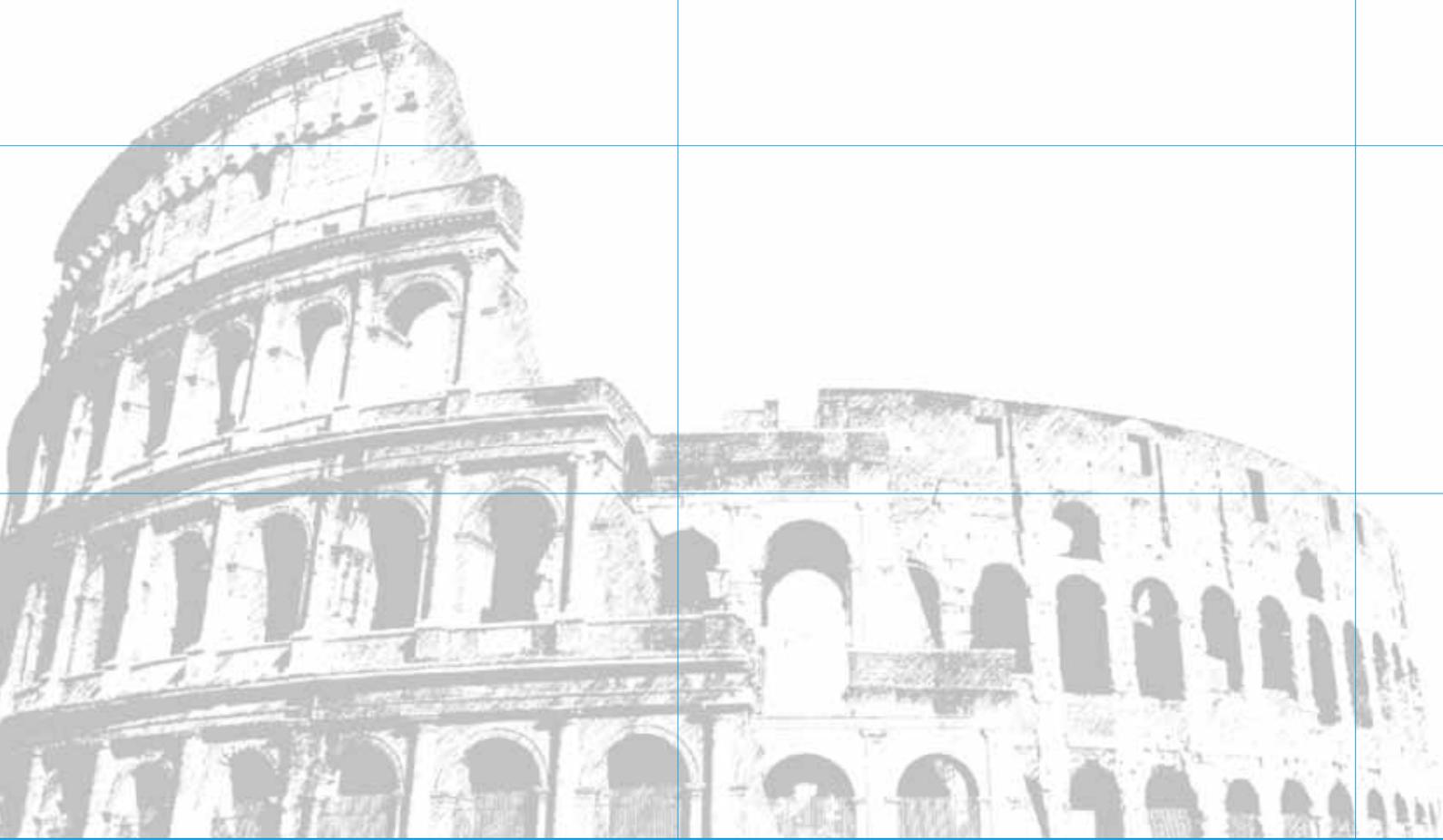


FIG Working Week 2012

Rome, Italy 6–10 May 2012



Knowing to

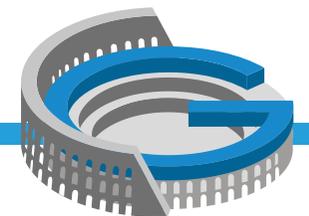
Manage the territory
Protect the environment
Evaluate the cultural heritage

Technical Program

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Program at a Glance

| Time | | | | Exhibition | | | Thursday 10 May | Time | | | | | | | | | | | |
|-------|-------------------------------|-----------------------------|----------------------------|-------------------------------|------------------------------|-------------------------|------------------|--|-------------------------------------|-------------------------------------|--|-------|------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--------------------|--------------|-------|
| | Friday 4 May | Saturday 5 May | Sunday 6 May | Monday 10:30–17:30 | Tuesday 9:00–17:30 | Wednesday 9:00–16:00 | | | | | | | | | | | | | |
| 8:00 | | Registration 14:00–17:30 | Registration 8:00–17:30 | Registration 8:00–18:00 | Registration 8:00–18:00 | Registration 8:00–17:30 | | 8:00 | | | | | | | | | | | |
| 9:00 | Young Surveyors Conference | Comm5/IAG/ICG | History workshop | Young Surveyors Conference | Comm5/IAG/ICG | ACCO Meeting | General Assembly | 12 Technical Sessions and Forums | 12 Technical Sessions and Forums | 12 Technical Sessions and Forums | President's Meeting | 9:00 | | | | | | | |
| 10:00 | | | | | | | | | | | | | Coffee Break | Coffee Break & Exhibition opens | Coffee Break | Coffee Break | Coffee Break | Coffee Break | 10:00 |
| 11:00 | | | | | | | | | | | | | General Assembly | Plenary Session | Plenary Session | Plenary Session | General Assembly | 11:00 | |
| 12:00 | | | Lunch | | | | Lunch | | Lunch | | | 12:00 | | | | | | | |
| 13:00 | Lunch | | | Lunch | Lunch | Lunch | Lunch | | Lunch | | | 13:00 | | | | | | | |
| 14:00 | Young Surveyors Conference | Comm5/IAG/ICG | History workshop | Young Surveyors Conference | Comm5/IAG/ICG | ACCO Meeting | General Assembly | 12 Technical Sessions and Forums | 12 Technical Sessions and Forums | 12 Technical Sessions and Forums | General Assembly and Closing Ceremony | 14:00 | | | | | | | |
| 15:00 | | | | | | | | | | | | | President's Coffee Coffee Break | Coffee Break | Coffee Break | Coffee Break & Exhibition closes | Farewell Reception | 15:00 | |
| 16:00 | | | | | | | | | | | | | Commission Annual Meetings | 12 Technical Sessions and Forums | 12 Technical Sessions and Forums | 12 Technical Sessions and Forums | | 16:00 | |
| 17:00 | | | | | | | | | | | | 17:00 | | | | | | | |
| 18:00 | | | | | | | | | | | | 18:00 | | | | | | | |
| 19:00 | | | | | | | | | | | | 19:00 | | | | | | | |
| 20:00 | | | | | | | | Opening Ceremony and concert 19:30–22:30 | | | | | 20:00 | | | | | | |
| 21:00 | | | | Acco Dinner | Commission Dinners / Free | | | Foundation Dinner and concert 20:00–23:00 | | Conference Dinner 20:00–24:00 | | | 21:00 | | | | | | |

Rooms for the Commission Annual Meetings:

Sunday 6 May:

| | | | |
|--------|-------------|---------|------------|
| Comm 1 | Pisa | Comm 6 | S. Giorgio |
| Comm 2 | Malta | Comm 7 | Caravaggio |
| Comm 3 | Rodi | Comm 8 | S. Stefano |
| Comm 4 | Raffaello | Comm 9 | S. Marco |
| Comm 5 | S. Giovanni | Comm 10 | Bernini |

Technical Tours:

- TT 1 – Land Agency – Office dell’Agenzia del Territorio**
– Monday 7 May, 9:00–12:00
- TT 2 – Land Agency – Office dell’Agenzia del Territorio**
– Wednesday 9 May, 9:00–12:00
- TT 3 – Geoweb**
– Tuesday 8 May, 13:30–17:00
- TT 4 – Geoweb**
– Wednesday 9 May, 9:00–12:00
- TT5 – FAO – Disaster Risk Management and Land Tenure**
– Tuesday 8 May, 13:30–18:30

FIG and CNGeGL Offices:

- Registration (Level –1)
- FIG President:**
Roma (Level 0)
- CNGeGL President:**
Tevere (Level 0)
- Speakers Preparation Room:**
SR (Level –1)
- Meeting rooms:**
MR1, MR2 and S.Stefano (Level –1)
- Conference Doctor:** DR (Level –1)

First FIG Young Surveyors Conference 4–5 May:

- Cassa Italiana di Previdenza e Assistenza Geometri,
4, Lungo Tevere Arnaldo Da Brescia
- FIG Commission 5/IAG/ICG Workshop 4–5 May:**
Cassa Italiana di Previdenza e Assistenza Geometri,
4, Lungo Tevere Arnaldo Da Brescia
- History Workshop 4 May:**
Fondazione dei Geometri Italiani, Via Cavour 179/A

The FIG Working Week 2012

Technical Program

Sunday, 6 May 2012

FIG General Assembly – First Session

Sunday, 6 May 09:00–12:00

Venue: Cavalieri 3&4, Rome Cavalieri

Commission: FIG members

Chair: Mr. **CheeHai Teo**, FIG President

- For all FIG members.
- Open for observers.

FIG General Assembly – First Session –cont.

Sunday, 6 May 13:00–15:00

Venue: Cavalieri 3&4, Rome Cavalieri

Commission: FIG members

Chair: Mr. **CheeHai Teo**, FIG President

- For all FIG members.
- Open for observers.

FIG Presidents Coffee

Sunday, 6 May 15:00–16:00

Venue: Sala Belle Arti, Rome Cavalieri

Commission: Presidents of FIG members

- This is an informal gathering for presidents and head of delegations of FIG member associations.
- By invitation only.

FIG Commission Meetings

Sunday, 6 May 16:00–18:00

Venue: See list for Commissions, Rome Cavalieri

Commission: FIG Commission delegates

Meetings in following rooms:

- Commission 1: Pisa
- Commission 2: Malta
- Commission 3: Rodi
- Commission 4: Raffaello
- Commission 5: S. Giovanni
- Commission 6: S. Giorgio
- Commission 7: Caravaggio
- Commission 8: S. Stefano
- Commission 9: S. Marco
- Commission 10: Bernini

Monday, 7 May 2012

FIG Africa Task Force – Breakfast Meeting

Monday, 7 May 08:00–09:00

Venue: S. Stefano, Rome Cavalieri

Commission: FIG ATF

Chair: Dr. **Diane Dumashie**, Chair, FIG Africa Task Force, United Kingdom

FAO – Implementing Land and Property Taxes

Monday, 7 May 09:00–10:30

Venue: Ellisse, Rome Cavalieri

Commission: FAO, FIG and 9

Co-chairs: Dr. **Paul Munro-Faure**, FAO and Dr. **Frances Plimmer**, Chair, FIG Commission 9, United Kingdom

Paul Munro-Faure, FAO and **Frances Plimmer**, FIG Commission 9:
Opening remarks

Alexander I. Okunev and **Galina L. Smolina** (Russia):

Introduction of a Tax on Real Estate in Russia, and the Computer Assisted Mass Appraisal System Developed under the Cadastre Development Project

Niño Raymond B. Alvina (Philippines):

Comprehensive Development of Valuation and Property Taxation under the Land Administration and Management Programme

Nashilongo Shivute (Namibia):

Namibia Commercial Farmland Tax implemented with support from FAO

Mehmet Cesur (Turkey):

Development of Valuation in Turkey under the Land Registry and Cadastre Modernization Project

Questions and discussion and wrap up.



TS01A – The Changing Work Environment of the Surveying Professional – Looking towards 2020

Monday, 7 May 09:00–10:30
Venue: Cavalieri 4, Rome Cavalieri
Commission: 1
Chair: Ms. **Mara Morbin**, Italy
Rapporteur: Ms. **Leonie Newnham**, Chair, FIG Commission 1, Australia

Brian Coutts (New Zealand) and **Malcolm McCoy** (Australia):
Towards 2020 – Critical Developments in Land Surveying in 60 Years (5742)

Vincent Thomas and **Matthieu Bach** (Canada):
Times are Changing : How New Technologies Diversify the Role of the Surveyor (6023)

Pierpaolo Bonfanti (Italy):
Professional Ethics and the New Development Model (6107)

Leonie Newnham (Australia):
New Ways of Working – Professional Adopting Social Media as Part of Their Working Culture (6144)

Cristina Aiuti (Italy):
A Concrete Experience for Students on Social Responsibility and Caring of Disabled (6203)

TS01B – Geodetic Datum I

Monday, 7 May 09:00–10:30
Venue: Cavalieri 3, Rome Cavalieri
Commission: 5
Chair: Mr. **Mikael Lilje**, Chair, FIG Commission 5, Sweden
Rapporteur: Mr. **Lars Engberg**, Sweden

Ruth Neilan (USA), **Urs Hugentobler** (Germany) and **Chris Rizos** (Australia):
The IGS in the Service of Science and Society: New Roles, New Challenges and New Products (5934)

Nic Donnelly (New Zealand):
Progress Towards a Nationwide Adjustment of New Zealand's Geodetic Data (5775)

Rob Sarib and **Amy Peterson** (Australia):
A New Geodetic Datum for the Northern Territory – Australia (5804)

Gian Gherardo Calini and **Reinhard Blasi** (Belgium):
EGNOS and Precision Applications: GIS-Mapping and Precision Agriculture (6254)

TS01C – Construction Economics and Management I

Monday, 7 May 09:00–10:30
Venue: Caravaggio, Rome Cavalieri
Commission: 10
Chair: Mr. **Robert Sinkner**, Chair, FIG Commission 10, Czech Republic
Rapporteur: Mr. **Andrea Massaro**, Italy

Chan KH (Hong Kong SAR, China):
Critical Factors in Contract Management (5574)

Franco Mazzocchi (Italy):
Designing/Building/Living: "The Building Organism" (6108)

Tzena Y C Wong (Hong Kong SAR, China):
Adaptation of Web-based Document Management Systems as Project Management Tools in the Construction Industry in Hong Kong (5393)

Borvorn Israngkura Na Ayudhya (Thailand):
Factors Causing Delay in Payment of Residential Building Projects in Thailand (5480)
This is a peer reviewed paper.

Olufemi Oyedele (Nigeria):
The Challenges of Infrastructure Development in Democratic Governance (6119)

Anita Sidelska (Latvia):
Heat Insulation of Dwelling Houses (5947)
This is a flash presentation.

TS01D – Spatial Data Infrastructure

Monday, 7 May 09:00–10:30
Venue: S. Giovanni, Rome Cavalieri
Commission: 3
Chair: Prof. **Hartmut Mueller**, Germany
Rapporteur: Ms. **Paola Ronzino**, Italy

Christian Hickel and **Jörg Blankenbach** (Germany):
From Local SDI to E-Government – Case Study in Municipalities in the South of Hesse (5553)
This is a peer reviewed paper.

Ulrike Klein and **Hartmut Mueller** (Germany):
Humans and Environment: Cause and Effect Analysis Supported by Spatial Data Infrastructures (5585)
This is a peer reviewed paper.

Lars Erik Storgaard (Denmark):
INSPIRE in Denmark and Its Impact on the Danish eGovernment (5670)

Murat Meha, Muzafer Çaka (Kosovo), **Sonila Jazo** (Albania) and **Bashkim Idrizi** (Macedonia, FYROM):
Address Register in the Perspective of NSDI (5933)

Vlado Cetl, Darko Sisko and **Veselic-Bruvo Jadranka** (Croatia):
Local Spatial Data Infrastructure as a Service for Efficient Spatial Management (6086)

Sergey Sapelnikov (Russia):
SDI Development in the Russian Federation (6159)

Sedat Bakici, Akin Kisa and **Bilal Erkek** (Turkey):
National Spatial Data Infrastructure (NSDI) Feasibility Study and Apparent Risks in Turkey (5788)

TS01E – Pro Poor Land Management

Monday, 7 May 09:00–10:30
Venue: Rodi, Rome Cavalieri
Commission: 7
Chair: Mr. **Christiaan Lemmen**, Netherlands
Rapporteur: Mr. **Jean-François Beaupré**, Canada

Georgina Rockson (Ghana), **Rohan Bennett** and **Liza Groenendijk** (Netherlands):
Land Administration for Food Security (5547)

Claire Galpin (France):
Decentralized Land Management (5972)

Lazarus Ojigi (Nigeria):
Cadastral Information and Adherence to Statutory Conditions in Right of Occupancy vis-à-vis Development Control in Minna, Nigeria (5577)
This is a peer reviewed paper.

Geoff Hay, Tom Clark and **G. Brent Hall** (New Zealand):
The OSCAR Project: Progress in the Development of a Generic Land Administration Application (5740)
This paper has been presented by Brent Hall

Juliana Opoku Nyarko (Ghana):
Managing Peri-Urban Land Development: Building on Pro-Poor Land Management Principles (5673)

TS01F – Dam and Reservoir Engineering Surveying

Monday, 7 May 09:00–10:30
Venue: Malta, Rome Cavalieri
Commission: 6
Chair: Dr. **Eugene McGovern**, Ireland
Rapporteur: Dr. **Craig Hancock**, United Kingdom

Aris Sunantyo, Suryolelono Kabul Basah, Djawahir Fakhurrazzi, Addin Swastana and **Adityo Susilo** (Indonesia):
Design and Installation for Dam Monitoring Using Multi Sensors: A Case Study at Sermo Dam, Yogyakarta Province, Indonesia (5572)

Maria Henriques, José Lima and **Sérgio Oliveira** (Portugal):
Measuring Inclinations in Cabril Dam with an Optoelectronic Sensor (5507)
This is a peer reviewed paper.

