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FIG Working Week 2011

& 6th National Congress of ONIGT
– Bridging the Gap Between Cultures

Marrakech, Morocco
May 18–22, 2011

TECHNICAL PROGRAMME

Organised by:



INTERNATIONAL
FEDERATION OF
SURVEYORS



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GÉOMÈTRES
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Programme at a Glance

| Time | Exhibition | | | | | | Time | | | | |
|-------|------------------------------|-------------------------|---|-------------------------|----------------------------------|--------------------------------------|----------------------------------|---|--|---|--------------|
| | Tuesday 17 May | Wednesday 18 May | Thursday 19 May | Friday 20 May | Saturday 21 May | Sunday 22 May | | | | | |
| 8:00 | Registration 13:00–17:30 | Registration 8:00–17:30 | Registration 8:00–17:30 | Registration 8:00–17:30 | Registration 8:00–17:30 | Registration 8:00–17:30 | Registration 8:00–16:00 | 8:00 | | | |
| 9:00 | ACCO Meeting | FGF General Assembly | Plenary Session I | | Plenary Session II | | Plenary Session III | Presidents' Meeting | 9:00 | | |
| 10:00 | | | FIG General Assembly I | | Coffee break | | Coffee break | | Coffee break | 10:00 | |
| 11:00 | | | Lunch | | Technical Sessions (10 parallel) | Technical Sessions (10 parallel) | Acad. Memb.; GA Breakout Session | Technical Sessions (10 parallel) | FIG General Assembly II | 11:00 | |
| 12:00 | | | Lunch | | Lunch | | Lunch | Lunch (for GA) | | 12:00 | |
| 13:00 | | | FIG General Assembly I | | Technical Sessions (10 parallel) | FIG Africa Task Force I; YSN Meeting | Technical Sessions (10 parallel) | Dir. Gen. I; Corp. Memb.; Stand. Netw.; | Technical Sessions (10 parallel) | FIG General Assembly II/ Closing Ceremony | 13:00 |
| 14:00 | | | FIG Comm. Annual Meetings | | | | | | | | Coffee break |
| 15:00 | | | Trimble–Esri Preconference Workshop (in French) | | Technical Sessions (10 parallel) | FIG Africa Task Force II | Technical Sessions (10 parallel) | Dir. Gen. II; WG5.1 | Technical Sessions (10 parallel) | Farewell Reception | 15:00 |
| 16:00 | | | UMG General Assembly | | | | | | | | Coffee break |
| 17:00 | | | | | Opening Ceremony (17:45–18:45) | | AUS Meeting | China Forum | Closing Ceremony of the 6 th National Congress of ONIGT | 17:00 | |
| 18:00 | | | | | | | | | | | 18:00 |
| 19:00 | | | | | | | | 19:00 | | | |
| 20:00 | ONIGT Dinner (by invitation) | Welcome Reception | Moroccan Evening & FIG Foundation Dinner | | Free / Commission Dinners | | Conference Dinner | 20:00 | | | |

Rooms for the Commission Annual Meetings:

18 May:

| | | | |
|--------|------------|---------|---------|
| Comm 1 | Karam 5 | Comm 6 | Reda 5 |
| Comm 2 | Comm. MR 1 | Comm 7 | Fes 2 |
| Comm 3 | Karam 1 | Comm 8 | Karam 3 |
| Comm 4 | Reda 4 | Comm 9 | Karam 4 |
| Comm 5 | Karam 2 | Comm 10 | Reda 2 |

19–21 May:

Comm. MR 1 – MR 5 in the exhibition area

Technical Tours:

TT 1 – New City of Tamnsourt

– Thursday 19 May, 14:30–16:30

TT 2 – Hydraulic Basin Agency of Tensift

– Thursday 19 May, 14:30–16:30

TT 3 – Urban Agency of Management and Building for Tensift Haouz

– Friday 20 May, 10:30–12:30

TT 4, TT 8 and TT 9 – Marrakech Cadastre and Land Conservation Facility

– TT 8 Thursday 19 May, 14:30–16:30

– TT 4 Friday 20 May, 10:30–12:30

– TT 9 Friday 20 May, 15:00–17:00

TT 5 – RADEEMA : Autonomous Bureau of Management and Water and Electricity-Marrakech

– Friday 20 May, 15:00–17:00

TT 6 – The Regional Office of Agricultural Development of Haouz

– Friday 20 May, 15:00–17:00

TT 7 – Regional Directorate of Water and Forest

– Friday 20 May, 15:00–17:00

FIG Office:

ASNI 1

ONIGT Office:

AGDAL 1

FIG President:

Fes 1A

ONIGT President:

Fes 2A

Speakers Preparation Room: Reda 3

The FIG Working Week 2011 & 6th National Congress of ONIGT Technical Programme

Monday, 16 May 2011

FIG Council Meeting

Monday, 16 May 09:00–17:00
Venue: Fes 2
Commission: FIG Council members

- By invitation only

Tuesday, 17 May 2011

Federation des Geometres Francophones (FGF) General Assembly

Tuesday, 17 May 09:00–13:00
Venue: Fes 1
Commission: FGF

FIG Commission Officers Meeting – ACCO

Tuesday, 17 May 09:00–17:00
Venue: Fes 2
Commission: FIG Commission chairs

- By invitation only

Trimble and Esri Pre-conference Workshop

Tuesday, 17 May 14:00–18:00
Venue: Fes 1, Palais des Congrès
Commission: Esri and Trimble

