 12:00	Workshops and Tutorials	Technical, Theme and Special	Technical, Theme and Special / ARSPC / Youth Forum	Technical, Theme and Special / ARSPC	Technical, Theme and Special	Technical, Theme and Special / CATCON	Technical, Theme and Special	Plenary
12:30				Lunch	Break			
13:00				Business Meetings				
13:30 / 14:00 / 14:30 / 15:00	Workshops and Tutorials	Technical, Theme and Special	Short plus Interactive / Youth Forum	Short plus Interactive / Technical Tour	Short plus Interactive	Short plus Interactive / Technical Tour	Short plus Interactive	Closing Ceremony
15:30				Coffee	Break			
16:00 / 16:30 / 17:00	Opening Ceremony	Technical, Theme and Special	Technical, Theme and Special / ARSPC / Youth Forum	Technical, Theme and Special / ARSPC / Technical Tour	Technical, Theme and Special	Technical, Theme and Special / Technical Tour	Technical, Theme and Special	
17:30				Networking	Break			
18:00 / 18:30	Welcome Reception		Exhibitors Reception	Theatre Evening	Restaurant Evening and Foundation Function	Free Evening	Pre-dinner drinks	AFL Game (Australian Rules Football)
19:00 / 20:00 / 20:30 / 21:00 / 21:30		Home Hospitality Evening					Conference Dinner	

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