Bachir Gourine, Habib Mahi, Amar Khoudiri and **Youcef Laksari** (Algeria):
The GRNN and the RBF Neural Networks for 2D Displacement Field Modeling – Case Study: GPS Auscultation Network of LNG Reservoir (GL4/Z industrial Complex – Arzew, Algeria) (5684)

Seyfullah Demirkaya and **Muhammet Balcilar** (Turkey):
The Contribution of Soft Computing Techniques for the Interpretation of Dam Deformation (5866)

Marco Di Mauro (Italy) and **Joel Van Cranenbroeck** (Belgium):
Geodetic and Geotechnical Data Mutual Offsetting Monitoring Systems (5505)

Riccardo Barzaghi, Livio Pinto and **Riccardo Monaci** (Italy):
The Monitoring of Gravity Dams: Two Tests in Sardinia, Italy (6130)
This is a flash presentation.

Artur Adamek, Janina Zaczek-Peplinska and **Klaudia Gergont** (Poland):
Analysis of Possibilities to Utilise Results of Laser Scanning in Technical Inspection of Water Dams (6060)
This is a flash presentation.



TS01G – Group Land Rights

Monday, 7 May 09:00–10:30
Venue: Bernini, Rome Cavalieri
Commission: 7 and 4
Chair: Prof. **Jaap Zevenbergen**, Netherlands
Rapporteur: Mr. **Søren F. Christensen**, Denmark

Douglas Black (Mozambique): An Innovative Approach to Land Governance— Moving Beyond Word Processors to a Logistical Oriented Implementation Strategy (5532)

Song Zhao (China, PR): Study on the Economic Relations in Property Right under the New Collective Land Rights Frame (6174)

Dong Jiang and **Zhiling Huang** (China, PR): Business Development of China Cadastral Management (6177)

Aune Rummukainen (Finland): Natural Livelihood Real Estates in Finland (5460)

Tarun Ghawana (India), **João Hespanha** (Portugal) and **Jaap Zevenbergen** (Netherlands): Application of Land Administration Domain Model to Recognition of Indigenous Community Rights in Indian Forests – Indian Forest Rights Act, 2006, examined with its Spatial Dimension (5562)
This paper has been presented by Prof. Jaap Zevenbergen, Netherlands.
This is a peer reviewed paper.

Andri Hernandi, Rizqi Abdulharis, Sadikin Hendriatiningsih and **Marisa Mei Ling** (Indonesia): An Institutional Analysis of Customary Marine Tenure in Maluku: Towards Implementation Marine Cadastre in Indonesia (5797)

Rizqi Abdulharis (Indonesia): Spatial Unit Administration Concept and Its Impact to Indigenous Communities in Ambon Lease Region, Indonesia (6039)

TS01H – Francophone Session I

Monday, 7 May 09:00–10:30
Venue: Pisa, Rome Cavalieri
Commission: FIG and FGF
Chair: Mr. **Marc Vander-schueren**, Belgium
Rapporteur: Mr. **Ahmed Chikhi**, Algeria

Gérard Chouquer (France): Comprendre les acquisitions massives de terres aujourd'hui – Understand the Today Massive Land Acquisitions (5932)

Steponas Deveikis and **Vaiva Deveikiene** (Lithuania): The Estimation of the Cultural Heritage – an European Experience and Lithuanian Practice – Evaluation de l'héritage culturel – l'expérience européenne et la pratique lituanienne (5836)

Léopold Degbegnon (Benin): Stakes and Perspective of Network Geodesique Beninois with the Installation of the Permanent Stations – Enjeux et perspectives du reseau geodesique Beninois avec la mise en place des stations permanentes (6183)

TS01I – FIG Africa Task Force – Roundtable Discussion

Monday, 7 May 09:00–10:30
Venue: S. Giorgio, Rome Cavalieri
Commission: FIG ATF
Chair: Dr. **Diane Dumashie**, Chair, FIG Africa Task Force, United Kingdom

Discussants:

- **Diane Dumashie**, Chair, FIG Africa Task Force (United Kingdom)
- **Kevin Msunga**, Cape Peninsula University of Technology (Uganda)
- **Yvonne Sowah**, Past President GhIS & AFRES (Ghana)
- **Emmanuel Tembo**, University of Botswana (Botswana)
- **Eskedar Endashaw** (Ethiopia)
- **Diane Dumashie** (United Kingdom)

TS01J – Master and Regional Planning

Monday, 7 May 09:00–10:30
Venue: Raffaello, Rome Cavalieri
Commission: 8
Chair: Dr. **Frank Friesecke**, Germany
Rapporteur: Mr. **Kwame Tenadu**, Ghana

Fabio Pinna (Italy): Landscape Planning and Its Influence over Property Management and Renovation (5979)

Emanuele Bossini (Italy): Landscape Identity Resources (6194)

Sukran Yalpir, Asli Bozdog and **Saban Inam** (Turkey): Determine of Regional Development Strategies in Izmir (5982)

Bahadir Unver, Esin Bitik and **Dursun Zafer Seker** (Turkey): A GIS Based Urban Transformation Project in Istanbul, Turkey (6076)

Chima Ogba and **Inah Okon** (Nigeria): An Assessment of the Impact of Land Use Characteristics on Residential Choice Making: Implication to Urban Transit Planning in Port Harcourt, Nigeria (6083)

TS01K – Climate Change and Environment

Monday, 7 May 09:00–10:30
Venue: Leonardo, Rome Cavalieri
Commission: 7
Chair: Dr. **David Mitchell**, Australia
Rapporteur: Ms. **Elisabetta Genovese**, France

Xavier Prigent (France): The Green and Blue Network, a New Way of Thinking the Environment? (5702)

Manfred Bottmeyer, Johannes Riedel and **Hilde Rotering-Vuong** (Germany): The Ecological Land Management of the Ruhr Regional Association RVR – A New Path to the Preservation of Open Spaces (5525)

Muhibuddin Usamah (Indonesia), **David Mitchell** and **John Handmer** (Australia): Perceptions of Tenure Security in Camalig Municipality in the Philippines (5550)
This is a peer reviewed paper.

Massimiliano Romagnoli (Italy): The Cadastre of Energy Performance of Buildings – The Case Study of the Regione Lombardia (6109)

Juhana Hiironen and **Kirsikka Niukkanen** (Finland): Land Consolidation and Its Effect on Climate (5555)
This is a peer reviewed paper.

TS01M – Mining and Underground Engineering Surveying I

Monday, 7 May 09:00–10:30
Venue: S. Marco, Rome Cavalieri
Commission: 6
Chair: Prof. **Alessandro Capra**, Italy
Rapporteur: Mr. **Henrik Vad Jensen**, Denmark

Yi Xiaodong, Li Yuanyuan and **Huang Peng** (China, PR): Simulation and Measurement Analysis of NATM Tunnel Construction Method (6211)

Hong Hu, Jing-xiang Gao and **Jiu-yun Sun** (China, PR): New Weighting Model of Gyro-Sides in Under-ground Surveying (6213)

Eray Can, Senol Kuscu and **Cetin Mekik** (Turkey): Geodetic Measurements for Detecting Movements on the Structure Surface Due to Mining Activities (5619)

Hakan Akcin, Eray Can, Hüsein Kemaldere and **Senol Kuscu** (Turkey): Temporal Investigation of Effects on Coastal Structures of Subsidence Caused by Undersea Mining in Zonguldak Hardgoal Basin Using InSAR and GNSS Approach (5948)

PS1 – Plenary Session 1 – Knowledge to Manage

Monday, 7 May 11:00–12:30
Venue: Cavalieri 4, Rome Cavalieri
Commission: All
Chair: Mr. **CheeHai Teo**, FIG President, Malaysia
Rapporteur: Geom. **Fausto Savoldi**, CNGeGL President, Italy

Alexander Mueller, Assistant Director General, Natural Resources Management and Environment Department, FAO: Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (6239)

Stefania Prestigiaco, Minister for Environment and Protection of Land and Sea, 2008–2011 (Italy): Special Projects Studied by the Environmental Commission of the Parliament (6240)

Franco Maggio, Director, Agenzia del Territorio (Italy): The Italian Cadastre and the Real Estate Taxation (6241)



FAO – Partnerships to Implement the FAO Voluntary Guidelines

Monday, 7 May 14:00–15:30
Venue: Cavalieri 4, Rome Cavalieri
Commission: FAO, FIG and 7
Moderator: Dr. **Babette Wehrman**, FAO
Rapporteur: Mr. **Daniel Roberge**, Chair, FIG Commission 7, Canada

CheeHai Teo, FIG President, (Malaysia):
FIG's Role in Promoting and Supporting Responsible Governance of Tenure of Land, Fisheries and Forests

Tanja Pickardt, Sector Project Land Policy, GIZ (Germany):
Responsible Governance of Tenure – Good Practices from around the World

Nashilongo Shivute, Undersecretary, Ministry of Lands and Resettlement (Namibia):
What a Government Can Do to Improve Governance of Tenure – Lessons Learnt from Namibia

Philip Seufert, FIAN (Germany):
Monitoring Responsible Governance of Tenure – Expectations and Recommendations from Civil Society

Mike Taylor, Program Manager, International Land Coalition, ILC (Italy):
Monitoring Responsible Governance of Tenure – the Land Matrix

Discussion:
How Can Surveyors Contribute to Achieve Responsible Governance of Tenure?

Babette Wehrmann, FAO:
Summary of the Discussion and Closing

TS02B – Geodetic Datum II

Monday, 7 May 14:00–15:30
Venue: Cavalieri 3, Rome Cavalieri
Commission: 5
Chair: Dr. **David Martin**, France
Rapporteur: Dr. **Don Grant**, New Zealand

Neil Weston, Tomás Soler and Dan Roman (USA):
Recently Adopted Changes to the Terrestrial Reference Frames Used in the United States (5679)

Simon Chi Wo Kwok (Hong Kong SAR, China):
Coordinate Systems for Surveying and Mapping in Hong Kong (6113)

Vladimir A. Seredovich (Russia), **Raphael Ehigiator-Irughe and Mabel Ehigiator** (Nigeria):
Utilization of IGS/ ITRF in Nigeria BM_AMOS Geodetic Station a Case Study (5496)

Kevin M. Kelly (USA):
Towards Implementing Dynamic Datum Data Management in GIS (5643)

Richard Stanaway, Craig Roberts (Australia), **Graeme Blick and Chris Crook** (New Zealand):
Four Dimensional Deformation Modelling, the Link between International, Regional and Local Reference Frames (5906)

TS02C – Construction Economics and Management II

Monday, 7 May 14:00–15:30
Venue: Caravaggio, Rome Cavalieri
Commission: 10
Chair: Mr. **Robert Sinkner**, Chair, FIG Commission 10, Czech Republic
Rapporteur: Ms. **Tzena Y. C. Wong**, Hong Kong SAR, China

Juergen Schweitzer, Vitali Kochkine, Volker Schwieger and Fritz Berner (Germany):
Quality Assurance in Building Construction, based on Engineering Geodesy Processes (5927)

Andrea Massaro (Italy):
The Construction Activities for the Protection of Cultural Heritage and Landscape (6103)

Vladimira Zufanova (Czech Republic):
Project Management in the State Sector (6045)

Marco Nardini (Italy):
Designing for Safety: Protecting Health and Reducing Social Costs, Simplifying Project Management and Keeping Maintenance Affordable (6105)

Krishna Mochtar (Indonesia):
Marketing Expenses of Indonesian Contractors (5478)
This is a peer reviewed paper.

Zelalem Yirga Adamu (Ethiopia):
Institutional Analysis of Condominium Management System in Amhara Region: The Case of Bahir Dar City (5531)
This is a peer reviewed paper.

TS02D – Customary and Group Land Rights

Monday, 7 May 14:00–15:30
Venue: S. Giovanni, Rome Cavalieri
Commission: 7
Chair: Ms. **Claire Galpin**, France
Rapporteur: Mr. **Nicolas Colas**, Haiti

Felician Komu (Tanzania):
Land Management at Crossroads in Africa: Impact of the Village Land Act No. 5 of 1999 on Informal Land Management and Fate of the Customary Land Tenure (5770)

Daniel Weldegebriel Ambaye (Ethiopia):
Land Rights in Ethiopia (5521)
This is a peer reviewed paper.

Ephraim Danso and Michael Barry (Canada):
Land Tenure Administration in Peri-Urban Accra: A Study of Bortianor (5739)

TS02E – Land Consolidation

Monday, 7 May 14:00–15:30
Venue: Rodi, Rome Cavalieri
Commission: 7
Chair: Mr. **Danilo Antonio**, UN-Habitat
Rapporteur: Mr. **Eric Thalgott**, France

Alexander Sagaydak and Anna Lukyanchikova (Russia):
New Trends in Development of Agricultural Land Market in Russia (5646)

N. Enver Ulger and Tayfun Cay (Turkey):
An Assessment about Land Consolidation in Turkey (5677)

Seija Kotilainen and Kalle Kontinen (Finland):
Land Arrangements and Water Protection Activities in Finland – Conclusions of a Development Project (5745)

Velta Parsova and Edvins Kapostins (Latvia):
Does Land Consolidation Fit Everywhere? (5795)

Anka Lisec (Slovenia), **Hans Sevatald, Øystein Jakob Bjerva** (Norway) and **Miran Ferlan** (Slovenia):
The Institutional Framework of Land Consolidation – Comparative Analysis between Slovenia and Norway (5823)

Frederik Rosman (Netherlands):
Automated Parcel Boundary Design Systems in Land Consolidation (5924)

Christiaan Lemmen, Louisa Jansen and Freek Rosman (Netherlands):
Informational and computational approaches to Land Consolidation (6049)

TS02F – Engineering Surveying – Photogrammetry

Monday, 7 May 14:00–15:30
Venue: Malta, Rome Cavalieri
Commission: 6
Chair: Mr. **Marco Di Mauro**, Italy
Rapporteur: Dr. **Alain De Wulf**, Belgium

Xiaojuan Qi and Derek Lichti (Canada):
Monitoring Dynamic Concrete Beam Deformation with Range Cameras (5843)

Lubomír Soukup, Jan Havrlant, Ondrej Bohm and Milan Talich (Czech Republic):
Elastic Conformal Transformation of Digital Images (5765)

Ioanna Chounta and Charalabos Ioannidis (Greece):
High Accuracy Deformation Monitoring of a Concrete Beam Using Automatic Photogrammetric Techniques (5522)

Pinar Karakus (Turkey):
Evaluation of Distortion Error with Fuzzy Logic (5976)
This is a flash presentation.

Shijun Ding, Weiping Jiang and Zhijuan Shen (China, PR):
Models and Algorithms of Linear Regression Based on Total Least Squares (6212)
This is a flash presentation.



TS02G – Land Markets

Monday, 7 May 14:00–15:30
Venue: Bernini, Rome Cavalieri
Commission: 9
Chair: Ms. **Olivera Vasovic**, Serbia
Rapporteur: Dr. **Frances Plimmer**, Chair, FIG Commission 9, United Kingdom

Frances Plimmer and **William McCluskey** (United Kingdom): When is a Land Market not a Land Market? (6154)

Song Zhao (China, PR): Study on Urban Land Price of Various Usage (6182)

Olivera Vasovic, Zagorka Gospavic and **Goran Cirovic** (Serbia): Institutional Framework for Development of Real Estate Market in the Republic of Serbia (5541)
This is a peer reviewed paper.

Stojanka Branković and **Nenad Tesla** (Serbia): Real Estate Appraisal and Implications to the Real Estate Cadastre in the Republic of Serbia (5870)

Alexandra Weitkamp and **Hamza Alkhatib** (Germany): The Bayesian Approach in the Valuation – A Strategy to Handle Markets with Low Purchasing Prices? (5813)

Ayhan Goktepe and **Mehmet Ertas** (Turkey): The Use of Rent Capitalisations in Real Estate Valuation in Areas with High Building Densities (5615)

Oksana Sukhova (Ukraine): Peculiarities of Restrictions on Land Market Development in Ukraine (5760)

TS02H – Technical Aspects of Spatial Information I

Monday, 7 May 14:00–15:30
Venue: Pisa, Rome Cavalieri
Commission: 3
Chair: Mr. **Rafic Khouri**, France
Rapporteur: Mr. **Daniele Brancato**, Italy

Tcha Ahn and **DekKie Tcha** (Republic of Korea): The Practical Applications of Mini UAV in Cadastral Domain (5573)

Chengxi Bernad Siew and **Alias Abdul Rahman** (Malaysia): Compression Techniques for 3D SDI (5579)
This is a peer reviewed paper.

Abdelkader El Garouani, Rachid Barry and **Abderrahim Lahrach** (Morocco): Implementation Scenario of the Urban GIS of Fez, Morocco (5783)
This is a flash presentation.

TS02I – State Land Management

Monday, 7 May 14:00–15:30
Venue: S. Giorgio, Rome Cavalieri
Commission: 7
Chair: Dr. **Richard Grover**, United Kingdom
Rapporteur: Mr. **Ari Tella**, Finland

Elzbieta Bielecka (Poland): Spatial Objects in the Domain Model of the Public Real Estate Administration System – Case Study of the Geographic Information System for the Police's Real Estate Administration (5807)

András Osskó (Hungary): Public State Land Management in Hungary (5824)

Dorota Latos, Marcin Latos, Marcin Galuszkiewicz and **Pawel Kaminski** (Poland): Verification of Data in GIS Management System for State Real Estate (6063)
This is a flash presentation.

TS02J – Planning Policies and Procedures I

Monday, 7 May 14:00–15:30
Venue: Raffaello, Rome Cavalieri
Commission: 8
Chair: Mr. **Sandy Rendel**, Australia
Rapporteur: Ms. **Eunice Macharia**, Kenya

Louisa J.M. Jansen (Netherlands), **Tijana Zivanovic** (Serbia), **Judith Borsboom-van Beurden** (Netherlands), **Siniša Trkulja** (Serbia), **Theo Overduin** (Netherlands), **Ljiljana Zivkovic** and **Aleksandar Djordjevic**, Serbia: Improving Spatial Planning by Developing an Indicator-based Monitoring System in the Republic of Serbia (6062)

Wafula Luasi Nabutola (Kenya): National Urban Development Policy (NUDP) Making Process: The Kenyan Way – Big Challenges and Some Opportunities (5828)

Yumei Cai, Ping Gao, Jing Wang and **Rong Liao** (China, PR): To Analyze the Factors of Influencing National Spatial Planning System Model and Form Chinese Spatial Planning System (6176)

Sandy Rendel (Australia): Interpreting Easements and Other Registered Dealings under the Torrens System of Title Following the Decision of the High Court of Australia in *Westfield v Perpetual Trustee*, the Ongoing Dilemma for Those Involved in Real Estate Development (5711)

TS02K – Surveying History

Monday, 7 May 14:00–15:30
Venue: Leonardo, Rome Cavalieri
Commission: History
Chair: Mr. **John Brock**, Australia
Rapporteur: Mr. **Alan Wright**, United Kingdom

Ibrahim Yilmaz (Turkey): The Kitab-ı Bahriye “Book of Navigation” of Piri Reis (5687)

Paula Santos and **Ana Roque** (Portugal): Geodetic Field Operations for Cartography: An Overview over the First Portuguese Geodetic Mission in the Colonial Territories (1907–1910) (5816)

Almin Dapo, Bosko Pribicevic and **Luka Babic** (Croatia): A Time Section Review of Development of the City of Karlovac through 3D Modeling of Historical Maps (6029)

Dalibor Bartoněk (Czech Republic): Prediction Model to Identify the Significant Development Periods of Historical Objects (5537)

Siniša Delčev, Vukan Ogrizović and **Jelena Gučević** (Serbia): Historical Review of Measurements Using Invar Wires in Serbia (5546)
This is a peer reviewed paper.

TS02L – Cultural Diversity of Work and the Surveying Professional

Monday, 7 May 14:00–15:30
Venue: Ellisse, Rome Cavalieri
Commission: 1, 2 and Young Surveyors
Chair: Ms. **Benedicta Ugwulebo**, Nigeria
Rapporteur: Ms. **Eva-Maria Unger**, Austria

Cecilia Lindén (Sweden): Age Structural Survey – How Is the Profession Doing? (5549)

Robyn Mccutcheon (Australia): A Report into the Status of Women in the Spatial Industry in Australia and New Zealand (5879)

Sami Mantere (Finland): Experiences of Civil Servant Exchange in the Netherlands during Autumn 2011 (5819)

TS02M – Cartography and Mapping Solutions

Monday, 7 May 14:00–15:30
Venue: S. Marco, Rome Cavalieri
Commission: 3
Chair: Mr. **Enrico Rispoli**, Italy
Rapporteur: Ms. **Anna Shnaidman**, Israel

Gabriele Garnero and **Danilo Godone** (Italy): Generalized Maps Production: The Italian Case (5955)

Ngoc Quy Bui (Viet Nam): Model Development for Web – Atlas System Applying in Administration Management (5500)

Dias Rui and **Teodoro Rui** (Portugal): 3D Positional Quality Control in the 1:25000 Cartography in the Oporto Region, Portugal (5769)

Bashkim Idrizi (Macedonia, FYROM), **Murat Meha, Fisnik Ismaili** (Kosovo) and **Pal Nikolli** (Albania): Calculation of the National Area of the Republic of Kosovo (6050)



FAO/FIG Forum – Academic Institutions and Opportunities to Implement the FAO Voluntary Guidelines

Monday, 7 May 16:00–17:30
Venue: Ellisse, Rome Cavalieri
Commission: FAO, FIG and 2
Moderator: Dr. **Babette Wehrman**, FAO
Rapporteur: Prof. **Steven Frank**, Chair, FIG Commission 2, USA

Opening and keynote

John Tracey-White and **James Kavanagh**, RICS (United Kingdom): Draft Strategy for Mainstreaming of Leading Academic Institutions in the Implementation of the Voluntary Guidelines

Reflections on the Draft Strategy and Sharing Innovative Approaches

Invited panelists:

- **Charisse Griffith-Charles**, Trinidad
- **Cesar Luna**, Philippines
- **Jasper Ntwiga Mwenda**, Kenya

Open discussion: reflections and ideas from the audience and wrap up

Young Surveyors Network Meeting

Monday, 7 May 16:00–17:30
Venue: S. Marco, Rome Cavalieri
Commission: FIG Young Surveyors
Chair: Ms. **Kate Fairlie**, Chair, FIG Young Surveyors Network, Australia

- Open meeting for young professionals and students.

TS03A – Land Governance

Monday, 7 May 16:00–17:30
Venue: Cavalieri 4, Rome Cavalieri
Commission: 7
Chair: Mr. **Bengt Kjellson**, Sweden
Rapporteur: Mr. **Keith Hofgartner**, United Kingdom

Stig Enemark (Denmark): Sustainable Land Governance: Three Key Demands (5998)

Rohan Bennett (Netherlands), **Nilofer Tambuwala**, **Abbas Rajabifard**, **Ian Williamson** and **Jude Wallace** (Australia): Contemporary Land Administration: The Importance of Being Infrastructure (5477)
This paper has been presented in one presentation together with paper no. 5475. This is a peer reviewed paper.

Rohan Bennett (Netherlands), **Abbas Rajabifard**, **Ian Williamson** and **Jude Wallace** (Australia): Nations Need National Land Administration Infrastructures (5475)
This paper has been presented in one presentation together with paper no. 5477. This is a peer reviewed paper.

Gianni Guerrieri (Italy): Valuations and Real Estate Database of the Italian Land Agency (6250)

Nilofer Tambuwala, **Abbas Rajabifard** (Australia), **Rohan Bennett** (Netherlands), **Jude Wallace** and **Ian Williamson** (Australia): Authoritative Land Information and Australian Property Markets (5542)
This is a peer reviewed paper.

Rudolf Küntzel and **Jürg Kaufmann** (Switzerland): The Swiss Approach of Integrated Land Administration and Land Management (5999)

Marcel Grigore and **Ionut Savoiu** (Romania): Romanian Cadaster and Land Registration System – Developing a Secure Land Rights System for Romania (6066)

Flavio Margonari and **Walter Iseppi** (Italy): The Land Register System and the Process of Cartographical Numerical Cadastral Formation in the Province of Trento, Italy (6147)

TS03B – Volunteered Geographic Information

Monday, 7 May 16:00–17:30
Venue: Cavalieri 3, Rome Cavalieri
Commission: 3 and 7
Chair: Ms. **Gerda Schennach**, Austria
Rapporteur: Mr. **Gabriel Arancibia**, Canada

Daniel Steudler (Switzerland): Spatially Enabled Societies – Issues and Key Elements (5968)

Robin McLaren (United Kingdom): Crowdsourcing Support of Land Administration (5482)

Elaïsa Keenja (Tanzania), **Walter De Vries**, **Rohan Bennett** and **Peter Laarakker** (Netherlands): Crowd Sourcing for Land Administration: Perceptions within Netherlands Kadaster (5611)

Sofia Basiouka and **Chryssy Potsiou** (Greece): The Voluntary Contribution of Citizens in Cadastre – Crowdsourcing in Cadastre (6121)

TS03C – Construction Economics and Management III

Monday, 7 May 16:00–17:30
Venue: Caravaggio, Rome Cavalieri
Commission: 10
Chair: Mr. **Andrea Massaro**, Italy
Rapporteur: Ms. **Tzena Y. C. Wong**, Hong Kong SAR, China

Robert Sinkner (Czech Republic): Cooperation Between Public and Private Sector – Project of Digitalization of the Cadastral Maps in the Czech Republic (6136)

Ladi Kevin and **Ruya Fadason** (Nigeria): Assessing Client Value System on End-Users Satisfaction in Housing Delivery in Nigeria (5600)

Daniele Brancato (Italy): Restructuring the Former Rural Building (6009)

Ezio Piantedosi (Italy): Determining Energy Requirements (6106)

Anna Machaira, **Tassos Labropoulos** and **Panagiotis Zentelis** (Greece): Green Hotelling: A Feasibility Study in the Hellenic Island of Skyros (6056)

TS03D – Multi-Sensor Systems

Monday, 7 May 16:00–17:30
Venue: S. Giovanni, Rome Cavalieri
Commission: 5
Chair: Dr. **Allison Kealy**, Australia
Rapporteur: Mr. **Nic Donnelly**, New Zealand

Volker Schwieger (Germany): Challenges of Kinematic Measurements (5753)

Reiner Jäger, **Julia Diekert**, **Andreas Hoscislawski** and **Jan Zwiener** (Germany): SIMA – Raw Data Simulation Software for the Development and Validation of Algorithms for GNSS and MEMS Based Multi-Sensor Navigation Platforms (6000)

Winnie Shiu and **Kam-biu Tam** (Hong Kong SAR, China): Evaluation of Mobile Mapping System Survey for Public Housing Estates in Hong Kong (6094)

Gintcho Kostov (Bulgaria): Study on the Overall Quality of the Planned fast Static GNSS Measurements, if Certain Values of the Parameters are Applied in the System, Using Fuzzy Logic (5678)
This is a flash presentation.

TS03E – Planning Policies and Procedures II

Monday, 7 May 16:00–17:30
Venue: Rodi, Rome Cavalieri
Commission: 8, 3 and 7
Chair: Ms. **Mara Morbin**, Italy
Rapporteur: Ms. **Yvonne Sowah**, Ghana

Andrew Hunter, **Stefan Steiniger** and **Coral Bliss Taylor** (Canada): PlanYourPlace: Merging Social Networks and Participatory GIS for Participatory Planning (5850)

Muyiwa Agunbiade, **Abas Rajabifard** (Australia) and **Rohan Bennett** (Netherlands): Inter-agency Collaboration for Housing Production in Federated Countries: Developing Land Administration Integration Assessment Framework (5540)

Ganesh Prasad Bhatta and **Babu Ram Acharya** (Nepal): Need of Empowering Civil Society and Local Institutions for Sustainable Land Use: A Case of Nepal (5891)
This paper has been presented by Babu Ram Acharya.

Sisay Tekle (Ethiopia): Urban Land Policy Versus Tenure Security and the Environment in Addis Ababa, Ethiopia (5841)

Sabahattin Akkus, **Tayfun Cay** and **Fazil Nacar** (Turkey): The Effects of Drawing Distance Applications Stated in Development Plans on Environment (5732)
This is a flash presentation.

TS03F – Deformation Monitoring I

Monday, 7 May 16:00–17:30
Venue: Malta, Rome Cavalieri
Commission: 6
Chair: Prof. **Gethin Wyn Roberts**, Chair, FIG Commission 6, China PR
Rapporteur: Dr. **Craig Hancock**, United Kingdom

Attaouia Belhadj, **Boualem Ghezali** and **Salem Kahlouche** (Algeria): Triangulation of Delaunay: Application to the Deformation Monitoring of Geodetic Network by Use of Strain Tensors (5628)

Adrian T.G. Radulescu, **Gheorghe M.T. Radulescu** (Romania) and **Gikas Vas-silis** (Greece): Structural Monitoring Handbook – Stating the Defining Direction (5792)

Benedetto Villa, **Gino Dardanelli** and **Pietro Orlando** (Italy): Comparison between Topographic and Photogrammetric Techniques for Deformation Monitoring of the Dome of the Massimo Theatre in Palermo (5800)

Li Zhang, **Mathias Stange** and **Volker Schwieger** (Germany): Automatic Low-cost GPS Monitoring System Using WLAN Communication (5801)



TS03G – Compulsory Purchase and Compensation

Monday, 7 May 16:00–17:30
Venue: Bernini, Rome Cavalieri
Commission: 9
Chair: Prof. **Rachelle Alterman**, Israel
Rapporteur: Dr. **Frances Plimmer**, Chair, FIG Commission 9, United Kingdom

Rachelle Alterman (Israel): Compensation Rights for Decline in Property Values Due to Planning Regulations: An International Comparative Perspective (6071)

Punya P Oli (Nepal): Valuation of Real Estate Property for Compulsory Purchase (5721)

Naa Dedei Tagoe, Saviour Mantey, Stephen Adjei, Michael Soakodan Aduah and Edward Attimo Amihyiah Kwesi (Ghana): The Role of the Land Surveyor in Land Acquisition and Compensation – A Case Study of the Tarkwa Mining Communities, Ghana (5884)

Morten Hartvigsen (Denmark): Experiences with Land Consolidation in Moldova (6145)

Bambang-Edhi Leksono, Andri Hernandi, Jamil Ansari, Yuliana Susilowati and Agus Mindarto (Indonesia): The Development of Land Consolidated Integration in the Land Acquisition of Road Network at Kebumen District, Indonesia (6192)

Anita Kwartnik-Pruc and Anna Trembecka (Poland): Analysis of Simplified Mode of Property Acquisition for the Purpose of Road Construction in Poland (5698)

Turgut Ayten and Tayfun Cay (Turkey): Problems Occurred from Nationalization of Long-distance Line Projects (5743)

TS03H – Francophone Session II

Monday, 7 May 16:00–17:30
Venue: Pisa, Rome Cavalieri
Commission: FIG and FGF
Chair: Mr. **François Mazuyer**, France
Rapporteur: Mr. **Marc Vanderschueren**, Belgium

Marc Vanderschueren (Belgium): The Land Management Workshops and the Belgian Cadastre – Les Ateliers du Territoire et le Cadastre Belge (5918)

Milan Kocab (Czech Republic): Data Protection Environment and the Cadastre – Données de Protection d'Environnement et le Cadastre (6081)

Jean-Yves Bourguignon (France): Impact of Risks and of the Regulation on the Monetary Value of Goods (5703)

Ahmed Chikhi and Neila Chikhi (Algeria): Place Names in Algeria – La toponymie en Algérie (6123)

TS03I – Cadastre and Land Management – Case Studies I

Monday, 7 May 16:00–17:30
Venue: S. Giorgio, Rome Cavalieri
Commission: 7
Chair: Mr. **Libor Tomandl**, Czech Republic
Rapporteur: Dr. **Ludmila Pietrzak**, Poland

Michael Barry (Canada), **Lani Loux** (South Africa) and **Rita Sewornu** (Ghana): The Case Study Method in Developing Land Registration Usage Theory (5734)

Marcos Pelegrina, Giovanni Castoldi and Máicon Canal (Brazil): Integration of Fiscal Cadastre and Inspection of Engineering and Architecture Regional Council State of Parana, Brazil – Cascavel Pilot Municipality of the State of Parana (5520)

Luca Passador (Italy): Correspondence Between Maps of Italian Cadastre and Austrian Libro Fondiario – Legal Value and Process of Update (5821)

Radoš Šumrada, Anka Lisec, Miran Ferlan, Blaž Švab and Marjan Čeh (Slovenia): Application of Membrane Homogenization Method for Slovenian Cadastral Index Map (5794)

TS03J – Task Force on Property and Housing I

Monday, 7 May 16:00–17:30
Venue: Raffaello, Rome Cavalieri
Commission: TF Property
Chair: Dr. **Chryssy Potsiou**, Chair, Task Force on Property and Housing, Greece
Rapporteur: Prof. **Winrich Voss**, Germany

Raymond Chan (Hong Kong SAR, China): Making Land for Development – Lessons Learnt (6157)

Winrich Voss (Germany): Promoting Affordable Housing within Market Economy (6165)

Collins Kowuor (Kenya): Controlled Tenancy: A Curse or Blessing to Property Investment in Kenya (6193)

Junping (Patrick) Liao (China, PR): Housing in China (6232)

Bruno Razza (Italy): The Policy and Management of Residential Buildings, between the Economic Crisis – People's Expectations and the Social Need for Legal Certainty in the Inventory and Taxation (6237)

TS03K – Special Session on Catastrophic Disaster of East Japan Earthquake and Tsunami

Monday, 7 May 16:00–17:30
Venue: Leonardo, Rome Cavalieri
Commission: FIG and JFS
Chair: Mr. **Koichi Hirata**, Japan
Rapporteur: Mr. **Koichi Hirata**, Japan

Shunji Murai (Japan): Lessons from East Japan Earthquake and Tsunami (5720)

Toru Nagayama, Kazuo Inaba, Tamotsu Hayashi and Hiroyuki Nakai (Japan): How the National Mapping Organization of Japan Responded to the Great East Japan Earthquake? (5791)

Yoshikawa Kazuo, Okajima Yuuki and Takagishi Susumu (Japan): Disaster Monitoring Using Remote Sensing for the Great East Japan Earthquake (5716)

Atsushi Yamagiwa, Yohei Hiyama, Toshihiro Yahagi, Hiroshi Yarai, Tetsuro Imakiire and Yuki Kuroishi (Japan): Revision of the Results of Control Points After the 2011 off the Pacific Coast of Tohoku Earthquake (5910)

Koichi Hirata (Japan): Activity of the GIS Volunteer in the East Japan Great Earthquake Disaster (5744)

Ichizo Sekine and Masatake Nanjo (Japan): Readjustment of the Cadastral Map in the East Japan Earthquake Disaster Area (5888)

Opening Ceremony

Monday, 7 May 19:30–22:30
Venue: Giuseppe Sinopoli Hall, Parco della Musica

Chair: Geom. **Enrico Rispoli**, Congress Director, FIG 2012

The Opening ceremony will be held in Giuseppe Sinopoli Hall at the Auditorium Parco della Musica (<http://www.auditorium.com>, address: Viale Pietro de Coubertin). The program will consist of welcome ceremony with speeches, a concert and a welcome reception with buffet dinner. The Opening ceremony is free for all registered participants.

Corrado Clini (Italy): Opening Address (6238)
Minister for Environment and Protection of Land and Sea



FIG/GLTN – Role of Grassroots Organizations in Addressing Land Administration Challenges

Tuesday, 8 May 09:00–10:30
Venue: Ellisie, Rome Cavalieri
Commission: GLTN and FIG
Chair: Dr. **Diane Dumashie**, Chair, FIG Africa Task Force, United Kingdom
Rapporteur: Mr. **Danilo Antonio**, GLTN Secretariat

Keya Kunte SPARC, Slum Dwellers International (India): Participatory Mapping for City-wide Slum Up-grading in India

Michael Taylor, International Land Coalition (Italy): Alternative to Land Titling: Indigenous Peoples' Experience from the Philippines

Martha Mereso Sengeruan, MWEDO, Huairou Commission (Tanzania): Making the Village Land Act Work for Maasai Women in Tanzania

TS04A – Innovative Cadastre and Land Rights Management

Tuesday, 8 May 09:00–10:30
Venue: Cavalieri 4, Rome Cavalieri
Commission: 7
Chair: Mr. **Peter Laarakker**, Netherlands
Rapporteur: Dr. **Rohan Bennett**, Netherlands

Brent Jones (USA) and **Nick Land** (United Kingdom): Cadastre 2.0 – A Technology Vision for the Cadastre of the Future (5601)

Jens Riecken and **Markus Seifert** (Germany): Challenges for the Multi Purpose Cadastre (5671)

Flavio Ferrante (Italy): Evolution of the Cadastre Cartographical System for Land Government (6251)

Jad Jarroush and **Dima Brickman** (Israel): A Method for Building Legal Digital Cadastre without Using Cadastral Measurements Field Book Data – Is It Accurate Enough? (5485)

Ivana Stanković, Stojanka Branković and **Nenad Tesla** (Serbia): Development of e-Processes Concept in the Real Estate Cadastre within the Quality Improvement Project (5872)

Brian Marwick, Abbas Rajabifard, Ian Williamson and **Mohsen Kalantari** (Australia): National Land Information Infrastructure through a Collaborative Framework (5896)

Adriano Angelini and **Ciro Sugameli** (Italy): The Land Cadastre, between Historicity and Modernity – An Operative Evaluation DEone with GNSS Techniques in the Provinces of Roma, Latina, Frosinone and Rieti, Italy (6209)

TS04B – Heights, Geoid and Gravity

Tuesday, 8 May 09:00–10:30
Venue: Cavalieri 3, Rome Cavalieri
Commission: 5
Chair: Mr. **Graeme Blick**, New Zealand
Rapporteur: Mr. **Anders Alfredsson**, Sweden

Renee Shields and **Christine Gallagher** (USA): Height Modernization in the United States: Implementing a Vertical Datum Referenced to a Gravimetric Geoid Model (5659)
This is a flash presentation.

Daniel Roman and **Neil Weston** (USA): Beyond GEOID12: Implementing a New Vertical Datum for North America (5691)
This is a flash presentation.

Nevin Betul Avsar and **Aydin Ustun** (Turkey): Analysis of Regional Time-Variable Gravity Using GRACE's 10-day Solutions (5724)
This is a flash presentation.

Kerem Halicioglu, Rasim Deniz and **Haluk Ozener** (Turkey): Determination of Astro-Geodetic Vertical Deflections Using Digital Zenith Camera System in Istanbul, Turkey (6017)
This is a flash presentation.

Rabehi Nadjet, Belhadj Attaouia and **Terbeche Mekki** (Algeria): Stokes's Kernel Modifications (6132)
This is a flash presentation.

TS04C – Cadastre and Spatial Information

Tuesday, 8 May 09:00–10:30
Venue: Caravaggio, Rome Cavalieri
Commission: 3 and 7
Chair: Dr. **Daniel Steudler**, Switzerland
Rapporteur: Mr. **Robin McLaren**, Scotland UK

Peter van Oosterom, Christiaan Lemmen and **Harry Uitermark** (Netherlands): Land Administration Standardization with Focus on Evidence from the Field and Processing of Field Observations (6057)

Anna Shnaidman, Uri Shoshani and **Yerach Doytsher** (Israel): Toward Analytical Cadastre – Case Studies based on Genetic Algorithm (5853)

Eva-Maria Unger, Gerhard Navratil and **Stefan Klotz** (Austria): Semantic Model Transformation within the Context of INSPIRE (6042)

Efi Dimopoulou (Greece): Towards an Integrated Cadastral System Fulfilling LPIS Requirements (6034)

Jarosław Bydłoz (Poland): The Cadastre in Poland – The Current Status and Possibilities of Transformation into 3D One (5809)

TS04D – Hydrographic Technologies

Tuesday, 8 May 09:00–10:30
Venue: S. Giovanni, Rome Cavalieri
Commission: 4
Chair: Dr. **Volker Böder**, Germany
Rapporteur: Mr. **Gordon Johnston**, United Kingdom

Hugh Parker, Mark Sinclair, Nigel Townsend (Australia) and **Paul Seaton** (United Arab Emirates): Closing the Gap – New Technologies and Airborne LiDAR Bathymetry Survey Techniques in European Environmental Monitoring Projects (5913)

Alberto Romano and **Pierluigi Duranti** (Italy): Autonomous Unmanned Surface Vessels for Hydrographical Measurement and Environmental Monitoring (6118)

Joanna Kuczynska and **Beata Wieczorek** (Poland): Usefulness of Terrestrial Laser Scanner for Determining Bank of the River (5778)
This is a flash presentation.

TS04E – Urban Rural Interrelationships

Tuesday, 8 May 09:00–10:30
Venue: Rodi, Rome Cavalieri
Commission: 8
Chair: Prof. **Theo Koetter**, Germany
Rapporteur: Mr. **Winston Ayeni**, Nigeria

Theo Koetter (Germany): Between Fallow Land and Land Use Competition – Land Use Changes and Conflicts in Rural and Sub Urban Areas (6051)

Maulid Bwabo, Wakuru Magigi (Tanzania) and **Axel Drescher** (Germany): Institutional Structures Conflicts, Change Dynamics and Its Impacts on Livelihood Sustainability in Peri-Urban Settlements: An Analysis of Social Economic Dynamics and Land Use Change in Informal Neighborhood in Kilimanjaro-Tanzania (5589)

Ahmed Rachid Barry, Abdelkader El Gaouani and **Abderrahim Lahrach** (Morocco): Contribution of GIS and Remote Sensing in the Study of Urban Spread in Fez (5886)

Ali Erdi and **Fatih Sari** (Turkey): A Web Based Geographical Information System Design for Monitoring Urban Growth: Case Study Bosna-Hersek District in Konya (5939)



TS04F – Deformation Monitoring II

Tuesday, 8 May 09:00–10:30
Venue: Malta, Rome Cavalieri
Commission: 6
Chair: Mr. **Vincent Lui**, Hong Kong SAR, China
Rapporteur: Mr. **Brian Coutts**, New Zealand

Yassine Elhanti, Abderrahim Magri, Tayeb Tachallait and Mohamed Baaya (Morocco): Contribution of the Surveying Operations in the Executing of the Bridges: A Case Study Bridge Hassan II between Rabat and Sale (6124)

Stefania Arangio, Emanuela Bonano, Mauro Di Mauro, Maria Antonietta Marsella and Alberico Sonnessa (Italy): SBAS Time Series Analysis for Building Damage Assessment: a Simplified Approach Applied to Roma, Italy (5530)

Paweł, Popielski and Janina Zaczek-Peplinska (Poland): Utilisation of Geodetic Monitoring for Verification of the Numerical Model of Impact of an Implemented Investment on Surrounding Structures (5567)
This is a flash presentation.

TS04G – Valuation – Mass Appraisal Techniques

Tuesday, 8 May 09:00–10:30
Venue: Bernini, Rome Cavalieri
Commission: 9
Chair: Mr. **Vince Mangioni**, Australia
Rapporteur: Dr. **Frances Plimmer**, Chair, FIG Commission 9, United Kingdom

Sebastian Zaddach and Hamza Alkhatib (Germany): Use of Collocation Method as an Improved Sales Comparison Approach (5826)

Anna Baranska (Poland): Application of Non-parametric Tests of Significance to the Market Analyses (5860)

Milica Čolaković and Darko Vučetić (Serbia): Possibility of Using GIS and Geostatistic for Modeling the Influence of Location on the Value of Residential Properties (5943)

Victoria Bello (Nigeria): The Determinants of Shopping Center Rents in Akure, Nigeria (6054)

TS04H – Measurement Applications of Unmanned Vehicles

Tuesday, 8 May 09:00–10:30
Venue: Pisa, Rome Cavalieri
Commission: 5
Chair: Prof. **Volker Schwieger**, Germany
Rapporteur: Ms. **Paola Ronzino**, Italy

Gabriel Murariu, Mirela Praisler, Florin Mingireanu and Ionut Mocanu (Romania): Location and Delimitation of the Climatic Changing Areas: the Potential of a UAVs Based Validation (5587)

Donatella Dominici, Alessandro Zavino, Maria Alicandro, Michail Elaopoulos and V. Baiocchi (Italy): Micro UAV for Post Seismic Hazards Surveying in Old City Center of L'Aquila (5830)

Marcus Arthur (Barbados), **Rahid Al-Tahir and Dexter Davis** (Trinidad And Tobago): Rapid Processing of Unmanned Aerial Vehicles Imagery for Disaster Management (6033)

Gang Sun, Jiawei Xie, Yong Li and Chris Rizos (Australia): Development of an Unmanned Aerial Vehicle Platform Using Multisensor Navigation Technology (5905)

TS04I – Curriculum and the Survey Body of Knowledge

Tuesday, 8 May 09:00–10:30
Venue: S. Giorgio, Rome Cavalieri
Commission: 2
Chair: Mr. **Tim Goodhead**, United Kingdom
Rapporteur: Ms. **Irina Fartukova**, Russian Federation

Liza Groenendijk, Rohan Bennett, Paul van der Molen and Jaap Zevenbergen (Netherlands): Land Administration an Academic Discipline: To Be or Not to Be (5559)
This is a peer reviewed paper.

Joshua Greenfeld (Israel): Components of the Surveying Body of Knowledge (5561)

Francis Roy (Canada): Evolution of Geomatics Curriculum: Adding New Knowledge without Lengthening Studies (5772)

Alexander Karpik and Vladimir Seredovich (Russia): Geodesy as a Modern Science Forming Spatially Based Information Society (6201)

Gheorghe M.T. Radulescu, Ovidiu Stefan, Adrian T.G. Radulescu, Virgil M.G. Radulescu and Mihaela Soponar (Romania): The Position of Cadastre in the Academic Curricula of the Geodetic Academic Specialization in Romania (5833)
This is a flash presentation.

Željko Bačić (Croatia): Modernizing High School and University Curricula for Surveyors in Croatia (6101)
This is a flash presentation.

TS04J – Land Policy and Reform I

Tuesday, 8 May 09:00–10:30
Venue: Raffaello, Rome Cavalieri
Commission: 7
Chair: Prof. **Michael Barry**, Canada
Rapporteur: Mr. **Fabien Omboudou Njina**, Cameroun

Sonja Dimova (Macedonia, FYROM): Impact of the Law on Real Estate Cadastre on Improvement of Land Governance (5483)

Armands Auzins and Edvins Kapostins (Latvia): New Land Management Law for Providing a Sustainable Land Management in the Republic of Latvia (5492)
This is a peer reviewed paper.

Habttemicael Weldegiorgis (Eritrea): The Challenges of Developing Cadastreal System in Eritrea (5581)
This is a peer reviewed paper.

Jelena Unger and Maja Ištvan-Krapinec (Croatia): Cooperation between Municipality and Cadastre on Land and Housing Policy (5653)

TS04K – Task Force on Surveyors and the Climate Change I

Tuesday, 8 May 09:00–10:30
Venue: Leonardo, Rome Cavalieri
Commission: TF Surveyors & Climate Change
Chair: Prof. **John Hannah**, Chair, Task Force on Surveyors and the Climate Change, New Zealand
Rapporteur: Dr. **Michael Sutherland**, Chair, FIG Commission 4, Canada

John Hannah (New Zealand): A New Approach to Determining the Long-Term Trend in Relative Sea Levels (5635)

Charles Nettleman, III (USA): Policy Options to Mitigate Coastal Climate Change (5466)

Amaneh Jadidi Mardkheh, Mir Abolfazl Mostafavi, Yvan Bédard and Bernard Long (Canada): Toward a Spatial Decision Support System to Improve Coastal Erosion Risk Assessment: Modeling and Representation of Risk Zones (5958)

Martinus Vranken and Sanne Broekhof (Netherlands): Contribution of Cadastral Information to Climate Change Policy in the Netherlands (5726)

Mary Ajayi, Oyewole Bello and Ademola Akinbobola (Nigeria): Urbanisation and Climate Change: The Need for Sustainable Housing Development in Southwestern Nigeria (5787)



PS2 – Plenary Session 2 – Knowledge to Protect

Tuesday, 8 May 11:00–12:30
Venue: Cavalieri 4, Rome Cavalieri
Commission: All
Chair: Mr. **Iain Greenway**, FIG Vice President, United Kingdom
Rapporteur: Geom. **Bruno Razza**, CNGeGL Board Member, Italy

Norbert Lantschner, Past Director, Clima Haus (Italy): The New Goal of Building Sustainable (6242)

Orhan Altan, President, ISPRS (Turkey): Use of Geospatial Information at Present Day Disaster Management (5654)

Karl-Friedrich Thöne, President, DVW (Germany): Meeting the Environmental Issues – A Challenge for Surveyors and Surveying Associations (6243)

Director General Forum I

Tuesday, 8 May 14:00–15:30
Venue: Leonardo, Rome Cavalieri
Commission: Director Generals

- This session is for Director Generals of national mapping and cadastre agencies.
- By invitation only.

FIG/GLTN Forum – Achieving the GLTN Agenda and the Role of Land Professionals

Tuesday, 8 May 14:00–15:30
Venue: Ellisse, Rome Cavalieri
Commission: GLTN and FIG
Chair: Mr. **CheeHai Teo**, FIG President, Malaysia
Rapporteur: Ms. **Asa Jonsson**, UN-Habitat

Clarissa Augustinus, UN-Habitat: Challenges in the Land Sector: GLTN's Response and Strategies

Stig Enemark, FIG Honorary President (Denmark): Role of Land Professionals in Advancing GLTN Agenda

Panel Discussion

TS05A – 3D and 4D Cadastre I

Tuesday, 8 May 14:00–15:30
Venue: Cavalieri 4, Rome Cavalieri
Commission: 7 and 3
Chair: Dr. **Markus Seifert**, Germany
Rapporteur: Mr. **Vincent Thomas**, Canada

Arvo Vitikainen and Juhana Hiironen (Finland): Development Scenarios of the 3D Cadastral System in Finland (5554)

Tan Liat Choon and Khadijah Hussin (Malaysia): Establishing 3D Property Rights in Malaysia (5599)
This is a peer reviewed paper.

Pieluigi Viola (Italy): From the Old Map to the Digitalized Cartography – the Italian Experience (6256)

Maurizio Foderà (Italy): The Subsoil Cadastre of Mazara del Vallo (6187)

TS05B – GNSS CORS Infrastructure and Applications I

Tuesday, 8 May 14:00–15:30
Venue: Cavalieri 3, Rome Cavalieri
Commission: 5
Chair: Dr. **Neil Weston**, USA
Rapporteur: Dr. **Allison Kealy**, Australia

Audrey Martin and Eugene McGovern (Ireland): An Evaluation of the Performance of Network RTK GNSS Services in Ireland (5582)
This is a peer reviewed paper.

Graeme Blick and Nic Donnelly (New Zealand): Should Active Control Networks Replace Passive Control Networks? (5696)

Gerald Mader, Mark Schenewerk and Jaya Neti (USA): Interactive Web-based GPS Network Processing and Adjustment Using NGS' OPUS-Projects (5645)

Suleyman Sirri Maras, Ismail Sanlioglu and Bahadir Aktug (Turkey): Selcuk Online Processing System with Case Study in IGNS Stations (6082)
This paper has been presented by Dr. Ismail Sanlioglu.

William Henning (USA): An On-Line Real Time Network Validation Tool from NOAA's National Geodetic Survey (5763)

Lawrence Lau and Gethin Roberts (China, PR): GNSS Modernisation and Its Effect on Surveying (6138)

Yu Daijun, Liu Ziping and Yang Xinfu (China, PR): CORS System Construction and Accuracy Test of Chengdu University of Technology (6220)
This is a flash presentation.

TS05C – Finance and Investment

Tuesday, 8 May 14:00–15:30
Venue: Caravaggio, Rome Cavalieri
Commission: 9
Chair: Mr. **Antonio Cabras**, Italy
Rapporteur: Mr. **Mauro Catalano**, Italy

Manohar Velpuri (Singapore) and **Fabio Pinna** (Italy): Real Estate Indices as a Barometer of Stable Real Estate Returns and Predictor of Real Estate Risks During Real Estate Boom or Burst Cycles (5526)
This is a peer reviewed paper.

Ewa Sieminska and Malgorzata Rymarzak (Poland): Bank Risk in Real Estate Finances in Poland (5495)
This is a peer reviewed paper.

Antonio Cabras (Italy): Evaluating Risk in Real Estate Investments in Areas of Special Value and Environmental Beauty (6111)

Antonio Benvenuti (Italy): The Mortgage Lending Value (6102)

Oyewole Mustapha Bello (Nigeria): Factors Shaping Real Estate Investment in Nigeria (5880)

Francesco Parrinello (Italy): The Recovery of Ancient Alicia (6188)

TS05D – City Development and Planning

Tuesday, 8 May 14:00–15:30
Venue: S. Giovanni, Rome Cavalieri
Commission: 8 and 3
Chair: Mr. **Wafula Nabutola**, Chair, FIG Commission 8, Kenya
Rapporteur: Mr. **Cromwell Manaloto**, Italy

Vince Mangioni (Australia), **Kauko Viitanen, Heidi Falkenbach and Tuomo Sipilä** (Finland): Three Dimensional Property Rights and (Stratum) Reassembly: A Critique of Two Emerging Cities (5560)
This paper has been presented by Prof. Kauko Viitanen, Finland. This is a peer reviewed paper.

Anna Wojewnik-Filipkowska (Poland): Public Private Arrangements in City Revitalization Projects (5518)
This is a peer reviewed paper.

Pertti Tamminen (Finland): Urban Sustainability in Vuores, a New Housing Development in Tampere (5717)

Eunice Macharia (Kenya): Managing Expansion of Commercial Districts for Sustainable Development (6019)

Isaac Kazungu, Wakuru Magigi (Tanzania) and **Axel Drescher** (Germany): Agribusiness Social Entreprises for Sustaining Livelihoods in Urban Settlements in Transition: Evidence from Nursery Gardens in Rapidly Urbanizing City in Tanzania (5590)

TS05E – Technical Aspects of Spatial Information II

Tuesday, 8 May 14:00–15:30
Venue: Rodi, Rome Cavalieri
Commission: 3
Chair: Prof. **Charalabos Ioannidis**, Greece
Rapporteur: Mr. **Demetris Demetriou**, Cyprus

Alfredo Scognamiglio (Italy): Change Detection Methods for Multitemporal Analysis of Satellite Data Aimed at Environmental Risk Monitoring (5771)

Fazlı, Engin Tomuş, Mahmut Yüksel, Murat Şahin, Ibrahim Murat Ozulu and Mustafa Coşar (Turkey): Assessment of Soil Erosion Based on the Method USLE: Çorum Province Example (5848)

Chandana Dinesh Parape and Masayuki Tamura (Japan): Mathematical Morphology Based Approach for Building Damage Estimation from VHR Airborne Imagery of Ishinomaki Area in 2011 Pacific Coast of Tohoku Earthquake and Tsunami (6093)

Bence Toronyi (Hungary): Spatial Data Support for Building Monitoring (6087)

Seloua Chouaf and Youcef Smara (Algeria): Feature Extraction Methods Based on Wavelets Transform and Orthogonal Projections Applied to Hyperspectral Images (5781)
This is a flash presentation.

Guilherme Souza and Amilton Amorim (Brazil): LiDAR Data Integration for 3D Cadastre: Some Experiences from Brazil (6022)
This is a flash presentation.



TS05F – Hydrographic Surveying

Tuesday, 8 May 14:00–15:30
Venue: Malta, Rome Cavalieri
Commission: 4
Chair: Mr. **Jerry Mills**, USA
Rapporteur: Dr. **Michael Sutherland**, Chair of Commission 4, Canada

Dany Lavrov, Gilad Even Tzur (Israel) and **Jörg Reinking** (Germany):
Sea Surface Mapping with GPS (5714)

Cassandra Nanlal, Dexter Davis (Trinidad And Tobago) and **Michael Sutherland** (Canada):
An Evaluation of Tides in the Caribbean (5875)

Ayhan Ceylan and İlke Ekizoglu (Turkey):
A Study on the Assessment of Bathymetric Changes via GIS: Altınapa Dam (Konya) Example (5992)

Reuma Arav, Sagi Filin and Yoav Avni (Israel):
Monitoring of Changes along Receding Lake Environments (6047)

Shabnam Farboud (Iran):
Determination of Accurate Sea Border Lines of Countries (5855)
This is a flash presentation.

TS05G – Taxation

Tuesday, 8 May 14:00–15:30
Venue: Bernini, Rome Cavalieri
Commission: 9
Chair: Prof. **Winrich Voss**, Germany
Rapporteur: Dr. **Frances Plimmer**, Chair, FIG Commission 9, United Kingdom

Vince Mangioni (Australia):
Land Value Taxation – Meeting the Principles of ‘Good Tax Design’ (5486)
This is a peer reviewed paper.

Mehmet Ertas (Turkey):
The Necessity of Real Estate Valuation for Property Taxation (5614)

Joycelyn Makena and Mwenda Makathimo (Kenya):
The Role of Fiscal Instruments in Enhancing Land Use and Management (6078)

Maximilian Karl (Germany):
The Fiscal Reform of Land Tax in Germany (5766)

Mehmet Çete (Turkey):
The Need for Re-Engineering in the Turkish Real Estate Valuation System (5912)

Martin Smodiš and Dušan Mitrović (Slovenia):
Development and Implementation of the Real Estate Mass Valuation System in Slovenia (5672)

Saviour Mantey and Naa Dedei Tagoe (Ghana):
Geo-Property Tax Information System – A Case Study of the Tarkwa Nsuaem Municipality, Ghana (5882)

TS05H – Remote Sensing I

Tuesday, 8 May 14:00–15:30
Venue: Pisa, Rome Cavalieri
Commission: 5, 6 and 3
Chair: Prof. **Ralf Schroth**, Germany
Rapporteur: Dr. **David Martin**, France

Sinara Fernandes Parreira and Flavio Boscatto (Brazil):
Digital Elevation Model (DEM) Generated from the IKONOS Images Stereopair (5491)

Mariane Alves Dal Santo, Fernandes Parreira Sinara, Francisco Henrique Oliveira, Pedro Henrique Machado Porath and Thales Vargas Furtado (Brazil):
The Use of GNSS Geodetic Receiver to Orthorectification of IKONOS II Satellite Images (5490)
This is a flash presentation.

Fatma Canaslan and Aydin Ustun (Turkey):
Impact of Perpendicular and Temporal Baseline Characteristics on InSAR Coherence Maps (5767)
This is a flash presentation.

Jeffrey Needham and Benjamin Dash (New Zealand):
Dynamic Deformation Monitoring of a Transmission Tower Undergoing Failure Testing by Close Range Terrestrial Photogrammetry (5867)
This is a flash presentation.

Mohamed Baadeche and Youcef Smara (Algeria):
Road Extraction Using Radar ERS SAR Images of Algiers, Algeria (5782)
This is a flash presentation.

TS05I – Learning and Teaching Methodology

Tuesday, 8 May 14:00–15:30
Venue: S. Giorgio, Rome Cavalieri
Commission: 2
Chair: Ms. **Liza Groenendijk**, Netherlands
Rapporteur: Dr. **Francis Roy**, Canada

Gethin Roberts (China, PR):
International University Education; The University of Nottingham Ningbo China (5892)

Stella Soni (Nigeria):
Life Long Learning – Educational and Training Services (5945)

Sergey Atamanov and Sergey Grigoryev (Russia):
Innovative Technologies of Automated Training of Using Technology GPS-GLONASS for Surveyors (5961)

TS05J – Mining and Underground Engineering Surveying II

Tuesday, 8 May 14:00–15:30
Venue: Raffaello, Rome Cavalieri
Commission: 6
Chair: Mr. **Joel van Cranenbroeck**, Belgium
Rapporteur: Dr. **Audrey Martin**, Ireland

David Chang Leng Hua (Malaysia):
The Design and Philosophy of the Tunneling Survey for the Klang Valley Underground Mass Rapid Transit Project (6084)

Hasan Jamil, Zoher Nomanbhoj and Mohd Yunus Mohd Yusoff (Malaysia):
Underground Utility Mapping And Its Challenges in Malaysia (5636)

Antonio Patavia (Italy):
Geomatics and Hypogeum Oil Mills in Lequile (LE-IT) (6127)

Mattia Crespi, Francesca Giannone, Maria Antonietta Marsella and Alberico Sonnessa (Italy):
Geomatic Integrated Monitoring System Supporting the Tunneling in the Central Archaeological Area of Rome: Design, Installation and Preliminary Results (5527)
This is a flash presentation.

TS05M – Cadastre and Land Management – Case Studies II

Tuesday, 8 May 14:00–15:30
Venue: S. Marco, Rome Cavalieri
Commission: 7
Chair: Mr. **András Osskó**, Hungary
Rapporteur: Dr. **Sergei Shavrov**, Belarus

Manuel Alcazar Molina (Spain):
Proposal Rustic Cadastral Valuation Methodology (6148)

Dek Kie Tcha (Republic of Korea):
A Study on PAI (Positional Accuracy Improvement) of the Korea Cadastral Resurveying Pilot Project (5897)
This is a flash presentation.

Akin Kisa, Sinan Çolak and Nurdan Şen (Turkey):
The Effects of Technological Developments to the Spatial Data Production Costs in the General Directorate of Land Registry and Cadastre (TKGM) (5793)

Raphael Ike Ndukwu and Njike Chigbu (Nigeria):
A Cadastral Geodatabase for Land Administration Using ArcGIS Cadastral Fabric Model: A Case Study of Uwani Layout Enugu, Enugu State, Nigeria (5536)

Oluseye Thomas Dabiri (Nigeria):
The Evolutionary Trend of Cadastre Data Development in Delta State of Nigeria (6068)
This is a flash presentation.

Stefan Ovidiu, Gheorghe MT Radulescu and Gabriel Badescu (Romania):
The Achievement of the Mining Cadastre in Romania-Baia Mare Mining Area and Cadastre 2014 Vision (5849)



Director General Forum II

Tuesday, 8 May 16:00–17:30
Venue: Leonardo, Rome Cavalieri
Commission: Director Generals

- This session is for Director Generals of national mapping and cadastre agencies.
- By invitation only.

Presidents Meeting – Break out session

Tuesday, 8 May 16:00–17:30
Venue: S. Giovanni, Rome Cavalieri
Commission: Presidents of FIG members

- This session is reserved for Presidents of FIG member associations to discuss issue of their common interest.

FIG/GLTN – Land Tools: Emerging Innovations and Solutions

Tuesday, 8 May 16:00–17:30
Venue: Ellisse, Rome Cavalieri
Commission: GLTN and FIG
Chair: Mr. **Christiaan Lemmen**, Netherlands

Rapporteur: Mr. **Danilo Antonio**, GLTN Secretariat

Keith Hofgartner, Trimble (USA) and **Danilo Antonio**, GLTN/SDI

Addressing the Land Information Requirements of the Urban Poor – Piloting of the Social Tenure Domain Model (STDM) in Uganda

Jaap Zevenbergen (Netherlands): Pro-poor Land Recordation System

Asa Jonsson, UN-Habitat and Dr. **Diane Dumashie**, FIG Africa Task Force (United Kingdom)
Mainstreaming Gender Equality, Grassroots Participation and Youth Empowerment

TS06A – Marketing and Management of Professional Survey Education

Tuesday, 8 May 16:00–17:30
Venue: Cavalieri 4, Rome Cavalieri
Commission: 2
Chair: Prof. **Joshua Greenfeld**, Israel
Rapporteur: Dr. **Gary Jeffress**, USA

Kevin Musungu and **Siddique Motala** (South Africa): Feet on the Ground: Using Geomatics Research as a Tool for Marketing the Geomatics Profession (6038)

Marina Vaskovich (Sweden): Tuition Fee – Challenges for Land Surveying Education in Sweden (5834)

Giuseppe Mangione and **Domenico Romanelli** (Italy): Sharing Seven Years of Experience about a New Training Model for Surveyors (6149)

Nadezda Kamynina (Russia): Professionals for Real Estate Market: Challenges in Practice and Education (6067)

Eugenio Rizzo and **Pietro Grimaldi** (Italy): New Technologies and Land Protection “... a good survey is already midway through project!” (6170)

Alain De Wulf, **Timothy Nuttens**, **Cornelis Stal**, **Bart De Wit** (Belgium), **Nicolas Seube** (France) and **Volker Böder** (Germany): Erasmus Intensive Program (2011–2013) on Hydrography and Geomatics (5962)
This is a flash presentation.

TS06B – e-Governance

Tuesday, 8 May 16:00–17:30
Venue: Cavalieri 3, Rome Cavalieri
Commission: 3 and 7
Chair: Mr. **Kees de Zeeuw**, Netherlands
Rapporteur: Mr. **Enrico Rispoli**, Italy

Magnus Landgren (Sweden): Development of e-Governance in Sweden (5776)

Gabriel Arancibia (Canada) and **Bhushan Shrestha** (Nepal): An Innovative Approach to Under-resourced Municipalities: A Cost-effective Geospatial Information Management System to Local Government in Nepal (5847)

Alberto Beinat, **Fabio Crosilla**, **Massimiliano Basso**, **Roberto Piuze** and **Emiliano Sossai** (Italy): Cadastral Map Upgrading and Layers Harmonization for the Spatial Data Infrastructure in Friuli Venezia Giulia, Italy (5925)

Peter Laarakker (Netherlands): Scenarios for the Spatially Enabled Society (6141)

Jens Riecken (Germany): Open Data – the Approach in North-Rhine Westphalia, Germany (5484)

TS06C – Implementation of Plans and Infrastructure

Tuesday, 8 May 16:00–17:30
Venue: Caravaggio, Rome Cavalieri
Commission: 8
Chair: Mr. **Collins Kowuor**, Kenya
Rapporteur: Mr. **Cromwell Manaloto**, Italy

Enrico Fabrizio and **Gabriele Garnerio** (Italy): Visual Impact, Landscape and Renewable Energy Plants: the Case of PV (5946)

Wubante Admasu (Ethiopia): Infrastructural Services (Water Supply and Sewerage Systems) – Problems and Options for the Provision and Financing of It in Ethiopian Cities: A Case Study on Bahir Dar City (5624)

Paola Allegri, **Barbara Mazza**, **Alida Ferreri**, **Valentina Ferrotti** and **Vita Rossetti** (Italy): Health Problems Generated by Buildings and Construction Materials: Prevention in Design and Renewing – Study on General Italian Population and Surveyors (5640)
*This paper has been presented by Ms. **Nicola Fiotti**.*

Ibrahim Usman Jibril and **Kwankur T. Garba** (Nigeria): The Challenges of Housing Needs in Abuja – Nigeria (5915)

K Chan (Hong Kong SAR, China): Protecting the Environment through Waste Minimization (5519)
This is a peer reviewed paper.

Mara Morbin (Italy): Solar Cooling for a Sustainable Energy Future (6104)

Luca Marchi (Italy): A GIS for Hydraulic Networks around Verona (6151)

TS06E – GNSS CORS Infrastructure and Applications II

Tuesday, 8 May 16:00–17:30
Venue: Rodi, Rome Cavalieri
Commission: 5
Chair: Dr. **Neil Weston**, USA
Rapporteur: Ms. **Paola Ronzino**, Italy

Satheesh Gopi Neelakandan, **Eman Ahmed Al Khatibi Al falasi**, **Mustafa Mohammed Baqer** and **AbdulWaheed AbdulGafoor Rahamatulla** (United Arab Emirates): Increasing the Accuracy, Efficiency and Coverage of Dubai Virtual Reference Stations by Adding Three More Reference Stations to the Existing Network (5790)

Maria Ovdii (Moldova): Establishment of MOLDPOS-a Continuously Operating Reference Stations Network for Moldova (5663)

Hasanuddin Z. Abidin, **Tony S. Haroen**, **Imam Mudita** and **Farid H. Adiyanto** (Indonesia): Implementation of GPS CORS for Cadastral Survey and Mapping in Indonesia: Status, Constraints and Opportunities (5900)

Edward Kurwakumire (Zimbabwe) and **Nyaradzo Chaminama** (Netherlands): An Analysis of Data Handling Techniques in Zimbabwe (5502)
This is a peer reviewed paper.

Joel van Cranenbroeck (Belgium) and **Vincent Lui** (Hong Kong SAR, China): The Reasons to Succeed and to Fail a GNSS RTK Positioning Infrastructure Project (6095)
*This paper has been presented by **Vincent Lui**.*

TS06F – 3D and 4D Cadastre II

Tuesday, 8 May 16:00–17:30
Venue: Malta, Rome Cavalieri
Commission: 7 and 3
Chair: Prof. **Peter van Oosterom**, Netherlands
Rapporteur: Prof. **Jacynthe Pouliot**, Canada

Abbas Rajabifard, **Mohsen Kalantari** and **Ian Williamson** (Australia): Land and Property Information in 3D (5712)

Alessandro Dalmaso (Italy): Individual and Shared Properties in the Condominium: Description, 3D Representation and Updating (5822)

Diego Alfonso Erba and **Mario Piumetto** (Argentina): 3D Cadastre in the Federal Countries of Latin America (5869)

S Hendriatiningsih, **Rizqi Abdulharis** and **Andri Hernandi** (Indonesia): Revisiting the Concept of Boundary on 3D Cadastre in Indonesia (6064)

Gyula Iván (Hungary): 3D Cadastre Developments in Hungary (6079)



TS06G – Engineering Surveying, Machine Control and Guidance

Tuesday, 8 May 16:00–17:30
Venue: Bernini, Rome Cavalieri
Commission: 6
Chair: Prof. **Heiner Kuhlmann**, Germany
Rapporteur: Mr. **Alan Wright**, United Kingdom

Vadim Rokhlin and Gilad

Even-Tzur (Israel):
Attitude Determination by Means of Dual Frequencies GPS Receiver (5715)

Ahmet Sami Kiliç and Tamer Baybura (Turkey):

Determination of Minimum Horizontal Curve Radius Used in the Design of Transportation Structures, Depending on the Limit Value of Comfort Criterion Lateral Jerk (5563)

Heiner Kuhlmann and Markus Wieland (Germany):

Steering of a Seeding Process with a Multisensor System (5820)

Janusz Dabrowski (Poland):

The Statistic Methods of Surveying Realization Networks Precise Adjustment Evaluation (6077)
This is a flash presentation.

Andréa De Seixas, José Roberto De Seixas and José Jorge De Seixas (Brazil):

Verification and Control of Vertical Bench Mark Applied for Settling Measurements of Large Structure Buildings (5952)
This is a flash presentation.

TS06H – Valuation – Environmental Factors

Tuesday, 8 May 16:00–17:30
Venue: Pisa, Rome Cavalieri
Commission: 9
Chair: Mr. **Michael Yovino-Young**, USA
Rapporteur: Dr. **Frances Plimmer**, Chair, FIG Commission 9, United Kingdom

Sebastian Kropp (Germany):
The Influence of Flooding on the Value of Real Estate (5729)

Radoslaw Cellmer, Adam Senetra and Agnieszka Szczepanska (Poland):

The Effect of Environmental Factors on Property Value (5748)

Małgorzata Krajewska and Kinga Szopińska (Poland):

Noise Level in Relation to Real Estate Prices in Poland (5538)
This is a peer reviewed paper.

Neill Sullivan and Don Grant (New Zealand):

Valuation Challenges Arising from New Zealand Earthquakes (6053)

G. Michael Yovino-Young (USA):

Valuation of Preservation and Conservation Easements (6171)

Bayram Uzun and Nida Celik (Turkey):

Deprive of the Property and Just Satisfaction in the Context of the Protection of the Cultural Heritage (5606)

TS06I – Remote Sensing II

Tuesday, 8 May 16:00–17:30
Venue: S. Giorgio, Rome Cavalieri
Commission: 5, 6 and 3
Chair: Mr. **Jacky Chow**, Canada
Rapporteur: Mr. **Rob Sarib**, Australia

Chris Papakosta, Charalabos Ioannidis and Dimitra Vassilaki (Greece):

The Use of Linear Features as Ground Control Information for the Orientation of Historical Aerial Photos (6032)
This is a flash presentation.

Murat Uysal, Tamer Baybura and Ibrahim Yilmaz (Turkey):

Documentation of Afyonkarahisar Mevlevi Lodge by Digital Close Range Photogrammetry (6052)
This is a flash presentation.

Chris Browitt and Ren Capes (United Kingdom):

Geohazards Revealed from 800km in Space: The PanGeo Project (5631)
This is a flash presentation.

Valerio Baiocchi, Raffaella Brigante, Donatella Dominici and Fabio Radicioni (Italy):

Coastline Detection Using High Resolution Multispectral Satellite Images (6008)
This is a flash presentation.

Davood Akbari, Abdorreza Safari, Mohammadraza Serajian and Mina Moradizadeh (Iran):

Support Vector Machine for Building Detection in Hyperspectral Images (6135)
This is a flash presentation.

Omer Mutluoglu, Murat Yakar and Haci Murat Yilmaz (Turkey):

The Most Suitable Sizes of Ground Control Points (GCPs) for World View2 (5984)
This is a flash presentation.

Elif Sertel, Dursun Zafer Seker, Irmak Yay, Emre Ozelkan, Mehmet Saglam, Yilmaz Boz and Arzu Gunduz (Turkey):

Vineyard Mapping Using Remote Sensing Technologies (6173)
This is a flash presentation.

TS06J – Hydrography Development

Tuesday, 8 May 16:00–17:30
Venue: Raffaello, Rome Cavalieri
Commission: 4
Chair: Ms. **Angela Etuonovbe**, Nigeria
Rapporteur: Prof. **Jonathan Li**, Canada

Alain De Wulf, Denis Constales, Cornelis Stal and Timothy Nuttens (Belgium):

Accuracy Aspects of Processing and Filtering of Multibeam Data: Grid Modeling versus TIN Based Modeling (5963)

Benedicta Amarachi Ugwulebo (Nigeria):

Hydrographic as a Tool to Improve Job Opportunities for Young Professionals in the Society, Nigeria (5881)

Lars Schiller, Volker Böder and Hans Werner Schenke (Germany):

The Position of Hydrography in a System of Sciences – A Comprehensive Definition and Systematic Subdivision of the Discipline (5858)

Director General Forum – Reception

Tuesday, 8 May 17:30–18:30
Venue: Terrazza degli Aranci

- For participants of the Director General Forum and Presidents of member associations.
- By invitation only.



General Assembly of the Union of Mediterranean Surveyors, UMG

Wednesday, 9 May 09:00–10:30

Venue: Caravaggio, Rome Cavalieri
Commission: UMG

FIG/GLTN – Contributing to GLTN Agenda – A Dialogue between Land Professionals Cluster and GLTN

Wednesday, 9 May 09:00–10:30
Venue: Leonardo, Rome Cavalieri

Commission: GLTN and FIG
Chair: Mr. **CheeHai Teo**, FIG President, Malaysia

A meeting as well as a technical session where the members within the GLTN Professional Cluster present their ongoing activities.

Presentations:

- *International Union of Notaries* (tbc)
Alternative Land Recordation Approaches
- *Swedesurvey*: **Tommy Österberg**, Lantmäteriet (Sweden):
Cost and Financing of Land Administration
- *Royal Institution of Chartered Surveyors – RICS*: **Muhammad Swazuri**, Deputy Principal, Mombasa Polytechnic University College (Kenya):
Valuation Methodology of Unregistered Properties
- *Statkart, Norway*: Mr. **Helge Onsrud**, Statkart (Norway):
Norwegian Project on a New Cadastre System for Armenia based on SOA and OSS and Cadastre Authorities in Cap Verde
- *OGE, France*:
French Contribution

Open Discussion

TS07A – Laser Scanners I

Wednesday, 9 May 09:00–10:30
Venue: Cavalieri 4, Rome Cavalieri
Commission: 6 and 5
Chair: Prof. **Rudolf Staiger**, FIG Vice President, Germany
Rapporteur: Prof. **Volker Schwieger**, Germany

Reha Metin Alkan (Turkey):

Analysis of the Accuracy of Terrestrial Laser Scanning Measurements (6097)

Branko Kordic, Bosko Pribicevic and Almin Dapo (Croatia):

Application of Terrestrial Laser Scanning in the Preservation of Fortified Caves (5967)

Khaled El Nabbout (Germany):
3D Laser Scan Applications in Cultural Heritage Conservation (6231)

Eleonora Bertacchini, Alessandro Capra, Cristina Castagnetti and Riccardo Rivola (Italy):

Investigating an Active Rockslide by Long-range Laser Scanner: Alignment Strategy and Displacements Identification (6040)

Massimo Secchia and Federico Uccelli (Italy):
Laser Scanner and GPS – Stop & Go (6152)

Imane Sebari and Mohamed Moutaouakkil (Morocco):
Investigating the Potential of Terrestrial Laser Scanner for Volume Calculation (5970)
This is a flash presentation.

Corinna Harmening, Jens-André Paffenholz and Hamza Alkhatib (Germany):
Analysis of High Resolution 3D Trajectories for Geo-referencing Purposes (6003)
This is a flash presentation.

TS07B – Cadastral and Land Administration Perspectives

Wednesday, 9 May 09:00–10:30
Venue: Cavalieri 3, Rome Cavalieri
Commission: 7 and 3
Chair: Mr. **Daniel Roberge**, Chair, FIG Commission 7, Canada
Rapporteur: Mr. **Jürg Kaufmann**, Switzerland

Paul van der Molen (Netherlands):
After 10 Years of Criticism: What Is Left from the Ideas of De Soto? (5503)

Gerda Schennach (Austria):
Land Management in a Cadastre 2.0 Surrounding (5658)

C.J. (Kees) de Zeeuw (Netherlands):
Land Administration for People, Profit and Planet (5802)

Anders Åberg (Sweden):
Registration and Management of Common Facilities (5680)

Don Grant (New Zealand):
A Sustainable Cadastre for New Zealand (5936)

Ake Uthas and Lynne Nyongesa (Kenya):
National Land Information Management System in Kenya (6218)

TS07D – GIS Applications

Wednesday, 9 May 09:00–10:30
Venue: S. Giovanni, Rome Cavalieri
Commission: 3
Chair: Mr. **Angel Yanakiev**, Bulgaria
Rapporteur: Dr. **Ulrike Klein**, Germany

Adel AIDoukhi (Kuwait), **Mohamed Ait Belaid** (Bahrain) and **Lulwa Ali** (Kuwait):
Beaches Management in the State of Kuwait Based on the Application of Carrying Capacity along with GIS/RS Techniques (5463)

Gomaa Dawod (Egypt), **Khalid Al-Ghamdi, Meraj Mirza and Ramze Elzahrany** (Saudi Arabia):
GIS Evaluation of Urban Growth and Flood Hazards: A Case Study of Makkah City, Saudi Arabia (5479)
This is a peer reviewed paper.

Virgil M.G. Radulescu and Corina M. Radulescu (Romania):
MDB GIS, on a New Concept Regarding the Computerization of the Mining Activity (5818)

Abdurrahman Geymen and Bülent Bostancı (Turkey):
Production of Geographic Information System Aided Noise Maps (6116)

Hu Baoqing and Qin Kaixian (China, PR):
Design and Implementation of the Regional Land Use and Optimal Regulation Decision Support System (6219)

Fatih Sarı and Ali Erdi (Turkey):
A Network Analyst Design for Providing the Shortest Intervention Time of the Emergency Vehicles as Like Ambulance and Fire Fighting to the Emergency Events – A Case Study Konya (5937)
This is a flash presentation.

TS07E – Setting the Boundaries for Large and Small Territories

Wednesday, 9 May 09:00–10:30
Venue: Rodi, Rome Cavalieri
Commission: 1 and 7
Chair: Dr. **Haim Srebro**, Israel
Rapporteur: Mr. **Domenico Romanelli**, Italy

Haim Srebro (Israel):
International Boundary Making – Methodology and Practice (5669)

Agnieszka Bieda, Paweł Hanus and Piotr Parzych (Poland):
The Problems of Establishing Cadastral Boundaries in River Erosion and Accumulation Areas, According to the Polish Law (5728)

Gottfried Konecny (Germany):
Alternatives for Economic Boundary Determination in the Establishment of a Cadastral System (5808)

Delphine Maréchal (Belgium):
Analysis of International and National Boundary Settlement and Demarcation Issues (5931)

TS07F – Task Force on Surveyors and the Climate Change II

Wednesday, 9 May 09:00–10:30
Venue: Malta, Rome Cavalieri
Commission: TF Surveyors & Climate Change
Chair: Dr. **David Mitchell**, Australia
Rapporteur: Mr. **Manohar Velpuri**, Singapore

Olusola Atilola (Nigeria):
Climate Change and the Environment: Issues and Geoinformation Challenges (6098)

Manohar Velpuri (India) and **Anusha Pidugu** (Singapore):
Climate Change Risks and Changing Face of Real Estate (6005)

Mathew Warnest (Bahrain), **Didier Sagashya and Emmanuel Nkurunziza** (Rwanda):
Emerging in a Changing Climate – Sustainable Land Use Management in Rwanda (5991)

Mauro Catalano (Italy):
Sustainable Housing in the Province of Bolzano Alto Adige, Italy – Thinking in Terms of a Co2 Neutral Climate (6115)

Joseph O. Olusina, Michael O. Odumade and Abiodun Awofeko (Nigeria):
Modeling Climatic Variation Parameters of Nigeria Using the Statistical Downscaling Approach (6099)



TS07G – Planning, Environment and Water Management

Wednesday, 9 May 09:00–10:30
Venue: Bernini, Rome Cavalieri
Commission: 8, 4 and 3
Chair: Mr. **Wafula Nabutola**, Kenya, Chair, FIG Commission 8, Kenya
Rapporteur: Mr. **Sandy Rendel**, Australia

Frank Friesecke, Sophie Schetke and Theo Koetter (Germany): Urban Planning for Climate Change – Position Paper of FIG Working Group 8.1 (6025)

Sanne Broekhof and Ramona Van Marwijk (Netherlands): The Role of Spatial Information for Planning Sustainable Cities (5985)

Asli Bozdogan and Saban Inam (Turkey): Seeking Methods for Determining Sustainable Strategies in Urban Regeneration Application (5759)

Ann Jennervik (Sweden): Connecting the Earth to the Cloud or Possibilities for Success in a Globally Accessible and Transparent Tool for Water Management (5857)

Bernard Orji Ekpete (Nigeria): The Flow Pattern of the Bonny and New Calabar Rives Systems of Niger Delat Region, Nigeria (5516)

TS07H – GNSS Measurement Devices

Wednesday, 9 May 09:00–10:30
Venue: Pisa, Rome Cavalieri
Commission: 5
Chair: Dr. **Lawrence Lau**, China P.R.
Rapporteur: Mr. **Alessandro Dalmaso**, Italy

Ulla Kallio, Hannu Koivula, Sonja Nyberg, Paavo Rouhiainen and Veikko Saarinen (Finland), **Zane Cirule, Didzis Dobelis and Vladimirs Golovka** (Latvia):

GNSS Antenna Offset Field Test in Metsähovi (5580)
This is a peer reviewed paper.

Elhassane Semlali, Khalid Ezzoubaihi and Hamid Mouatassim (Morocco): Testing the Performances of Dual Frequency GPS Real Time in the Operations of Implanting and Survey (5718)
This is a flash presentation.

Wolfgang Schauerte, Philipp Zeimet and Heiner Kuhlmann (Germany): Application of Sub-mm GPS and Terrestrial Measurements for the Precise Measurement of an EDM Calibration Baseline (5817)
This is a flash presentation.

Valerio Baiocchi, Grazia Pietrantonio, Martina Mormile and Maria Vittoria Milone (Italy): Innovative Methodology for GNSS Data Preprocessing (6035)
This is a flash presentation.

Ismail Sanlioglu and Mustafa Zeybek (Turkey): Investigation on GPS Heighting Accuracy with Use of Tropospheric Models in Commercial GPS Software for Different Heights (5689)
This paper has been presented by Mr. Mustafa Zeybeck.
This is a flash presentation.

Lesia Boico and Gilad Even-Tzur (Israel): Applying Meteorological Data in GPS Measurements (5723)
This is a flash presentation.

Gary Zhang (Canada): A Principle for Determining the Optimum Surveying Accuracy (5473)
This is a flash presentation.

Jingui Zou, Yong Li, Jian Chen and Jianqiu Kui (China, PR): The Implementation of Data Collection and Decoding Based on GNSS Antenna Array Receiver (6215)
This is a flash presentation.

TS07I – Accreditation and Quality Assurance

Wednesday, 9 May 09:00–10:30
Venue: S. Giorgio, Rome Cavalieri
Commission: 2
Chair: Dr. **Gary Jeffress**, USA
Rapporteur: Prof. **Steven Frank**, Chair, FIG Commission 2, USA

Francois Mazuyer and Rafic Khouri (France): Study Frame for Sub Saharan Surveying Studies (5656)

Tim Goodhead (United Kingdom): Quality Assurance Systems – The Difficulties in Providing a Global Unified System for Surveyors (5825)

Vladimir Golubev and Irina Fartukova (Russia): National Peculiarities of Education of Master's Program "Cadastral and Land Management" in Russia (5942)

Federica Capriolo (Italy): Valuation, between Culture and Profession (6114)

Mustafa Cosar, Murat Sahin, Fazli Engin Tombus and Ibrahim Murat Ozulu (Turkey): An Overview to the Map Cadastral Departments at Vocational Schools: Last 5 Years (5846)
This is a flash presentation.

Thanh Bui Quang, Van Tuan Tran, Anh Tuan Tran (Viet Nam) and **Walter T. de Vries** (Netherlands): Ex-ante Evaluation of Aligning Education with Land Administration (Technology) in Vietnam (5814)
This is a flash presentation.

TS07J – Land Policy and Reform II

Wednesday, 9 May 09:00–10:30
Venue: Raffaello, Rome Cavalieri
Commission: 7
Chair: Dr. **Francis Roy**, Canada
Rapporteur: Mr. **Amaneh Jadidi Mardkkeh**, Canada

Mustafa Hayri Kesikoğlu and Mehmet Çete (Turkey): The Pros and Cons of Building Licensed Offices of Surveying and Cadastre in Turkey (5832)

Noa Aharonov, Gershon Steinberg, Larissa Voznesensky and Gilad Even-Tzur (Israel): Accuracy Estimation of Reconstructed "Old" Cadastral Boundaries (5928)

Casty Njoroge and Mwenda Makathimo (Kenya): Examining Land Tenure Reforms in Kenya: A Case of Conversions of Freehold and Long Leases Held by Non-citizens to 99 Years (5974)

Eskedar Birhan (Ethiopia): Urban Land Policy and Housing for Poor and Women in Amhara Region: The Case of Bahir Dar City (5594)

TS07L – Land Administration in Post Conflict and Post Natural Disaster Areas

Wednesday, 9 May 09:00–10:30
Venue: Ellisse, Rome Cavalieri
Commission: 7
Chair: Prof. **Paul van der Molen**, Netherlands
Rapporteur: Dr. **Don B. Grant**, New Zealand

Giacomo Di Pasquale (Italy): Administration of Lands after Earthquakes – Italian Experiences (6255)

Dimo Todorovski, Jaap Zevenbergen and Paul van der Molen (Netherlands): Can Land Administration in Post-Conflict Environment Facilitate the Post-Conflict State Building? – a Research Problem (5557)
This is a peer reviewed paper.

Anna Szafarczyk and Anita Kwartnik-Pruc (Poland): Issues Regarding Taking Landslide Areas into Account in Spatial Planning in Poland (5697)

Hyunjung Ha (Republic of Korea): Application of Flood Marks Management System to Establish Rehabilitation Plan of Reducing Natural Disaster (5733)

Simon Ironside (New Zealand): Rebuilding Christchurch in the Wake of the 2010 & 2011 Earthquakes – A Surveyor's Perspective (5786)

Chris Crook and Don Grant (New Zealand): Spatial Maintenance of the New Zealand Cadastre in Response to Earthquakes (5877)
This paper has been presented by Don Grant.



PS3 – Plenary Session 3 – Knowledge to Evaluate

Wednesday, 9 May 11:00–12:30
 Venue: Cavalieri 4, Rome Cavalieri
 Commission: All
 Chair: Prof. **Dalal S. Alnaggar**, FIG Vice President, Egypt
 Rapporteur: Geom. **Franco Mazzoccoli**, CNGeGL, Vice President, Italy

Mario Resca, General Manager, Development for Cultural Heritage, Ministry for Cultural Heritage (Italy):
 Enhancement of cultural heritage through the public awareness (6244)

Fabio Remondino, FBK (Italy):
 3D Surveying and Modelling Technologies for the Digital Preservation of Cultural Heritage (6245)

See Lian Ong, RICS President, 2011–2012 (United Kingdom):
 Preserving the Built Environment: Importance of Building Information Modeling (6246)

Academic Members Forum

Wednesday, 9 May 14:00–15:30
 Venue: Leonardo, Rome Cavalieri
 Commission: FIG academic members.
 Chair: Dr. **Chryssy Potsiou**, FIG Vice President

- This is a session for FIG academic members.

Corporate Members Meeting

Wednesday, 9 May 14:00–15:30
 Venue: S. Stefano, Rome Cavalieri
 Commission: FIG Corporate Members
 Chair: Mr. **CheeHai Teo**, FIG President

- For FIG Corporate Members.
- By invitation only.

Professional Woman – Development of Advanced Economy

Wednesday, 9 May 14:00–15:30
 Venue: Cavalieri 4, Rome Cavalieri
 Commission: CNGeGL and FIG
 Chair: Ms. **Mariella Venditti** Journalist, RAI 3, Italy

- High profile session on gender issues organised by CNGeGL.
- Open for all interested participants.

TS08B – The Impact of Earthquakes and Geodynamics on Geodetic Reference Frames

Wednesday, 9 May 14:00–15:30
 Venue: Cavalieri 3, Rome Cavalieri
 Commission: 5 and 6
 Chair: Mr. **Graeme Blick**, New Zealand
 Rapporteur: Mr. **Luca Passador**, Italy

Cetin Mekik, Bulent Turgut and Haluk Ozener (Turkey):
 Determination of Current Velocity Field (Rate) of North Anatolian Fault in Izmit-Sapanca Segment (5911)

Fabio Radicioni, Aurelio Stoppini, Gianfranco Fornaro, Fabio Bovenga and Davide Oscar Nitti (Italy):
 Long-Term GNSS and SAR Data Comparison for the Deformation Monitoring of the Assisi Landslide (5914)

Paolo Farina, Giorgio Barsacchi (Italy), **William H. Schulz** and **Jeffries A. Coe** (USA):
 Kinematics of the Slumgullion Landslide Revealed by Ground-based InSAR Surveys (5839)

Marcin Ligas, Grzegorz Lenda and Anna Szafarczyk (Poland):
 Approximation Methods for an Active Landslide's Surface Modelling (5951)

Ha Su Yoon, Yun Soo Choi and In Hun Jeong (Republic of Korea):
 Analysis of the Korean Peninsula Crustal Movements after the Great East Japan Earthquake (5773)
This is a flash presentation.

Wanju Bo, Guohua Yang and Fengshuang Zhang (China, PR):
 Crust Deformation and the Model Deduction about Generation Mechanism of Wenchuan Ms8.0 Earthquake (6216)
This is a flash presentation.

TS08C – Laser Scanners II

Wednesday, 9 May 14:00–15:30
 Venue: Caravaggio, Rome Cavalieri
 Commission: 6 and 5
 Chair: Prof. **Volker Schwieger**, Germany
 Rapporteur: Mr. **Nic Donnelly**, New Zealand

Cristina Castagnetti, Eleonora Bertacchini, Alessandro Capra and Marco Dubbini (Italy):
 Terrestrial Laser Scanning for Preserving Cultural Heritage: Analysis of Geometric Anomalies for Ancient Structures (6031)

Ivo Milev (Germany) and **Vladimir Seredovich** (Russia):
 The State-of-the-Art, Challenges and Application Potential of Terrestrial Laser Scanning Data (5806)

Craig Matthew Hancock, Gethin Wyn Roberts, Luke Bisby, Martin Cullen and James Arbuckle (United Kingdom):
 Detecting Fire Damaged Concrete Using Laser Scanning (6139)

Josh Quint (USA) and **Dario Conforti** (Italy):
 Trouble in Paradise: The Challenges of Mobile Lidar Surveying on a Remote Pacific Island (6004)

Jacky Chow, Derek Lichti and William Teskey (Canada):
 Accuracy Assessment of The Faro Focus3D and Leica HDS6100 Panoramic Type Terrestrial Laser Scanner Through Point-based and Plane-based User Self-calibration (5865)

TS08D – Vertical Reference Systems

Wednesday, 9 May 14:00–15:30
 Venue: S. Giovanni, Rome Cavalieri
 Commission: 4 and 5
 Chair: Dr. **Dan Roman**, USA
 Rapporteur: Mr. **Mikael Lilje**, Chair, FIG Commission 5, Sweden

David Dodd and Jerry Mills (USA):
 Ellipsoidally Referenced Surveys (ERS) Separation Models (5704)
This paper is presented by Jerry Mills.

Kamyar Shojaee and Nassim Khodadadi (United Arab Emirates):
 Annual Sea Surface Height Variation and Dynamic Topography on the Caspian Sea from Jason-1 Altimetry Data (5789)

Pavel Novak (Czech Republic):
 Towards Realization of a Unified World Height System (6096)

Dexter Justin Davis (Trinidad And Tobago), **Michael Sutherland** (Canada), **Sandesh Jaggan and Demi Singh** (Trinidad And Tobago):
 A Satellite Altimetry Based Approach to the Determining and Monitoring of Sea Level in the Caribbean (6024)

Yosef Melzer (Israel):
 A Simple Method to Measure Dead Sea Level (5464)
This is a flash presentation.

Elena Rokhlin and Gilad Even-Tzur (Israel):
 Monitoring Vertical Displacements of TGBM Using GNSS Measurements and Their Connection to the Permanent GNSS Stations in Israel (5856)
This is a flash presentation.

TS08E – Professional Work Environment – Associations, Ethics and Practice

Wednesday, 9 May 14:00–15:30
 Venue: Rodi, Rome Cavalieri
 Commission: 1
 Chair: Ms. **Leonie Newnham**, Chair, FIG Commission 1, Australia
 Rapporteur: Ms. **Robyn Mccutcheon**, Australia

Joseph Ejikeme and Chukwbueze Onwuzuligbo (Nigeria):
 Surveying Profession and Ethical Questions (5647)

Emmanuel Tembo and Boipuso Nkwae (Botswana):
 Sustaining the Geomatics Profession through Effective Professional Associations (5683)

Nor Ashikin Mohamed Yusof and Mohd Yunus Mohd Yusof (Malaysia):
 Liberalization of the Surveying Professions in Malaysia (5570)

Moha El-Ayachi, Mohamed Ettarid, Omar Sabir and Youssef IdBaha (Morocco):
 Toward a Professional Observatory of the Surveying Profession in Morocco: a New Frame to Face New Challenges (5810)

Chukwbueze Onwuzuligbo, Joseph Ejikeme and Victor Nnam (Nigeria):
 Surveyors' Participation in Active Politics in Africa: Bridging the Disconnect (5625)

Winston Ayeni (Nigeria):
 The Surveyor General as a Programme Manager: The Nigerian Perspective (5827)

Collins Kowuor (Kenya):
 The Dynamics of Influencing National Policies and Legislation: The Kenyan Perspective in Land Reforms (6065)
This is a flash presentation.



TS08F – Planning, Environment and Tourism

Wednesday, 9 May 14:00–15:30
Venue: Malta, Rome Cavalieri
Commission: 8
Chair: Mr. **Winston Ayeni**, Nigeria
Rapporteur: Mr. **Kwame Tenadu**, Ghana

Saban Inam, Mehmet Ertas and Asli Bozdog (Turkey):

The Importance of the Urban Land Policy for Sustainable Development, Problems and Solution Recommendations (5755)

Abdul-Nasser Hikmany (Tanzania):

Land Planning Authorities and Sustainable Tourism in Zanzibar (5664)

Gertude Nnanjar Njar (Nigeria): Analysis of the Relationships between Tourists' Expectation of Heritage Attributes and Satisfaction in the Cross River State Carnival Festival, Nigeria (5983)

Damir Medak and Ivan Medved (Croatia):

Zonation of Susceptible Landslide Areas using Multiple Criteria Analysis with Fuzzy Logic (5568)

Ponn Virulrak (Thailand):

Parking Variance: New Legal Paradigm for Bangkok Hotel Development (4870)

This is a peer reviewed paper.

Matthew Ibitoye and Suleiman Adegboyega (Nigeria):

Indigenous Approach to Soil Erosion Control in the Southwest Nigeria (6059)

TS08G – Valuation I

Wednesday, 9 May 14:00–15:30
Venue: Bernini, Rome Cavalieri
Commission: 9
Chair: Dr. **Frances Plimmer**, Chair, FIG Commission 9, United Kingdom
Rapporteur: Mr. **Fabio Pinna**, Italy

Daniel Dabo and Basil Makama (Nigeria):

Clients Influence on Property Value in Valuation Report (Empirical Evidence from Abuja, Nigeria (5598)

Piotr Cichociński (Poland): How to Calculate Real Estate Accessibility (5929)

Francis HK Ng and Edward SH Au (Hong Kong SAR, China):

Re-vamping Land Usage to Meet Updated Needs (5593)
This is a flash presentation.

Edward SH Au (Hong Kong SAR, China):

Revitalization of Industrial Buildings (5597)
This is a flash presentation.

TS08H – 3D Principles and Technology

Wednesday, 9 May 14:00–15:30
Venue: Pisa, Rome Cavalieri
Commission: 3
Chair: Prof. **Yerach Doytsher**, Chair, Commission 3, Israel
Rapporteur: Ms. **Mara Morbin**, Italy

Oren Gal and Yerach Doytsher (Israel):

Spatial 3D Analysis of Built-up Areas (5487)
This is a peer reviewed paper.

Martin Breunig, André Borrmann, Stefan Hinz, Ernst Rank and Matthäus Schilcher (Germany):

Towards 3D Geoinformatics and Computational Engineering Support for Cooperative Tracks Planning (5757)

Edward Eric Duncan and Alias Abdul Rahman (Malaysia):

An Amalgamation of 3D Spatial Data Model for Surface and Sub-surface Spatial Objects (5889)

Natalia Vandysheva, Sergey Sapelnikov (Russia), **Peter van Oosterom, Marian De Vries, Boudewijn Spiering, Rik Wouters, Andreas Hoogeveen** (Netherlands) and **Veliko Penkov** (Bulgaria):
The 3D Cadastre Prototype and Pilot in the Russian Federation (6037)

Andrea Lingua, Mattia De Agostino and Marco Piras (Italy):
SOLDEO: A New Solution for 3D GIS Data Recording (6089)

TS08I – Low Cost Surveying and Mapping

Wednesday, 9 May 14:00–15:30
Venue: S. Giorgio, Rome Cavalieri
Commission: 7, 3 and 5
Chair: Mr. **Larry Hothem**, USA
Rapporteur: Dr. **Neil Weston**, USA

Robert Antwi (Ghana), **Rohan Bennett, Walter De Vries, Christiaan Lemmen and Co Meijer** (Netherlands):

The Requirements for Point Cadastres (5612)

Victor Nnam, Bernard Ekpete and Obinna C.D. Anejionu (Nigeria):

Improving Street Guide Mapping of Enugu South Urban Area through Computer Aided Cartography (5621)

TS08J – Building Information Modelling – BIM

Wednesday, 9 May 14:00–15:30
Venue: Raffaello, Rome Cavalieri
Commission: 10 and 3
Chair: Mr. **Iain Greenway**, FIG Vice President, United Kingdom
Rapporteur: Mr. **Robert Sinkner**, Chair, FIG Commission 10, Czech Republic

Jason Smith, President, ICES (United Kingdom):
BIM from a Contractors Perspective (6248)

Agele Alufohai, President, NIQS (Nigeria):
Adoption of Building Information Modeling (BIM) and Nigeria's Quest for Project Cost Management (6225)

Christina Alexiadi and Chryssy Potsiou (Greece):
How the Integration of n-Dimensional Models (BIM) and GIS Technology May Offer the Potential to Adopt Green Building Strategies and to Achieve Low Cost Constructions (6061)

Panel discussion on BIM

TS08L – FIG/GIM Forum on Future of Land Administration

Wednesday, 9 May 14:00–15:30
Venue: Ellisse, Rome Cavalieri
Commission: GIM, FIG and 7
Chair: Mr. **Christiaan Lemmen**, Netherlands
Rapporteur: Ms. **Gerda Schen-nach**, Austria

This is a panel discussion open for all participants interested in the future trends in land administration. The panelists will initiate the discussion with brief statements followed by comments and discussion. Themes that will be discussed: the evolving role of land professionals, AAA vs Open/Crowdsourced Cadastre? Informal rights included, and overlapping claims, 3D and 4D in land administration.

Panelists:

- Europe: **Peter Laarakker** (Netherlands) and **Robin McLaren** (United Kingdom)
- Asia: **Quang Thanh Bui** (Viet Nam)
- Latin America: **Diego Alfonso Erba** (Argentina)
- Africa: **Clarissa Augustinus** (UN-Habitat)
- Young Surveyors representative: **Jean-François Beaupré** (Canada)

TS08M – Surveying and Cultural Heritage I

Wednesday, 9 May 14:00–15:30
Venue: S. Marco, Rome Cavalieri
Commission: 3, 7, 8 and IIHSM
Chair: Mr. **John Hohol**, USA
Rapporteur: Mr. **Johann Martin Lun**, Italy

Armağan Güleç Korumaz, O. Nuri Dulgerler, Selçuk Sayin and Mustafa Korumaz (Turkey):
Information and Communication Technologies in Cultural Heritage Documentation and Design Process (6207)

Francisco Henrique de Oliveira, Flavio Boscatto, Mariane Alves Dal Santo and Sonia Elisete Rampazzo (Brazil):
Visibility Spatial Analysis for Support Cultural Landscape Territorial Planning in Lages Highlands – Santa Catarina State, Brazil (5565)
This is a flash presentation.

Mustafa Korumaz and Armagan Gulec Korumaz (Turkey):
The Evaluation of New Buildings behind Historic Facades in Terms of Sustainability (6253)
This is a flash presentation.



GNGeGL – Italian Presidents and Provincial Colleges

Wednesday, 9 May 16:00–17:30
 Venue: Cavalieri 4, Rome Cavalieri
 Commission: Presidents and members of CNGeGL Provinces
 Chair: Geom. **Fausto Savoldi**, CNGeGL President

- This is a meeting for the for the presidents and members of CNGeGL Provinces.

TS09B – Precise Point Positioning

Wednesday, 9 May 16:00–17:30
 Venue: Cavalieri 3, Rome Cavalieri
 Commission: 5
 Chair: Mr. **Nic Donnelly**, New Zealand
 Rapporteur: Mr. **Lars Engberg**, Sweden

Chris Rizos, Volker Janssen, Craig Roberts and Thomas Grinter (Australia):

Precise Point Positioning: Is the Era of Differential GNSS Positioning Drawing to an End? (5909)

Mohamed Elsobeiey and Ahmed El-Rabbany (Canada):

An Improved GPS-Based Precise Point Positioning Model (5569)
This is a peer reviewed paper.

Salih Alcay, Cevat Inal and Cemal Ozer Yigit (Turkey):

Contribution of GLONASS Observations on Precise Point Positioning (5617)

Cemal Ozer Yigit, Salih Alcay and Cevat Inal (Turkey):

GPS Based Ionosphere Mapping Using PPP Method (5618)

Ismail Sanlioglu and Tahsin Kara (Turkey):

Investigating Effects in GPS Time Series and Case Study on Tropospheric Effects (6080)

TS09C – Surveying and Cultural Heritage II

Wednesday, 9 May 16:00–17:30
 Venue: Caravaggio, Rome Cavalieri
 Commission: 8, 3 and 6
 Chair: Mr. **Alan Wright**, United Kingdom
 Rapporteur: Mr. **John Brock**, Australia

Paola Ronzino (Italy):

What Future for Our Past? The Surveyor's Task for the Preservation of Cultural Heritage (5953)

Nida Celik and Bayram Uzun (Turkey):

Cultural Heritage versus Property Rights (5686)

İbrahim Murat Ozulu, Mustafa Süel, Fazlı, Engin Tombuş, Mustafa Coşar and Murat Şahin (Turkey):

The Importance of Maps at the Archaeological Excavations Works (5844)

Deniz Arca, Mehmet Alkan, Caglar Bayık and Dursun Zafer Seker (Turkey):

Web-Based GIS For Safranbolu Historical City (6090)

TS09D – Laser Scanners III

Wednesday, 9 May 16:00–17:30
 Venue: S. Giovanni, Rome Cavalieri
 Commission: 6 and 5
 Chair: Prof. **Volker Schwieger**, Germany
 Rapporteur: Mr. **Graeme Blick**, New Zealand

Timothy Nuttens, Alain De Wulf, Greta Deruyter, Cornelis Stal, Hans De Backer and Ken Schotte (Belgium):

Application of Laser Scanning for Deformation Measurements: A Comparison between Different Types of Scanning Instruments (5988)

Carmen Müller, Tobias K. Kohoutek and Pascal W. Theiler (Switzerland):

Automated Site Plan Extraction from TLS Point Clouds (5655)

Hakan Karabörk, Cihan Altuntas and Ekrem Tusat (Turkey):

Combining of Scene Measurements by Laser Scanner and GPS Combination (5859)

Cornelis Stal, Timothy Nuttens, Denis Constaes, Ken Schotte, Hans De Backer and Alain de Wulf (Belgium):

Automatic Filtering of Terrestrial Laser Scanner Data from Cylindrical Tunnels (5812)

This is a flash presentation.

TS09E – GIS Algorithms

Wednesday, 9 May 16:00–17:30
 Venue: Rodi, Rome Cavalieri
 Commission: 3
 Chair: Prof. **Efi Dimopoulou**, Greece
 Rapporteur: Mr. **Daniele Brancato**, Italy

Fatiha Ibannain (Morocco):

Ontology for Reference Geographical Data Facing the Challenge of Applications Diversity (5543)
This is a peer reviewed paper.

Demetris Demetriou (Cyprus), **John Stillwell** (United Kingdom) and **Linda See** (Austria):

LandFragmentS: A New Model for Measuring Land Fragmentation (5526)

Rudiney Soares Pereira, Mariele Furlan and Ana Caroline Paim Benedetti (Brazil):

Dynamic Modeling the Land Use and Land Cover in the Watershed of Arroio Grande, Rio Grande do Sul State, Brazil (5785)

Asli Dogru, Haluk Ozener, Taner Selcuk and Asli Sabuncu (Turkey):

Multidisciplinary GIS for Geodynamic Research (5950)

Rongbin Wang (China, PR):
 Study on Storage Structure of Digital Topographic Map Based on Version of the Concepts (6175)

BeiQi Shi, Neng Chen and Lin Shen (China, PR):

Research on Web Vector Representation of Thematic Map Using HTML5 (6210)

This is a flash presentation.

TS09F – Risk Management in Planning and GIS

Wednesday, 9 May 16:00–17:30
 Venue: Malta, Rome Cavalieri
 Commission: 8 and 3
 Chair: Prof. **Theo Koetter**, Germany
 Rapporteur: Ms. **Yvonne Sowah**, Ghana

Oludayo Emmanuel Abiodun and Oluwaseun Adeyomoye (Nigeria):

Fire Disaster Prevention and Management Systems for Lagos Metropolis in a Geomatics Environment (5774)

Elisabetta Genovese, Valentin Przulski and Stéphane Hallegatte (France):

Disaster Risk Management and Territorial Governance: Lessons from Xynthia Storm in France (6048)

Irwan Gumilar, Hasanuddin Zaenal Abidin, Heri Andreas, Teguh Purnama Sidiq and Mochamad Gamal (Indonesia):

On Mapping and Evaluation of the Impacts of Land Subsidence in Bandung Basin, Indonesia (5638)

Guessoum Nabila (Algeria):
 Contribution of the Studies of Seismic Microzoning in the Development of Future New Cities: Case of the New City of Sidi Abdellah, Algeria (5707)

This is a flash presentation.

Francesco Bartoli (Italy):
 GeoAvalanche – Spatial Data Infrastructure for Avalanche Awareness Warning (5784)



TS09G – Valuation II

Wednesday, 9 May 16:00–17:30
Venue: Bernini, Rome Cavalieri
Commission: 9
Chair: Prof. **Winrich Voss**, Germany
Rapporteur: Dr. **Frances Plimmer**,
Chair, FIG Commission 9, United
Kingdom

Cromwell Manaloto (Italy):
Real Estate Valuation in Insur-
ances – Know the Hows and Whys
(5944)

Simon Forbes and **Tim
Goodhead** (United Kingdom):
Investigating the Methods of Valu-
ing Heritage Real Estate Buildings
and Their 100–200 Year Life Cycle
(6153)

Matteo Negri (Italy):
Enhancing Real Property (6112)

Zelalem Yibrah Atsbeha (Ethio-
pia):
Ethiopian Mortgage System and
Its Impact on Credit Accessibility
(5471)
This is a flash presentation.

**TS09H – Innovative Technology
in Land Administration**

Wednesday, 9 May 16:00–17:30
Venue: Pisa, Rome Cavalieri
Commission: 7
Chair: Mr. **Gyula Ivan**, Hungary
Rapporteur: Mr. **Marcel Grigore**,
Romania

Hyunil Yoo and **Handon Ju** (Re-
public of Korea):
An Approach to Effective Land
Registration Based on the Satellite
Photogrammetry (5694)

**Jongmin Lee, Byungwoon Park
and Dekkie Tcha** (Republic of
Korea):
Using Network-RTK for Cadas-
tral Reform in Republic of Korea
(5719)

Olawale Ojikutu (Nigeria), **Rohan
Bennett** (Australia) and **Liza
Groenendijk** (Netherlands):
An Assessment of Land Acquisi-
tion in Nigeria (5548)

Antonio D'Angelis (Italy):
Italian Cadaster Is Directly Up-
dated by Surveyors (6150)

**Carmela Szancer, Yaron Felus
and Vera Lavan** (Israel):
On-line Services for Surveyors
(5996)
This is a flash presentation.

TS09I – Engineering Surveying

Wednesday, 9 May 16:00–17:30
Venue: S. Giorgio, Rome Cavalieri
Commission: 6
Chair: Dr. **Ivo Milev**, Germany
Rapporteur: Mr. **Svend Kold Jo-
hansen**, Denmark

**Sébastien Guillaume, Beat
Bürki, Helene Mainaud Durand
and Sylvain Griffet** (Switzerland):
QDaedalus: Augmentation of
Total Stations by CCD Sensor for
Automated Contactless High-
Precision Metrology (6002)

Edi Meier, Michael Boege and
Karsten Dreyer (Switzerland):
Online Monitoring During Beam
Assisted Girder Re-alignment at
the Accelerator SLS (Swiss Light
Source) (6055)

Mariusz Frukacz (Poland):
The Optimum Procedures of
Determining the Coefficient of
Linear Thermal Expansion and
Calibration of Precise Levelling
Rods (5854)

Jacob Odeh Ehiorobo and
Osadolor Christopher Izinyon
(Nigeria):
Monitoring of Gully Formation
and Development for Effective
Remediation and Control (5919)

Joel Van Cranenbroeck (Bel-
gium), **Andrey Balan** (Ukraine)
and **Marco Di Mauro** (Italy):
A New Geodetic Network Design
for Hydro Power Plant (5876)

Gilad Even-Tzur (Israel) and
Joerg Reinking (Germany):
Velocity Field Across the Carmel
Fault Calculated by Extended Free
Network Adjustment Constraints
(5805)

**TS09K – Task Force on Property
and Housing II**

Wednesday, 9 May 16:00–17:30
Venue: Leonardo, Rome Cavalieri
Commission: TF Property
Chair: Mr. **Raymond Chan**, Hong
Kong SAR, China
Rapporteur: Dr. **Chryssy Potsiou**,
Chair, Task Force on Property and
Housing, Greece

Helge Onsrud (Norway):
Simplifying Land Transactions – It
Can Be Done (6224)

Chryssy Potsiou and **Ifigenie
Boulaka** (Greece):
Informal Development in Greece:
the Estimation of the Dead
Capital, the new Legislation for
Formalization and the Chances for
Legalization (5514)
This is a peer reviewed paper.

Panos Lolonis (Greece):
The Effects of Legislation Changes
and Economic Crisis on Land
Transactions in Greece (6247)

Kestutis Sabaliauskas (Lithua-
nia):
Housing and Property Market in
Lithuania (6205)

Yaacoub Saade (Lebanon):
Economy of Construction in Leba-
non and the Informal Develop-
ment (6214)

**TS09L – Land Administration
and Sustainable Development**

Wednesday, 9 May 16:00–17:30
Venue: Ellisse, Rome Cavalieri
Commission: 7
Chair: Mr. **Tommy Osterberg**,
Sweden
Rapporteur: Mr. **Danilo Antonio**,
UN-Habitat

Jouni Johannes Anttonen (Fin-
land):
Multi-Donor Efforts for Improving
Land Administration Systems in
Developing Countries: Lessons
Learnt from the Cambodian Land
Management and Administration
Project (LMAP) (5459)

Puong Thuy Le (Viet Nam),
**Jaap Zevenbergen, Christiaan
Lemmen, Harry Uitermark**
(Netherlands) and **Quoc Binh
Tran** (Viet Nam):
Investigating the Conformity
between the Land Administration
Domain Model and the Vietname-
se Land Administration System
(5545)

*This paper has been presented by
Prof. Jaap Zevenbergen.
This is a peer reviewed paper.*

Richard Grover and **Christine
Grover** (United Kingdom):
Influences on the Strength of
Property Rights (5583)
This is a peer reviewed paper.

Guler Yalcin (Turkey):
Forest and Cadastre in Turkey and
Sustainable Development (5637)

Alexander Schmidt and **Murat
Meha** (Kosovo):
Scope of Cadastre Reconstruction
in the Republic of Kosovo (6006)

Marija Raskovic (Serbia):
The Real Estate Administration
and Market in the Republic of
Serbia – Possibilities of Improve-
ment (5780)

FIG Presidents Meeting

Thursday, 10 May 08:30–10:00
Venue: Cavalieri 2, Rome Cavalieri

Commission: Presidents of FIG members
Chair: Mr. **CheeHai Teo**, FIG President

- Meeting of Presidents and head of delegations of FIG member associations.
- By invitation only.

FIG General Assembly – Second Session

Thursday, 10 May 10:30–15:00
Venue: Cavalieri 3&4, Rome Cavalieri

Commission: FIG members
Chair: Mr. **CheeHai Teo**, FIG President

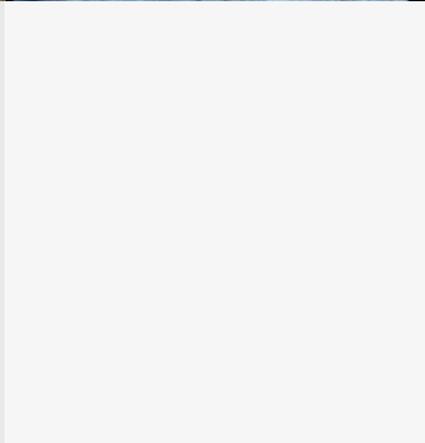
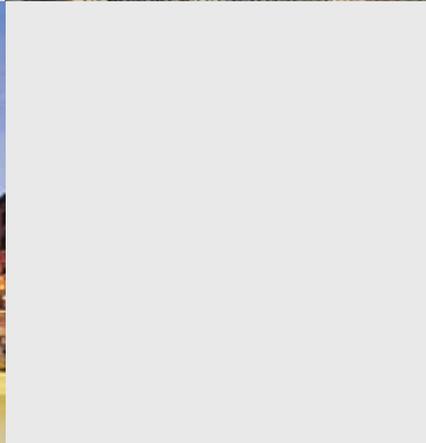
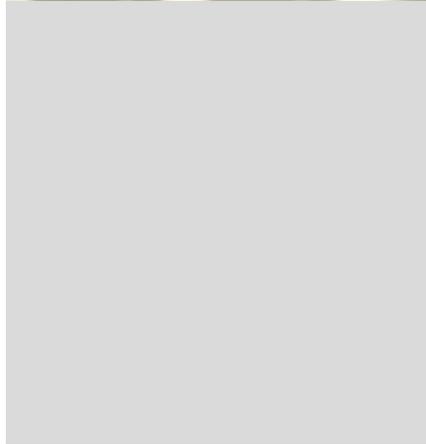
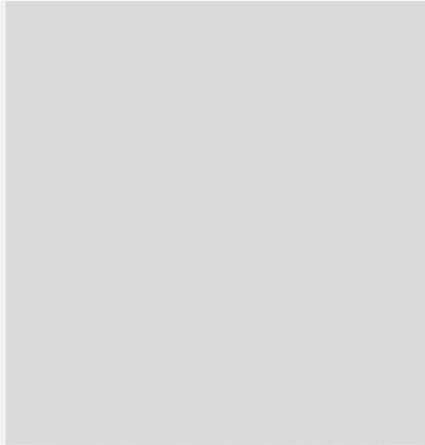
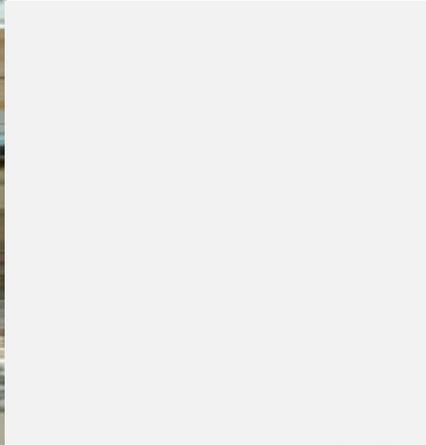
- For all FIG members.
- Open for observers.

FIG Working Week Closing Ceremony and Farewell Reception

Thursday, 10 May 15:00–16:00
Venue: Cavalieri 3&4, Rome Cavalieri

Commission: All
Chair: Mr. **CheeHai Teo**, FIG President

- Closing Ceremony of the Working Week will start immediately after the second General Assembly and will be followed by the Farewell Reception hosted by the Nigerian Institution of Surveyors, NIS, host of FIG Working Week 2013.



Venue Floor Plan – Rome Cavalieri

Registration, FIG and CNGeGL

offices:

- Level -1

Opening Ceremony:

- Giuseppe Sinopoli Hall, Parco della Musica

FIG General Assembly & Farewell Reception & Closing Ceremony

- Cavalieri 3 & 4

Plenary Sessions

- Cavalieri 4 (Level -1)

Technical Sessions & Commission Meetings

- Cavalieri 4, Cavalieri 3, Caravaggio, S. Giovanni, Rodi, Malta, Bernini, Pisa, S. Giorgio, Raffaello, Leonardo, Ellisse, S. Marco (Level -1)

Meeting rooms:

- Commission meeting rooms: MR1 and MR2 (Level -1)
- Council meeting room: S. Stefano (Level -1)

Speakers Preparation Room:

- SR (Level -1)

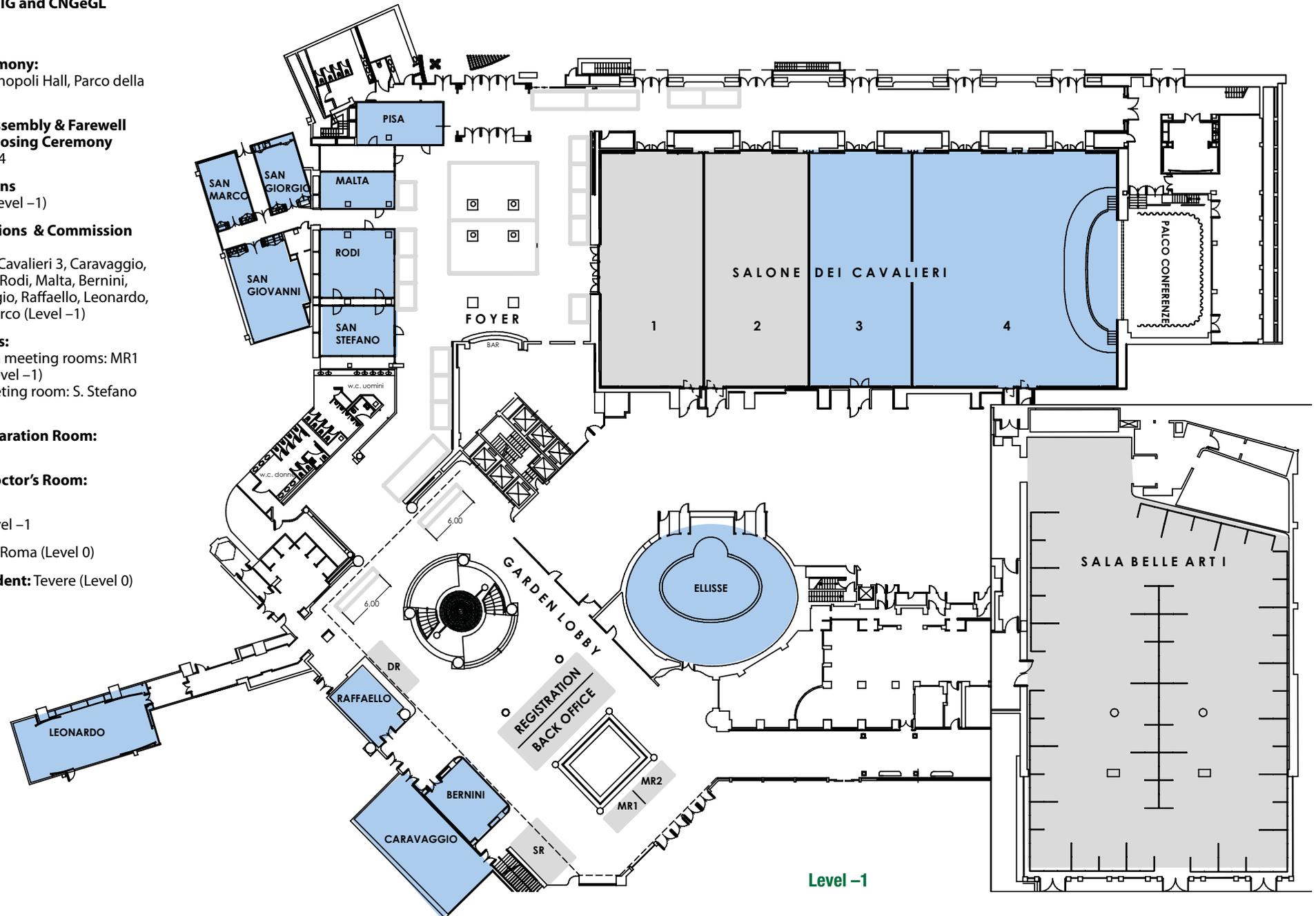
Conference Doctor's Room:

- DR (Level -1)

Exhibition: Level -1

FIG President: Roma (Level 0)

CNGeGL President: Tevere (Level 0)





International Federation of Surveyors
Fédération Internationale des Géomètres
Internationale Vereinigung der Vermessungsingenieure

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Working Week web site
www.fig.net/fig2012

Conference proceedings
www.fig.net/pub/fig2012