ONIGT Dinner

Tuesday, 17 May 20:00–23:00
Venue: Dar Rhizlane, Jnane El Harti, Quartier Hivernage, Marrakech, www.dar-rhizlane.com

- By invitation only

Wednesday, 18 May 2011

FIG General Assembly I

Wednesday, 18 May 09:00–12:00
Venue: Salle Mazagan, Ryad Mogador Hotel, Ave. Mohammed VI, Marrakech
Commission: FIG members

- FIG members
- Open for observers

FIG General Assembly I – Continues

Wednesday, 18 May 13:00–15:00
Venue: Salle Mazagan, Ryad Mogador Hotel, Ave. Mohammed VI, Marrakech

- General Assembly continues
- FIG members
- Open for observers

Pre-conference Workshop – IAV-ONIGT-Leica

Wednesday, 18 May 13:00–18:30
Venue: Fes 1
Commission: ONIGT members

Annual Meetings of FIG Commissions

Wednesday, 18 May 15:00–17:00
Venue: Palais des Congrès
Commission: Commission delegates

- Comm. 1 – Karam 5
- Comm. 2 – Comm. MR1
- Comm. 3 – Karam 1
- Comm. 4 – Reda 4
- Comm. 5 – Karam 2
- Comm. 6 – Reda 5
- Comm. 7 – Fes 2
- Comm. 8 – Karam 3
- Comm. 9 – Karam 4
- Comm. 10 – Reda 2

Mediterranean Union of Surveyors – UMG General Assembly

Wednesday, 18 May 16:00–19:00
Venue: Salle Mazagan, Ryad Mogador Hotel, Ave Mohammed VI Marrakech
Commission: UMG members

- By invitation
- Open for observers

FIG Foundation Meeting

Wednesday, 18 May 17:00–19:00
Venue: Commission MR5
Commission: FIG Foundation

- By invitation only

Welcome Reception

Wednesday, 18 May 19:30–21:00
Venue: Mansour Eddahbi Hotel

- Open for all participants



PS01 – Plenary Session I – Knowledge and Technology Bridging the Gap between Cultures

Thursday, 19 May 09:00–10:30
Venue: Salle des Ministres
Chair: Mr. **CheeHai Teo**, FIG President
Rapporteur: Prof. **Mohamed Ettarid**, Chair, Organising Committee of FIG 2011

CheeHai Teo, FIG President (Malaysia):
Bridging the Gap – Introductory Address (5432)

Aziz Hilali, ONIGT President (Morocco):
Bridging the Gap between Cultures – Introductory Address (5433)

Othman Skiredj (Morocco):
Theory of the Creation of the Universes – A Way to Reconcile the Scientific Knowledge and the Realities of Our Spiritual Inheritance (5434)

Aida Opoku-Mensah, Director, Division of ICT, UN ECA (Ghana):
Concrete Leverage and Positive Outcomes in Geospatial Science and Technology in Bridging the Gap between Cultures in Africa (5435)

Chris Gibson, Vice President, Trimble Navigation Ltd (USA):
Knowledge and Technology Bridging the Gap between Cultures (5436)

TS01A – AFREF in a Global Perspective

Thursday, 19 May 11:00–12:30
Venue: Salle des Ministres
Commission: 5, IAG, AFREF and IGS
Chair: Mr. **Mikael Lilje**, Chair, FIG Commission 5
Rapporteur: Mr. **Rob Sarib**, Australia

Chris Rizos (Australia):
Global and National Geodesy, GNSS Surveying, and CORS Infrastructure (5339)

Joao Torres (Portugal):
Regional Reference Frames: The IAG Perspective (5248)

Hussein Farah (Kenya):
Establishment of a Common and Modern African Geodetic Reference Frame (AFREF) (5250)

Carine Bruyninx (Belgium):
The Role of EUREF within the European Geodetic Infrastructure (5292)

John Dawson (Australia), **Graeme Blick** (New Zealand), **Manoj Deo**, **Guorong Hu** and **Gary Johnston** (Australia):
The APREF Project: an Improved Geodetic Infrastructure for Asia and the Pacific (4861)

TS01B – Land Administration Perspectives

Thursday, 19 May 11:00–12:30
Venue: Fes 1
Commission: 7
Chair: Dr. **Daniel Steudler**, Switzerland
Rapporteur: Mme **Barkane Fatima**, Morocco

C.J. (Kees) de Zeeuw and **M.A. (Martin) Salzmann** (Netherlands):
Cadastral Innovation Driven by Society: Evolution or Revolution? (4873)

András Osskó (Hungary):
New Services in Land Administration – International Trends (5173)

Peter Laarakker (Netherlands):
The Multi-purpose Cadastre, a Network Approach (4974)

Rohan Bennett, Abbas Rajabifard, Ian Williamson, Jude Wallace and **Brian Marwick** (Australia):
A National Vision for Australian Land Registries (4851)
This is a peer reviewed paper.

Ahmed Elbouari (Morocco):
Role of the Surveying in the Development of Agricultural Land in Morocco (5412)

Youssef Gounni and **Nisrine Iouzi** (Morocco):
Conservation of the Public Marine Domain (5382)

TS01C – 3D Cadastre and 3D Information

Thursday, 19 May 11:00–12:30
Venue: Karam 1
Commission: 3 and 7
Chair: Mr. **Godfried Barnasconi**, Netherlands
Rapporteur: Mr. **Nabil Bounajma**, Morocco

Peter van Oosterom, Jantien Stoter, Hendrik Ploeger (Netherlands), **Rod Thompson** and **Sudarshan Karki** (Australia):
World-wide Inventory of the Status of 3D Cadastres in 2010 and Expectations for 2014 (4968)

Benoit Frédéricque (France), **Keith Raymond** (Canada) and **Kees van Prooijen** (Netherlands):
3D GIS as Applied to Cadastre – A Benchmark of Today's Capabilities (5368)

Reida Elwannas (United Arab Emirates):
3D GIS: It's a Brave New World (5193)

Khaled El Nabbout (Germany) and **Naoufal Abouelala** (United Kingdom):
3D Survey with almost 1 Million Points per Second (5416)

Natalia Vandysheva, Vladimir Tikhonov (Russia), **Jantien Stoter, Rik Wouters** (Netherlands) and **Veliko Penkov** (Bulgaria):
3D Cadastre Modelling in Russia (4967)
Peter van Oosterom and Hendrik Ploeger, Netherlands

Ulrich Baltzer, Joerg Schaller (Germany) and **Marc Bonazountas** (Greece):
LANDING – Aircraft Navigation Technology with 3D-GIS for Safe Landing (5344)

TS01D – Bridging the Rural/Urban Divide

Thursday, 19 May 11:00–12:30
Venue: Karam 2
Commission: 8
Chair: Mr. **Wafula Nabutola**, Chair, FIG Commission 8
Rapporteur: Mr. **Mohamed Bakessou**, Morocco

Michael Klaus (Germany):
Formal and Informal Participation in Urban and Rural Planning Processes – Reflections based on Complexity Theory (5396)

Wafula Nabutola (Kenya):
Bridging the Urban and Rural Divide: The Test Case for Kenya (5253)

Michel Greuzat (France):
The High Environmental Quality Approach for Urban and Rural Development (4943)

Hyung Moo Kim and **Dek Kie Tcha** (Republic of Korea):
A Full-automatic Round, Oval or Rectangular Graveyards Feature Extraction Algorithm Using Decision Tree Pattern Recognition (5048)

C.G. Eze (Nigeria):
An Appraisal of the Challenges of Resource Exploration and Exploitation for Socio-economic Developments in Nigeria (5219)
This is a flash presentation.

TS01E – Deformation Monitoring

Thursday, 19 May 11:00–12:30
Venue: Karam 3
Commission: 6
Chair: Dr. **Ivo Milev**, Germany
Rapporteur: Ms. **Audrey Martin**, Ireland

Joel van Cranenbroeck (Belgium):
State of the Art in Structural Geodetic Monitoring Solutions for Hydro Power Dams (4763)

Alojz Kopacik, Peter Kyrinovic, Imrich Liptak and **Jan Erdelyi** (Slovakia):
Automated Monitoring of the Danube Bridge Apollo in Bratislava (4845)

Grzegorz Lenda and **Marcin Ligas** (Poland):
Splines and Kriging – The Use of Two Methods for Shell Structures Shape Analysis (4907)
This is a peer reviewed paper.

Gethin Roberts (China, PR), **Chris J. Brown** and **Ogundipe Oluropo** (United Kingdom):
Monitoring the Severn Suspension Bridge by GNSS (4934)

Maricel Palamariu and **Mircea Puscas** (Romania):
Using Engineering Survey for the Tonkolili Railways Project (5229)

Ivo Milev (Germany):
Processing of Optical Sensors and Laser Scanners Measures of Railroads Even at High Speed (5296)

NOTE: Simultaneous interpretation is provided in sessions in rooms Salle des Ministres and Fes 1.

TS01F – Young Surveying Professionals and Students

Thursday, 19 May 11:00–12:30
Venue: Karam 4
Commission: YSN and 1
Chair: Ms. **Kate Fairlie**, Chair of FIG Young Surveyors Network
Rapporteur: Ms. **Cecilia Lindén**, Sweden

Fausto Savoldi (Italy):
A Permanent Training for the Italian Surveyor and a New Path towards an Effective Scholl System for the Youth (5395)

Cecilia Lindén (Sweden):
Age Structural Survey within the Surveying Profession 2011–2014 (5268)

Kate Fairlie and **Chris McAlister** (Australia):
Spatially Smart Wine – Getting Young Surveyors to Network in the Vineyard! And Other Australian Young Surveyor Activities (5086)

Pierre Tessier and **Marie-Renée C.-Lavoie** (Canada):
A Portrait of Land Surveyor in Quebec – Portrait de l'arpenteur-géomètre au Québec (5241)

TS01G – Investment, Finance and Real Estate Management

Thursday, 19 May 11:00–12:30
Venue: Karam 5
Commission: 9
Chair: Mr. **Yaacoub Saade**, Lebanon
Rapporteur: Dr. **Frances Plimmer**, Chair, FIG Commission 9

Frances Plimmer (United Kingdom):
Commission 9 Working Plan 2011 – 2014 (5366)

Manohar Velpuri (Hong Kong SAR, China):
Cadastral Management Information System for Better Land Valuation in Emerging Economies (5428)

Sylvester Okoror (Nigeria):
Urbanization in Nigeria: A Critical Analysis of Real Estate Finances and Investments in the Era of Globalization (4769)

Risto Peltola (Finland):
Leasehold Discount in Dwelling Prices: A Neglected View to the Challenges Facing the Leasehold Institution (5260)

Felician Komu (Tanzania):
Harmonization of Valuation Education amidst Proliferation of Specializations in Real Estate Disciplines (5182)

TS01H – Curriculum and Core Survey Knowledge I

Thursday, 19 May 11:00–12:30
Venue: Reda 2
Commission: 2
Chair: Prof. **Bela Markus**, Hungary
Rapporteur: Prof. **Irina Fartukova**, Russian Federation

El Hassane Semlali (Morocco):
Professional Aspects and Specificities of the Geomatic Sciences and Surveying Engineering Education in Morocco – A Unique Experience (4925)

Fabian Thiel (Cambodia):
Education, Property Valuation and Taxation Capacity in Developing Countries: The Example of Cambodia (4806)

Alain De Wulf, Timothy Nuttens, Cornelis Stal and Philippe De Maeyer (Belgium):
Geomatics Education in Belgium: 2011 Program Reformation at Belgium Universities (5265)

Olga Godoy and Orlando Patiño (Colombia):
Surveying and Geomatic in Colombia: A Comparative Study of the Academic Programs of Engineering and Technology (4856)

Nicolae Dima, Ioel Veres, Larisa Filip, Adrian T.G. Radulescu and Virgil M.G. Radulescu (Romania):
Academic Mining Surveying Education in Romania, 60 Years of History (4793)

TS01I – Spatial Information Applications I

Thursday, 19 May 11:00–12:30
Venue: Reda 4
Commission: 3
Chair: Mr. **Ali Oufrid**, Morocco
Rapporteur: Mr. **Robert W. Foster**, USA

Hicham Hajji, Moha El Ayachi, Mustpha Aboulbaroudi and Jalil Griger (Morocco):
An Overview on Constraints Development in Web Mapping (5240)

Guanfu Song (China, PR):
Service GIS, New Concept for Geographic Information Sharing (5425)

Khalid Sbai, Idriss Elachhab, Youssef Saban and Mina Amharref (Morocco):
The GIS Solutions and Services on the Web (5300)

Rachid A. Barry, Abdelkader El Garouani and Abderrahim Lahrach (Morocco):
GIS Support in Urban Management – Application in Fes in Morocco (5322)
This is a flash presentation.



TS01J – Land Registration

Thursday, 19 May 11:00–12:30
Venue: Reda 5
Commission: 7 and 3
Chair: Mr. **Douichi Choukri**, Morocco
Rapporteur: Mr. **Lars Aastrand**, Sweden

Marc Vanderschueren (Belgium):
Identification of the Real Estate in the Deeds Submitted to the Hypothecary Formality – Identification des biens immobiliers dans les actes soumis à la formalité hypothécaire (5054)

Gabriel Arancibia (Canada):
Une architecture géospatiale pour le registre des terres * Geospatial Architecture for the Cree/Naskapi Land Registry System as an Economic Development Mechanism for Canadian Aboriginal People (4906)

Agnes Addai, Joseph Owusu, Daniel Asenso-Gyambibi and Yaw Opoku-Gyamfi (Ghana):
Systematic Land Title Registration: A Dynamic Approach to Land Registration (4966)

Daragh O'Brien (Ireland):
To Gauge an Understanding of How Boundaries Are Perceived in Ireland by Landowners (4812)

Marcin Karabin (Poland):
Registration of the Premises in 2D-cadastral System in Poland (4818)

TS02A – GNSS CORS Infrastructure and Standards

Thursday, 19 May 14:00–15:30
Venue: Salle des Ministres
Commission: 5, IAG, AFREF and IGS
Chair: Dr. **David Martin**, France
Rapporteur: Mr. **Rob Sarib**, Australia

Ruth Neilan (USA):
The International GNSS Service (IGS): Product and Services (5340)

Joel Van Cranenbroeck (Belgium):
AFREF – Lesson Learnt After the First GNSS Reference Station Launched (4958)

Rui Fernandes (Portugal),
Ignacio Romero (Spain),
Elifuraha Saria (Tanzania) and
Eric Calais (USA):
Evaluating Future Consistency between AFREF and EUREF (5150)

Pierre Desjardins (USA):
Multipurpose Nation-wide Real-Time Reference Station Network Infrastructure – From Geodetic Control to Precise Positioning and Much More... (5377)

Richard Stanaway and **Craig Roberts** (Australia):
Rigid Plate Transformations to Support PPP and Absolute Positioning in Africa (4858)
This is a peer reviewed paper.

FIG Africa Task Force I

Thursday, 19 May 14:00–15:30
Venue: Fes 2
Commission: FIG Africa Task Force
Chair: Dr. **Diane Dumashie**,
Chair, FIG Africa Task Force
Rapporteur: Mr. **Rafic Khouri**, France

TS02B – Spatially Enabled Society

Thursday, 19 May 14:00–15:30
Venue: Fes 1
Commission: 3 and Task Force
Chair: Prof. **Chryssy Potsiou**, FIG
Vice President
Rapporteur: Dr. **Daniel Steudler**,
Chair, FIG Task Force on Spatially Enabled Society

Daniel Steudler (Switzerland):
FIG Task Force on Spatially Enabled Societies (5032)

Ian Williamson, Abbas Rajabifard, Jude Wallace and **Rohan Bennett** (Australia):
Spatially Enabled Society (5385)

Alexander Kohli (Switzerland):
Sustainable Land Management based on Fast Approach Cadastral Documentation (5117)
This is a peer reviewed paper.

Yvan Bedard (Canada):
Geospatial Data Quality + Risk Management + Legal Liability = Evolving Professional Practices (5215)

Anthony Adeoye (Nigeria):
Land Titling and Recertification as Tools for State Spatial Data Infrastructure Development in Nigeria (4795)

Abdallah Rattal, Med Boucham and **Latifa Lakfif** (Morocco):
the National Program for Household Waste (NPHW) (5388)

TS02C – Spatial Data Infrastructures I

Thursday, 19 May 14:00–15:30
Venue: Karam 1
Commission: 3
Chair: Prof. **Bashkim Idrizi**, Macedonia, FYROM
Rapporteur: Mr. **Jamal Benissa**, Morocco

Zeljko Bacic, Ljerka Rasic and **Sanja Zekusic** (Croatia):
Development of the Croatian and Regional SDI as a Part of European SDI (4866)

Tomasz Berezowski (Poland):
Unexpected Effects of National SDI Implementation – Based on Geoportal.gov.pl (4952)

Ibannain Fatiha (Morocco):
Ontology for Reference Geographical Data towards a NSDI (5000)

Bashkim Idrizi, Risto Ribarovski, Subija Izeirovski, Nikola Ribarovski and **Sali Zhaku** (Macedonia, FYROM):
SDI 25000 and Topographic Map Production in Macedonia (5031)

Hassane Jarar Oulidi and **Omar Alami Bachir** (Morocco):
Contribution à la mise en place d'une infrastructure des données spatiales (SDI) pour la gestion des ressources en eaux souterraines au Maroc (5259)

Elikkos Elia (Cyprus), **Christiaan Lemmen, Peter van Oosterom** and **Jaap Zevenbergen** (Netherlands):
The Land Administration Domain Model(LADM) as the Reference Model for the Cyprus Land Information System (4880)

TS02D – Land Consolidation

Thursday, 19 May 14:00–15:30
Venue: Karam 2
Commission: 7
Chair: Mr. **Peter Laarakker**, Netherlands
Rapporteur: Mr. **Kamal Outghouliast**, Morocco

Gürsel Kusek (Turkey):
A Monitoring and Evaluation Study on the Success of Land Consolidation Project in Turkey (5174)

Seija Kotilainen (Finland):
Starting Land Rearrangement Projects in Small Arable Land Areas in Finland (4783)

Tayfun Cay and **Mevlut Uyan** (Turkey):
A Spatial Decision Support System Design for Land Consolidation Projects (4813)

Sabahattin Akkus and **Tayfun Cay** (Turkey):
Investigation of the Effects of Rural Land Arrangements on Rural Development (4820)

TS02E – Land Deformation

Thursday, 19 May 14:00–15:30
Venue: Karam 3
Commission: 6
Chair: Mr. **Craig Hancock**, United Kingdom
Rapporteur: Prof. **Alojz Kopacik**, Slovakia

Heri Andreas, Hasanuddin Z Abidin, Mipi Ananta Kusuma and **Irwan Gumilar** (Indonesia):
After Four Years of Ground Displacements Following LUSI Mud Volcano Eruption: Sign of Its Ending Eruption (4901)

Adrian T.G. Radulescu, Nicolae Dima, Octavian Radulescu, Virgil M.G. Radulescu (Romania) and **Vassilis Gikas** (Greece):
Possibilities of Using the Kinematic Structural Monitoring Methods in the Time Behavior of Constructions and Terrains Located above the Mines in Conservation (4977)

Tomonori Deguchi, Yoshihiro Kinugasa and **Katsumi Kurita** (Japan):
Monitoring of Land Deformation around Active Fault in the Metro Manila (5278)

Mohammad Abboud and **Chadi Abdallah** (Lebanon):
Landslide Surveying and Monitoring in South Lebanon (5342)

Khadidja Abbes, Mohamed Djeddi (Algeria), **Bertrand Guillier, Jean-luc Chatelain** (France) and **El Hadi Oubaiche** (Algeria):
Developpement d'une methodologie de relocalisation de seismes, utilisant la modification des poids donnees aux temps d'arrivee (5403)

TS02F – Remote Sensing I

Thursday, 19 May 14:00–15:30
Venue: Karam 4
Commission: 5
Chair: Mr. **Nic Donnelly**, New Zealand
Rapporteur: Mr. **Tarik Laghzil**, Morocco

Imane Sebari, Hanae Lahmami and **Mohamed Ettarid** (Morocco):
Assessment and Comparison of the Quality of Digital Ortho-images Generated from Digital Aerial Images and from Scanned Analog Aerial Images (5307)

Khamarrul Azahari Razak, Cees van Westen, Menno Straatsma and **Steven de Jong** (Netherlands):
Mapping of Elements at Risk for Landslides in the Tropics Using Airborne Laser Scanning (4874)
This is a peer reviewed paper.

Kyutae Ahn and **Youngjoon Song** (Republic of Korea):
Digital Photogrammetry for Land Registration in Developing Countries (4969)

Dao Tam and **Le Trung** (Viet Nam):
ERS-ENVISAT Dual Sensor Coherent Target Monitoring (CTM) Processing for Studying of Subsidence in Ho Chi Minh City, Vietnam (4781)

Yuhua He (China, PR):
Remote Sensing Supplying Technical Support for Innovation of Land Management (4972)

Boniface Yegon (Kenya):
Comparison of Registry Index Maps (RIMs) and Satellite Imagery in Land Adjudication in Kenya (5402)

TS02G – 3D Cadastre and Case Studies

Thursday, 19 May 14:00–15:30
Venue: Karam 5
Commission: 7 and 3
Chair: Dr. **Peter van Oosterom**, Netherlands
Rapporteur: Prof. **Kenza Ait Elkadi**, Morocco

Alias Abdul-Rahman, Chee Hua Teng (Malaysia) and **Peter van Oosterom** (Netherlands): Embedding 3D into Multipurpose Cadastre (5223)

Ali Aien, Abbas Rajabifard, Mohsen Kalantari and Ian Williamson (Australia): Aspects of 3D Cadastre – A Case Study in Victoria (4935)
This is a peer reviewed paper.

Vuttinan Utesnan (Thailand): The Feasibility of 3D Cadastre in Thailand (4787)

Fatih Doner, Osman Demir and Cemal Biyik (Turkey): Need for Three-Dimensional Cadastre in Turkey (4824)

Alessandro Dalmasso (Italy): Procedures for the Cadastral Registration of a New Building and Its 3D Representation (5074)

TS02H – Curriculum and Core Survey Knowledge II

Thursday, 19 May 14:00–15:30
Venue: Reda 2
Commission: 2
Chair: Prof. **Mohamed Ettarid**, Morocco
Rapporteur: Prof. **Steven Frank**, Chair, FIG Commission 2

Ignacio Menéndez Pidal and Pedro J. Caveró Abad (Spain): Integration of Cooperation for Development in Survey Engineering Curricula at the European Higher Education Area (EHEA) Framework (5064)
This is a peer reviewed paper.

Vladimir Golubev, Irina Farukova and Aleksandr Chibunichev (Russia): Education in Land Management at Moscow State University of Geodesy and Cartography and the Bologna Process (5161)

Mohamed Bougouss (Canada): The Challenge of Forming a Qualified Labor Responding to a Diversified Job Market in a Perpetually Technological Changing and Globalization Environment: the Limoilou College's Model (4954)

Stella Soni, Kufre Sunday and Chioma Azalam (Nigeria): Effective Educational Practice in Survey Profession in Nigeria (5021)

Pal Nikolli (Albania) and **Bashkim Idrizi** (Macedonia, FYROM): GIS Education in Albania (5207)

TS02I – Spatial Information Applications II

Thursday, 19 May 14:00–15:30
Venue: Reda 4
Commission: 3
Chair: Prof. **Hartmut Mueller**, Germany
Rapporteur: Prof. **El Hassan Benaim**, Morocco

Débora Lamberty, Maurício Roberto Veronez and Marcelo Zagonel de Oliveira (Brazil): The Use of Geographic Information System to the Integration and Management of Historical Information: A Case Study in Jesuit-Guarani Reduction in Brazil (5088)

Terwase Youngu, Olalekan Isioye and Moses Emakoji (Nigeria): The Management of Information for Control Points within Zaria, Kaduna State Nigeria Using GIS (4919)

Ali Nashwan, Mohamed Ait Belaid and Sabah Al-Jenaid (Bahrain): Designing a Spatial Database to Facilitate Road Maintenance Tasks (5357)

Barkan Fatima (Morocco): The Permanent System of Migration Observation and Data Collecting toward an e-Government Project in Morocco (5430)

Paola Ronzino (Italy): GIS for Land Management: an Overview on Italy (5076)
This is a flash presentation.

Maisam Toosi, Ali Makki, Abdol Reza Meshgini, Mohsen Ojaghloo and Reza Akbari (Iran): Resource Management by Using GIS Functionalities (5176)
This is a flash presentation.

TS02J – Organisational and Legislative Issues

Thursday, 19 May 14:00–15:30
Venue: Reda 5
Commission: 1 and 7
Chair: Mr. **Pierre Tessier**, Canada
Rapporteur: Mme **Afane Rabia**, Morocco

Jean-Paul Miserez (Switzerland): Quelle synergie entre topographes et géomètres? (5237)

Jim Mason (United Kingdom): Promoting Ethical Improvement in the Built Environment (4962)

Tony Burns (Australia) and **Suleiman Dabbas** (Serbia): Developing Effective Policy and Planning in Yemen (5232)

Lani Roux and Michael Barry (Canada): Application of Grounded Theory in the Study of Land Registration Systems Usage (4847)

Brian J Coutts (New Zealand): Regulation and Discipline for Cadastral Surveyors: A Case Study in the Australasian Reciprocating Region (4946)

Olalekan Isioye, Emmanuel Olarenwaju Obarafo and Moses Mefe (Nigeria): The Need for a Comprehensive Review of Nigerian Survey Legislation in the Face of Evolving Technology (4908)

Daniel Parent (Canada): Land Surveyors and Certificate of Location (5171)

Young Surveyors Network Meeting

Thursday, 19 May 14:00–15:30
Venue: Commission MR1
Commission: Young Surveyors Network
Chair: Ms. **Kate Fairlie**, Chair, FIG Young Surveyors Network

Experts Meeting with ANCFCC

Thursday, 19 May 14:00–18:00
Venue: Select, Mansour Ed-dahbi Hotel

- Meeting with international experts
- By invitation only



TS03A – Towards Cadastre 2034 – A Panel Discussion with International Experts

Thursday, 19 May 16:00–17:30
Venue: Salle des Ministres
Commission: 7, 3 and GIM
Chair: Mr. **Christiaan Lemmen**, Netherlands
Rapporteur: Mr. **Mohamed Rabah**, Algeria

Cadastre 2014, an influential publication, produced between 94 and 98 by FIG Commission 7, the article Beyond Cadastre 2014 (GIM International July 2010) based on a paper presented by Rohan Bennett et al. during the FIG 2010 Congress in Sydney and an Invited Replies series, in which respected authorities responded on the article in GIM International (September and October 2010) its time to discuss the cadastre of the future amongst all delegates of the FIG Working Week 2011 in Marrakech during a special session supported by GIM International. Let the dialogue begin!

Panellists: **Danilo Antonio**, UN-HABITAT, **Stig Enemark**, Denmark, **Jurg Kaufmann**, Switzerland, **Martin Salzmann**, Netherlands, **Daniel Steudler**, Switzerland, **Jarmo Ratia**, Finland, **Ian Williamson** and **Daniel Roberge**, Canada

FIG Africa Task Force II

Thursday, 19 May 16:00–17:30
Venue: Fes 2
Commission: FIG Africa Task Force
Chair: Dr. **Diane Dunashie**, Netherlands
Rapporteur: Mr. **Rafic Khouri**, France

TS03B – Master Planning and Structural Development

Thursday, 19 May 16:00–17:30
Venue: Fes 1
Commission: 8
Chair: Mme **Mounia Diaa Lahlou**, Morocco
Rapporteur: Mr. **Frank Friesecke**, Germany

Syed Mohamad Nasir (Malaysia): Best Practices in Strategic Plan Implementation – Nurturing the Enabling Environment for Surveyors (5297)

Ali Moulid (Morocco): Place of Irrigation in the New Agricultural Strategy – Green Morocco Plan (5413)

Aissam El Rherari (Morocco): The National Water Strategy in Morocco (5407)

Enrico Rispoli (Italy): Infrastructures for Tourism: Panoramic and Monumental Italy through the “Green Cycling Path Route” (“Via Verde Ciclabile”) (5405)

Seyed Abdolhadi Daneshpour, **Amin Heshmati** and **Roja Tafaraji** (Iran): Controlling in Urban Spaces, Methods and Guidelines (5345)

Mhammed Belachkar and **Naima Hassine** (Morocco): Collecting Data for the Sea Level Monitoring (5381)

TS03C – Spatial Data Infrastructures II

Thursday, 19 May 16:00–17:30
Venue: Karam 1
Commission: 3
Chair: Prof. **Hartmut Müller**, Germany
Rapporteur: Mme **Nabila Licier**, Morocco

Hartmut Müller and **Falk Würriehausen** (Germany): Towards One Stop Citizen Interfaces as Entry Points to Spatial Information Infrastructures (5370)

Lesly Lam and **Conrad Tang**, Associate Professor (Hong Kong SAR, China): Benchmarking Spatial Data Infrastructure Development in Hong Kong (5127)

Murat Meha (Kosovo) and **Peter Laarakker** (Netherlands): Development of Cadastral Information System in Correlation with NSDI in Kosova (5131)

Peter Laarakker and **Walter de Vries** (Netherlands): www.OpenCadastreMap.org (under construction) (5147)

Mohsen Badawy (Egypt): Building a National Spatial Data Infrastructure in Developing Countries (5199)

TS03D – Public Private Partnerships in Planning and Land Development I

Thursday, 19 May 16:00–17:30
Venue: Karam 2
Commission: 8
Chair: Mr. **Younes Tazi**, Morocco
Rapporteur: Mr. **Wafula Nabutola**, Chair, FIG Commission 8

Frank Friesecke (Germany): Public Participation in Urban Development Projects – A German Perspective (4868)

Elisabetta Genovese, **Vincent Vigiú**, **Stéphane Hallegatte** and **Paolo Avner** (France): Urban Modeling vs. Actual Cities: Towards an Operational Assessment of Mismatches (4981)

Jill Urban-Karr, **Jack McKenna** (USA) and **Ursu Paul-Dan** (Romania): Deployment of a Public Private Partnership (PPP) that Provides an Improved Business/administrative Tool as the Foundation for Planning, Managing and Encouraging Quality and Sustainable Economic Development for the Public Administration (5285)

Andreas Hendricks (Germany): Urban Contracts: A Method to Refinance the Costs of the Urban Development (5209)
This is a flash presentation.

Violeta Puscasu (Romania): Romanian Planning Puzzle (4998)
This is a flash presentation.

TS03E – Land Deformation and SAR

Thursday, 19 May 16:00–17:30
Venue: Karam 3
Commission: 6
Chair: Mr. **Joel van Craenenbroeck**, Belgium
Rapporteur: Dr. **Werner Stempfhuber**, Germany

Maria Henriques, **Jose Lima**, **Ana Falcao**, **Malva Mancuso** and **Heleno Sandra** (Portugal): Land Subsidence in Lisbon Area: Validation of PSInSAR Results (4997)

Khamarrul Azahari Razak, **Rabieahatul Abu Bakar** (Netherlands), **Quek Yong Wah** and **Wan Abdul Aziz Wan Mohd Akib** (Malaysia): Geodetic Laser Scanning Technique for Characterizing Landslides along High-risk Road Zone: Applications and Limitations (4878)

Caroline Tyra (USA): IFSAR Applications in Semi-Arid and Arid Environments (4855)
This is a flash presentation.

TS03F – Remote Sensing II

Thursday, 19 May 16:00–17:30
Venue: Karam 4
Commission: 5
Chair: Mr. **Lars E. Engberg**, Sweden
Rapporteur: Prof. **Mohamed Cherkaoui Omari**, Morocco

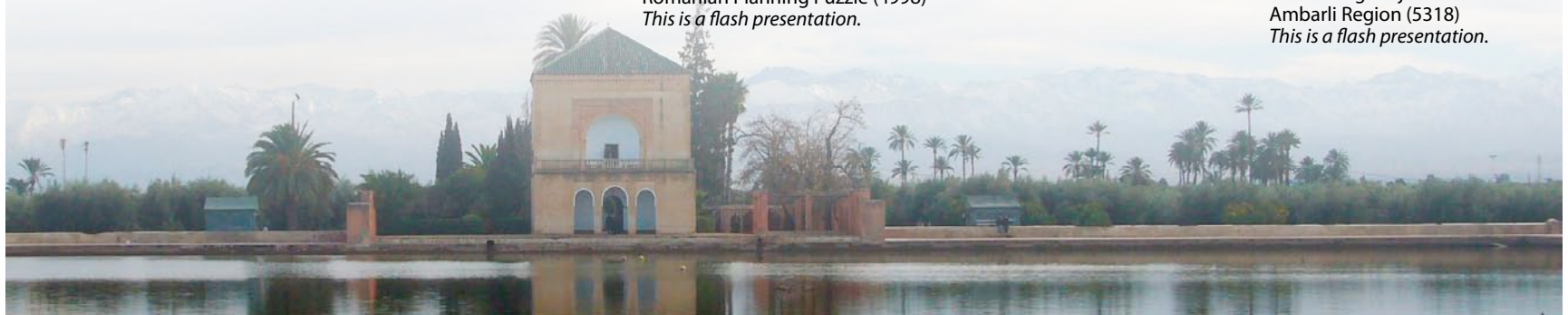
Rishiraj Dutta (Netherlands): Remote Sensing a Tool to Measure and Monitor Tea Plantations in Northeast India (5113)
This is a peer reviewed paper.

Dehni Abdellatif and **Lounis Mourad** (Algeria): Cartography of Salt Affected Soil in Es-senia Aquifer (Alluvial Aquifer in Oran Region, Algeria) (5394)

Rodica Badescu, **Ovidiu Stefan**, **Mircea Ortelecan**, **Ioel Samuel Veres** and **Nicolae Pop** (Romania): Some Aspects of the Use of Visible and Infrared Images for Monitoring Hazardous Waste from Industry, Military Activities, Mining and Agricultural Activities in Romania (5128)
This is a flash presentation.

Mourad Bouziani (Morocco): Possibilities and Constraints of LIDAR Use in Moroccan Context (5242)
This is a flash presentation.

Yunus Kalkan and **Serdar Bilgi** (Turkey): Latest Results of Landslide Monitoring Project in Harbor of Ambarli Region (5318)
This is a flash presentation.



NOTE: Simultaneous interpretation is provided in sessions in rooms Salle des Ministres and Fes 1.

TS03G – GNSS CORS Networks Case Studies (Flash)

Thursday, 19 May 16:00–17:30
Venue: Karam 5
Commission: 5
Chair: Mr. **Youness Hmamouchi**, Morocco
Rapporteur: Mr. **Mikael Lilje**, Chair, FIG Commission 5

Eric Gakstatter (USA):
What's Going to Happen When High Precision GNSS is Very Inexpensive? (5400)
This is a flash presentation.

Kamel Naouali and **Nejib Wazaa** (Tunisia):
The GNSS Network of Tunisia (5272)
This is a flash presentation.

Zeljko Bacic, