



OBJECTIVES OF COMMISSION 1

Technical Commission I of ISPRS addresses the larger as possible scope of aspects of geo-image acquisition systems.

This comprises all classical sub-systems of imaging systems: platforms, imaging sensors (passive & active), geometric and radiometric calibration, direct georeferencing acquisition, elaboration of photogrammetric and radiometric models, and on-board and on-ground image pre-processing.

It also englobes new trends in sensing i.e. networks of systems (not necessary all imaging systems) and intelligent systems communicating quickly and taking autonomous decisions to be capable of managing disaster crises for example (volcanoes, tsunamies, ...).

Commission I has historically addressed in the past satellite imagery and more recently has enlarged its scope to digital aerial imagery and Commission I is currently extending its activities (in Cooperation with Commission V) to again higher scale and very flexible acquisition devices such as Terrestrial Mobile Mapping Systems and autonomous vehicle navigation comprising UAVs.

TERMS OF REFERENCE OF COMMISSION 1

- Design and realization of digital aerial and spaceborne missions for Earth observation
- Design, construction, characterization, and installation of imaging and non-imaging sensors (including Optical, IR, SAR, IFSAR, LIDAR, etc.)
- Standardization of definitions and measurements of sensor parameters
- Integration of imaging and non-imaging sensors with other relevant systems
- Geometric and radiometric properties, quality standards, and factors affecting data quality
- Test, calibration and evaluation of sensors (including laboratory, in-flight, inter-calibration and test fields)
- Integrated platform guidance, navigation, positioning and orientation
- Data reception and pre-processing
- On-board preprocessing of data and autonomous systems
- Systems and media for recording sensor data, auxiliary data (time, position, attitude, etc.) and film scanners
- Image and non-image data transfer standards



WELCOME REMARKS

Welcome note by the President of ISPRS

It is my great pleasure to welcome you to the Symposium of ISPRS Commission I. Commission I is important in ISPRS as a cross cutting commission dealing with data acquisition.

I thank SFPT and Alain Baudoin, the Working Group chairs and all the other people who have helped put this symposium together for their hard work and for planning a meeting which I am sure will be successful.

ISPRS is known to most people in the community for the high quality of its workshops and conferences. But we also work with international bodies to promote photogrammetry and remote sensing and this Symposium give an opportunity to do this. I am particularly pleased that the plenary session on the first day includes speakers from The Group on Earth Observation (GEO), EuroSDR and ION, who represent key organisations with whom ISPRS collaborates.

ISPRS is in a position to feed your work into the framework of GEO and to ensure that Earth observation makes a difference to the lives of millions of people throughout the world. Make your work matter and make sure that people know that it matters.

Ian DOWMAN

Mot de bienvenue du président de l'ISPRS

C'est avec un grand plaisir que je vous souhaite la bienvenue au Symposium de la Commission I de l'ISPRS. La Commission I est importante au sein de l'ISPRS en tant que commission transversale traitant de l'acquisition des données.

Je remercie la SFPT et Alain Baudoin, les présidents des Groupes de travail et toutes les personnes qui ont aidé ensemble à ce symposium, pour le dur travail accompli et pour avoir organisé une manifestation qui sera j'en suis sûr un succès.

L'ISPRS est connue de la plupart des personnes de notre communauté pour la haute qualité de ses colloques et conférences. Mais nous travaillons également avec d'autres instances internationales pour promouvoir la photogrammétrie et la télédétection et ce Symposium en fournit l'opportunité. Je suis particulièrement heureux que la session plénière du premier jour inclut des orateurs du Groupe sur l'Observation de la Terre (GEO), EuroSDR et ION, qui représentent des organisations avec lesquelles l'ISPRS collabore.

L'ISPRS est en mesure d'aider le GEO en l'alimentant de votre travail et de permettre ainsi que l'observation de la Terre améliore la vie de millions de personnes dans le monde. Faites en sorte que votre travail y contribue et assurez vous que tous se rendent compte que cela est important.

Ian DOWMAN



SCIENTIFIC COMMITTEE

Presidents

Alain Baudoin, President of ISPRS Technical Commission I
Nicolas Paparoditis, Secretary general of ISPRS Technical Commission I

Members: Officers of ISPRSTC I Working Groups

I/1: Standards, calibration and validation

Chair: Roland Gachet, France
Co-Chair: Veljko Jovanovic, USA
Secretary: Xavier Briottet, France

I/2: SAR and LIDAR Systems

Chair: Charles Toth, USA
Co-Chair: Bryan Mercer, Canada
Secretary: Boris Jutzi, Germany

I/3: Multi-Platform Sensing and Sensor Networks

Chair: Vincent Tao, Canada
Co-Chair: Ismael Colomina, Spain
Co-Chair: Raad Saleh, USA
Secretary: Tom Kralidis, Canada

I/4: Airborne Digital Photogrammetric Sensors Systems

Chair: Jon Mills, UK
Co-Chair: Jean-Philippe Souchon, France
Co-Chair: Michael Cramer, Germany
Secretary: David Barber, UK

I/5: Geometric Modelling of optical spaceborne sensors and DEM generation

Chair: Karsten Jacobsen, Germany
Co-Chair: Peter Reinartz, Germany
Co-Chair: Daniela Poli, Switzerland
Secretary: Gürcen Büjüksalih, Turkey:

I/6: Small Satellites

Chair: Ugur Murat Leloglu, Turkey
Co-Chair: Arthur Cracknell, UK
Secretary: Mazlan Hashim, Malaysia (TBC)



I/7: Intelligent Earth Sensing

Chair: Guoqing Zhou, USA
Co-Chair: Winfried Halle, Germany
Secretary: Lin Su, China

IC WG I/V : Autonomous Vehicle Navigation

Chair: Ron Li, USA
Co-Chair: Jurgén Everaerts, Belgium
Secretary: Kaichang Di, USA

IC WG V/I : Integrated Systems for Mobile Mapping

Chair: Naser El-Sheimy, Canada
Co-Chair: Mohamed Mustapha, Canada
Secretary: Jan Skaloud, Switzerland

ORGANISING COMMITTEE

Presidents	Members
- Marie-José Lefevre-Fonollosa - SFPT - Alain Dupéret - SFPT	- Dominique Fourny-Delloye - CNES - Pascale Ulte Guerard - CNES - Marc Pierrot Deseilligny - IGN - Michel Kasser - IGN - Jean-Michel Nataf - IGN - Alain Baudoin - ISPRS - Nicolas Paparoditis - ISPRS - Isabelle Grujard - SFPT - Dorothée Arnould - Colloquium - Inez Burger - Colloquium



TUESDAY 4 MAY

11:00 - 12:30

Plenary sessions

- PL-1** **THE ROLE OF EUROSAR IN THE EMERGING WORLD OF INTEGRATED SPATIAL INFORMATION**
Murray K.* (Southampton, UK)
- PL-2** **THE INSTITUTE OF NAVIGATION: ADVANCING MODERN NAVIGATION TECHNOLOGIES**
Grejner-Brzezinska D.* (Columbus, USA)
- PL-3** **THE GEOS CHALLENGE: WHAT ROLE FOR THE SCIENTIFIC COMMUNITY?**
Achache J.* (Geneva, Switzerland)

T1 - Airborne Photogrammetric Sensors (Radiometry) - WG I/4

Chair: **Michael Cramer (Germany)**
Co-Chair: **David Barber (UK)**

- T01-01** **AIRBORNE DIGITAL IMAGERS: AN OVERVIEW & ANALYSIS**
Petrie G.*, Walker AS (Glasgow, UK)
- T01-02** **RADIOMETRIC TESTING AND CALIBRATION OF DMC**
Markelin L.*, Honkavaara E, Peltoniemi J, Ahokas E (Masala, Finland)
- T01-03** **IMAGE RESTORATION FOR RESOLUTION IMPROVEMENT OF DIGITAL AERIAL IMAGES**
Becker S.*, Haala N, Honkavaara E, Markelin L, Reulke R (Stuttgart, Masala, Berlin, Germany, Finland)
- T01-04** **"ATMOSPHERIC" CORRECTION OF DIGITAL COLOUR IMAGES BASED ON LUMINANCE RATIO CONSIDERATION**
Ziemann H.*, Grohmann D (Dessau, Germany)

16:00 - 17:30

T2 - Modelling of spaceborne sensors - WG I/5

Chair: **Karsten Jacobsen (Germany)**
Co-Chair: **Daniela Poli (Switzerland)**

- T02-05** **IN-FLIGHT CALIBRATION OF SPOT-5 HRS AND FORMOSAT-2**
Toutin T.*, Blondel E, Rother K, Mietke S (Ottawa, Chelsea, Dresden, Canada, Germany)



- T02-06** PROS AND CONS OF THE ORIENTATION OF VERY HIGH RESOLUTION OPTICAL SPACE IMAGES
Jacobsen K.* (Hannover, Germany)
- T02-07** ANALYSIS OF DIFFERENT ORIENTATION APPROACHES FOR SPACEBORNE PUSHBROOM SENSORS. APPLICATIONS WITH QUICKBIRD
Giannone F, Crespi M.*, Poli D (Rome, Zurich, Italy, Switzerland)
- T02-08** ANALYSIS OF ARTEFACTS IN SUB-PIXEL REMOTE SENSING IMAGE REGISTRATION
Inglada J, Muron V.*, Pichard D, Feuvrier T (Toulouse, France)
- T02-09** THE PLEIADES-HR MOSAIC SYSTEM PRODUCT
De Lussy F.*, Gigird P, Airault S (Toulouse, Saint Mande, France)

WEDNESDAY 5 MAY

08:30 - 10:00

T3 - Developments in Airborne LIDAR Systems - WG I/2

Chair: **Bryan Mercer (Canada)**
Co-Chair: **Boris Jutzi (Germany)**

- T03-10** VALIDATION OF DTMS BENEATH FOREST CANOPY DERIVED FROM P-BAND POLARIMETRIC INSAR
Mercer B.*, Maduck J, Kahr E (Calgary, Canada)
- T03-11** CALIBRATION OF THE OPTECH ALTM 3100 LASER SCANNER INTENSITY DATA USING BRIGHTNESS TARGETS
Ahokas E.*, Kaasalainen S, Hyyppä J, Suomalainen J (Kirkkonummi, Finland)
- T03-13** CAPABILITY OF LASER SCANNING SYSTEMS CAPTURING THE WAVEFORM
Jutzi B.*, Stilla U (Ettlingen, Muenchen, Germany)
- T03-14** A REVIEW OF THE ASPRS GUIDELINES FOR THE REPORTING OF HORIZONTAL AND VERTICAL ACCURACY IN LIDAR DATA
Rodarmel C, Theiss H.*, Johanesen T, Samberg A (Chantilly, VA, Reston, VA, Bethesda, MD, USA)



08:30 - 10:00

T4 - Small Satellites - WG I/6

Chair: **Arthur Cracknell (UK)**
Co-Chair: **Mazlan Hashim (Malaysia)**

- T04-15 INTERNATIONAL STUDY ON COST-EFFECTIVE EARTH OBSERVATION MISSIONS - OUTCOMES AND VISIONS**
Sandau R.* (Berlin, Germany)
- T04-16 THAILAND EARTH OBSERVATION SYSTEM : MISSION AND PRODUCTS**
Kaewmanee M.*, Choomnoommanee T, Fraisse R (Bangkok, Toulouse, Thailand, France)
- T04-17 A NEW ERA OF HIGHLY MINIATURIZED SPACE TECHNOLOGIES, ALLOWING TO DEVELOP HIGH PERFORMING, LIGHT AND AFFORDABLE EARTH OBSERVATION MISSIONS**
Savaria E.* (Cannes-La-Bocca, France)
- T04-18 ON-ORBIT MODULATION TRANSFER FUNCTION ESTIMATION FOR BILSAT IMAGERS**
Leloglu UM.*, Tunali E (Ankara, Turkey)

10:30 - 12:00

T5 - Airborne Photogrammetric Sensors (Geometry) - WG I/4

Chair: **Jon Mills (UK)**
Co-Chair: **Jean-Philippe Souchon (France)**

- T05-19 THEORETICAL AND EMPIRICAL EVALUATION OF GEOMETRIC PERFORMANCE OF MULTI-HEAD LARGE FORMAT PHOTOGRAMMETRIC SENSORS**
Honkavaara E.*, Jaakkola J, Nurminen K, Ahokas E, Markelin L (Masala, Finland)
- T05-20 A SIMULATION STUDY FOR THE GEOMETRIC ACCURACY TESTING OF AIRBORNE LINEAR ARRAY CCD CAMERAS**
Kocaman S.*, Gruen A (Zurich, Switzerland)
- T05-21 CALIBRATION AND VALIDATION OF DIGITAL AIRBORNE CAMERAS**
Cramer M.* (Stuttgart, Germany)
- T05-22 TESTS AND PERFORMANCE EVALUATION OF DMC IMAGES AND NEW METHODS FOR THEIR PROCESSING**
Zhang L, Kocaman S, Kornus W, Baltsavias E.* (Zurich, Barcelona, Switzerland, Spain)
- T05-23 THE HRSC-AX MT. ETNA PROJECT: HIGH-RESOLUTION ORTHOIMAGES AND 1 M DEM AT REGIONAL SCALE**
Gwinner K.*, Coltelli M, Flohrer J, Matz Kd, Marsella M, Roatsch T, Scholten F, Trauthan F (Berlin, Sezione Di Catania, Rome, Germany, Italy)



10:30 - 12:00

T6 - Multi-Platform and Intelligent Sensing, Sensor Networks - WGs I/3, I/7

Chair: **Vincent Tao (Canada)**
Co-Chair: **Guoqing Zhou (USA)**

- T06-24 ON THE USE OF SAR AND OPTICAL IMAGES COMBINATION**
Petit D.*, Oller G, Inglada J (Toulouse, France)
- T06-25 SPATIAL SENSOR WEB REFERENCE MODEL – A MODEL OF
ARCHITECTURE FOR SPATIAL SENSOR WEB INTERCONNECTION**
Liang SL.*, Tao V (Ontario, Canada)
- T06-26 ADVANCE OF EARTH OBSERVING SATELLITE SYSTEM: FROM GEOSS
TO FIEOSS**
Zhou G.* (Norfolk, USA)
- T06-27 TAILORING SPACE SOLUTIONS FOR OPERATIONAL EARTH
OBSERVATION USAGE**
Maliet E.*, Cantié R (Toulouse, France)

12:00 - 13:15

Poster Session 1 - WGs I/3, I/5, I/7

- PS1-01 USE OF MULTI-PLATFORM-SENSING FOR CHARACTERISATION OF
LAND USE IN RIVER CORRIDORS**
Tormos T.*, Kosuth P, Durrieu S, Wasson J, Pella H, Villeneuve B, Perez M
(Montpellier, Lyon, France)
- PS1-02 SPACE ANALYSIS AND THE DETECTION OF THE CHANGES FOR
THE FOLLOW-UP OF THE COMPONENTS SAND-VEGETATION IN
THE AREA OF MECHERIA, ALGERIE**
Haddouche I.*, Mederbal K, Saidi S (Tlemcen, Mascara, Montpellier, Algeria, France)
- PS1-03 AUTOMATED SENSOR BLOCK ADJUSTMENT AND LOCAL
ORBIT/FLIGHT PATH POSITIONING BENEFITS, AND
PERSPECTIVES FOR MAPPING APPLICATIONS**
Le Guellec A.* (Deuil La Barre, France)
- PS1-04 A NEW PROCEDURE TO COMPARE NDVI IMAGES DERIVED FROM
MODIS AND LANDSAT 7 ETM+ DATA**
Boccardo P, Borgogno Mondino E.*, Perez F, Claps P (Torino, Italy)
- PS1-05 AN OPEN STANDARD-BASED SENSOR WEB APPROACH FOR ONLINE
3D EXTRACTION: USING SENSOR OBSERVATION SERVICE,
SENSORML AND RATIONAL FUNCTION MODEL**
Liang SHL.*, Wang R, Tao V (Toronto, Canada)



- PS1-06** 3D PHYSICAL VS EMPIRICAL MODELS FOR STEREO-PROCESSING HR IMAGES: EXAMPLES WITH IKONOS AND QUICKBIRD
Toutin T.*, Schauer P (Ottawa, Dresden, Canada, Germany)
- PS1-07** GEOMETRIC ACCURACY OF IKONOS GEO PANCHROMATIC ORTHOIMAGE PRODUCTS
Aguilar MA.*, Aguilar FJ, Carvajal F, Agüera F (Almeria, Spain)
- PS1-08** GENERATION OF DEM FROM NON-METRIC CAMERA IMAGES OVER MOUNTAINOUS AREAS
Abdullah K.*, Muhammad D, Sarip A (Johor, Malaysia)
- PS1-09** AN INTEGRATED MODEL TO ESTIMATE THE ACCURACY OF DIGITAL ORTHOIMAGES FROM HIGH RESOLUTION SATELLITE IMAGERY
Aguilar FJ.*, Aguilar Ma, Agüera F, Carvajal F (Almería, Spain)
- PS1-10** GEOMETRIC MODELLING AND ORTHORECTIFICATION OF SPOT5 SUPER MODE IMAGES
Boukerch I.*, Bounour H (Oran Arzew, Algeria)
- PS1-11** AN IMPROVED MODEL FOR ALONG TRACK STEREO SENSORS USING RIGOROUS ORBIT MECHANICS AND NAVIGATION DATA
Michalis P.*, Dowman I (London, UK)
- PS1-12** ANALYSIS OF DTM PRODUCTION FROM SPOT-5 HRS-STEREO DATA AND THE INFLUENCE OF ATMOSPHERIC EFFECTS
Tsakiri-Strati M.*, Pateraki M, Georgoula O (Thessaloniki, Greece)
- PS1-13** IN-DEPTH INVESTIGATIONS OF PARAMETERS INFLUENCING ACCURACY OF ORTHOIMAGES FROM HIGH RESOLUTION SATELLITES
Eisenbeiss H.*, Zhang L, Baltsavias E (Zurich, Switzerland)
- PS1-14** ACCURACY COMPARISON TESTS ON ORTHO-RECTIFIED HIGH RESOLUTION SATELLITE IMAGES
Ioannidis C.*, Katsigiannis A (Athens, Greece)
- PS1-15** FIRST ASSESSMENTS OF PLEIADES SYSTEM POTENTIAL FOR IGN-FRANCE IMAGE ACQUISITION REQUIREMENTS
Cantou JPC.*, Buissart HB (Ramonville, Creil, France)
- PS1-16** ACCURACY ANALYSIS ON LARGE BLOCKS OF HIGH RESOLUTION IMAGES
Passini R.*, Jacobsen K (Mt Laurel, Hannover, USA, Germany)

14:15 - 15:30

Poster Session 2 - WGs I/1, I/2, I/6

- PS2-17** ACTIVITIES OF CALIBRATION AND VALIDATION FOR THE KOMPSAT-2 MSC DATA
Lee DH.*, Seo DC, Song JH, Park SY, Lim HS (Daejeon, Republic of Korea)



- PS2-18 GEOMETRIC CALIBRATION OF PLEIADES LOCATION MODEL**
Greslou D.*, De Lussy F (Toulouse, France)
- PS2-19 ON-ORBIT MODULATION TRANSFER FUNCTION ESTIMATION USING GROUND TARGETS**
Benbouzid A.*, Rachedi A, Laidi K (Oran, Algeria)
- PS2-20 RADIOMETRIC NORMALIZATION OF A TIME SERIES OF SPOT 4 AND SPOT 5 IMAGES (BD ISLE-REUNION) FOR APPLICATION IN AGRICULTURE.**
Houlès V.*, El Hajj M, Bégué A (Montpellier, France)
- PS2-21 CALIBRATIONS OF FORMOSAT-2 SATELLITE**
Chang LH.*, Cheng HH, Liu SJ, Wu SC (Hsinchu, Taiwan)
- PS2-22 JASON-1 AND TOPEX/POSEIDON ALTIMETER CALIBRATION CAMPAIGNS IN THE WESTERN MEDITERRANEAN**
Martinez-Benjamin JJ.*, Martinez-Garcia M, Martin Davila J, Garate J, Talaya J, Ortiz MA, Baron A, Bonnefond P (Barcelona, San Fernando, Grasse, Spain, France)
- PS2-24 ASSESSMENT AND COMPARISON OF REGISTRATION ALGORITHMS BETWEEN AERIAL IMAGES AND LASER POINT CLOUDS**
Pothou A.*, Karamitsos S, Georgopoulos A, Kotsis I (Athens, Greece)
- PS2-25 MATCHING TOPOGRAPHIC SURFACES BY RETRIEVING AND MODELING 3D DISCREPANCIES. APPLICATION TO LIDAR DATA AND PHOTOGRAMMETRIC SURFACES.**
Bretar F.* (Saint Mandé, France)
- PS2-27 EVALUATION OF THE POTENTIAL OF SAR ERS AND ASAR ENVISAT SENSORS IN MULTI-INCIDENCE AND MULTI-POLARISATION MODES FOR LANDSCAPE STUDY IN FRENCH GUYANA: EXAMPLES OF KOUROU AND SAINT LAURENT DU MARONI**
Kouame JL.*, Frison PL, Mascaret A, Rudant JP (Champs-Sur-Marne, France)
- PS2-28 PERFORMANCE ANALYSIS OF ALTM3100EA SYSTEM: INSTRUMENT SPECIFICATIONS AND ACCURACY OF LIDAR DATA**
Ussyshkin V.*, Smith B (Toronto, Canada)
- PS2-29 LIDAR FOR CITY MODELS – EXPERIMENT OF LAS VEGAS STRIP**
Wu Sc.* (Las Vegas, USA)
- PS2-31 AGRICULTURAL SOIL MONITORING USING GROUND-BASED RADAR SENSOR: THE GESPAS IN-FIELD EXPERIMENT**
Rouveure R.*, Faure P, Chanzy A, Richard G, Chanut M, Marionneau A, Regnier P (Aubière, Avignon, Orléans, Mons, France)
- PS2-32 APPLICATION OF REMOTE SENSING WITH ALSAT-1 DATA IN SURVEY OF FOREST FIRES AND IT'S IMPACT IN FOREST ECOSYSTEM IN THE NORTH OF ALGERIA**
Zegrar Z.A.* (Arzew, Algeria)
- PS2-33 DEEP PROCESSING AND APPLICATION FOR DMC+4 SMALL SATELLITE**
Yang X.*, Wang C, Lan R (Beijing, Zhengzhou, China)



16:00 - 17:30

T7 - DEM Generation - WG I/5

Chair: **Peter Reinartz (Germany)**
Co-Chair: **Gürçan Buyuksalih (Turkey)**

- T07-28 COMPARISON OF DSM GENERATION METHODS OF URBAN AREAS FROM IKONOS IMAGES**
Krauss T.*, Lehner M, Reinartz P (Wessling, Germany)
- T07-29 COMPARISON OF DEM GENERATION AND COMBINATION METHODS USING HIGH RESOLUTION OPTICAL STEREO IMAGERY AND INTERFEROMETRIC SAR DATA**
Hoja D.*, Reinartz P, Schroeder M (Weßling, Germany)
- T07-30 GENERATION AND VALIDATION OF DIGITAL ELEVATION MODELS BASED ON SATELLITE IMAGES**
Buyuksalih G.*, Jacobsen K (Zonguldak, Hannover, Turkey, Germany)
- T07-31 EVALUATION OF THE POTENTIAL OF PLEIADES SYSTEM FOR 3D CITY MODELS PRODUCTION : BUILDING, VEGETATION AND DTM EXTRACTION**
Flamanc D.*, Durupt M (Saint-Mandé, France)
- T07-32 AUTOMATIC BUILDING 3D-RECONSTRUCTION FROM PLEIADES SIMULATIONS**
Lafarge F.*, Descombes X, Zerubia J, Pierrot-Deseilligny M (Sophia Antipolis, Saint Mandé, France)

16:00 - 17:30

T8 - Advancement in Navigation and Mobile Mapping - ICWG I-V

Chair: **Ron Li (USA)**
Co-Chair: **Jurgen Everaerts (Belgium)**

- T08-33 AUTOMATION OF GROUND IMAGE BASED MARS ROVER LOCALIZATION**
Li R.*, Di K, Agarwal S, Wang J, Matthies L, Howard A (Columbus, Oh, Pasadena, Ca, USA)
- T08-34 AUTONOMOUS IMAGE BASED LOCALISATION FOR A MARTIAN AEROBOT**
Barnes D.*, Shaw A, Summers P, Woods M, Ward R, Evans M, Sims M, Paar G (Aberystwyth, Bristol, Leicester, Graz, UK, Austria)
- T08-35 APPLICATIONS OF PHOTOGRAMMETRIC PROCESSING USING AN AUTONOMOUS MODEL HELICOPTER**
Eisenbeiss H.* (Zurich, Switzerland)



T08-36 MOBILE MAPPING AND AUTONOMOUS VEHICLE NAVIGATION

Toth C.*, Paska E (Columbus, USA)

T08-37 PROJECT FOR AN AUTONOMOUS MODEL HELICOPTER NAVIGATION SYSTEM

Guarnieri A, Pirotti F, Pontin M, Vettore A.* (Padova, Italy)

THURSDAY 6 MAY

08:30 - 10:00

✈T9 - New Spaceborne and Airborne SAR Techniques - WG I/2

Chair: **Charles Toth (USA)**

Co-Chair: **Frederic Bretar (France)**

T09-38 EXTREME PRECISION LIDAR MAPPING

Toth C.*, Grejner-Brzezinska D, Bevis M (Columbus, USA)

T09-39 INTEREST OF FULLY POLARIMETRIC SAR DATA FOR CLASSIFICATION AND LAND USE CARTOGRAPHY

Lardeux C.*, Frison Pl, Rudant Jp, Souyris Jc, Tison C, Stoll B (Champ Sur Marne, Toulouse, , France)

T09-40 A THREE DIMENSIONAL DOMINANT SCATTERER MAP EXTENDS THE DEM INFORMATION IN URBAN AREAS

Adam N.*, Eineder M (Oberpfaffenhofen, Germany)

T09-41 FIRST DATA ACQUISITION AND PROCESSING CONCEPTS FOR THE TANDEM-X MISSION

Eineder M.*, Krieger G, Roth A (Oberpfaffenhofen, Germany)

10:30 - 12:00

✈T10 - Integrated Systems for Mobile Mapping - ICWG V-I

Chair: **Naser El-Sheimy (Canada)**

Co-Chair: **Joe Hutton (Canada)**

T10-42 OPEN-SOURCE SOFTWARE-OPERATED CMOS CAMERA FOR REAL-TIME MAPPING

Gontran H.*, Skaloud J, Janvier N (Lausanne, Le Mans, Switzerland, France)

T10-43 AN INTEGRATED ON-BOARD LASER RANGE SENSING SYSTEM FOR ON-THE-WAY CITY AND ROAD MODELLING

Goulette F.*, Nashashibi F, Abuhadrous I, Ammoun S, Laurgeau C (Paris, France)

T10-44 BRIDGING LAND-BASED MOBILE MAPPING USING PHOTOGRAMMETRIC ADJUSTMENTS

Hassan T.*, Ellum C, El-Sheimy N (Alberta, Canada)



T10-45 HIGH QUALITY GEOREFERENCING OF GROUND-BASED MOBILE MAPPING SYSTEMS IN URBAN AREAS: USING 3D AERIAL-EXTRACTED ROADMARKS AS GROUND CONTROL OBJECTS

Paparoditis N.*, Tournaire O, Soheilian B (Saint-Mandé, France)

T10-46 THE DSS 322 AIRBORNE MAPPING SYSTEM: A VERSATILE FUSION OF DIGITAL PHOTOGRAMMETRIC SENSING WITH DIRECT GEOREFERENCING

Mostafa M.*, Ip A, Hutton J (Richmond Hill, Ontario, Canada)

12:00 - 13:15

Poster Session 3 - WG I/4, ICWGs I-V, V-I

PS3-34 GEOMETRIC VALIDATION OF IMAGERY AND PRODUCTS FROM A HIGH PERFORMANCE AIRBORNE DIGITAL SENSOR

Mills J.*, Al-Hamlan S, Abuoliat A, Horgan J (Newcastle Upon Tyne, Riyadh, Southampton, UK, Saudi Arabia)

PS3-35 INVESTIGATION OF DIGITAL COLOUR IMAGES

Ziemann H, Grohmann D.* (Dessau, Germany)

PS3-36 EVALUATION OF DIGITAL PHOTOGRAMMETRY IN AN OPERATIONAL MAPPING ENVIRONMENT

Olsen B.*, Knudsen T, Nielsen M, Keller K, Jørgensen L, Frederiksen P (Copenhagen, Lyngby, Denmark)

PS3-37 A COMPARATIVE STUDY OF THREE METHODS FOR IDENTIFYING INDIVIDUAL TREE CROWNS IN AERIAL IMAGES COVERING DIFFERENT TYPES OF FORESTS.

Eriksson M.*, Perrin G, Descombes X, Zerubia J (Sophia Antipolis, France)

PS3-38 SEAMLESS AUTOMATIC MOSAICKING TAKING INTO ACCOUNT INFRASTRUCTURES AND BUILDINGS

Xandri R.*, Pérez F, Palà V, Arbiol R (Barcelona, Spain)

PS3-39 IN-FLIGHT TESTING OF RESOLVING POWER AND MTF OF DMC

Honkavaara E, Jaakkola J.*, Markelin L, Becker S (Masala, Stuttgart, Finland, Germany)

PS3-40 THE POTENTIALITIES OF AIRBORNE DIGITAL SENSOR ADS40 FOR THE DOCUMENTATION AND REPRESENTATION OF ARCHAEOLOGICAL SITES

D'amelio S, Emmolo D.*, Orlando P (Palermo, Italy)

PS3-41 ON THE EMPIRICAL PERFORMANCE OF THE DMC

Alamus R.*, Kornus W, Talaya J (Barcelona, Spain)

PS3-42 CALIBRATION AND FIELD EXPERIENCE WITH THE DIGITAL LARGE FORMAT AERIAL CAMERA ULTRACAMD

Gruber M.*, Ladstadter R (Graz, Austria)

PS3-44 BUNDLE BLOCK ADJUSTMENT WITH ULTRACAMD IMAGES

Buyuksalih G.*, Jacobsen K (Zonguldak, Hannover, Turkey, Germany)



PS3-45 IS THERE AN IDEAL DIGITAL AERIAL CAMERA?

Souchon JP.* (Saint Mande, France)

PS3-46 A NEW RADAR SENSOR FOR MOBILE ROBOT LOCALIZATION AND MAPPING IN EXTENSIVE OUTDOOR ENVIRONMENT. FIRST RESULTS

Rouveure R.*, Faure P, Monod Mo (Aubière, France)

PS3-50 APPLICATION OF MOBILE GIS AND SDI FOR EMERGENCY MANAGEMENT

Mobaraki A.*, Mansourian A, Malek M, Mohammadi H (Tehran, Melbourne, Iran, Australia)

PS3-51 THE POTENTIAL OF LOW-END IMUS FOR MOBILE MAPPING SYSTEMS

Barsi BA.*, Lovas LT (Budapest, Hungary)

PS3-52 AUTOMATING ROAD FEATURE EXTRACTION PROCEDURE

Xin Y.* (Richmond Hill, Canada)

14:30 - 16:00

T11 - Standards, Calibration and Validation - WG I/1

Chair: **Roland Gachet (France)**
Co-Chair: **Veljko Jovanovic (USA)**

T11-47 REQUIREMENTS FOR AN ORIENTATION AND CALIBRATION STANDARD FOR DIGITAL AERIAL CAMERAS AND RELATED SENSORS

Kresse W.* (Neubrandenburg, Germany)

T11-48 PERMANENT VALIDATION OF THE GEOMETRIC CALIBRATION AS COMPLEMENT TO MISR DATA PRODUCTION SYSTEM

Jovanovic V.*, Mathews J, Nelson D (Pasadena, USA)

T11-49 ABSOLUTE SPECTRORADIOMETRIC CALIBRATION OF THE ADS40 SENSOR

Beisl U.* (Heerbrugg, Switzerland)

T11-50 THE GEOMETRIC SUPERSITE OF SALON DE PROVENCE

Delvit JM.*, Fave P, Gachet R (Toulouse, France)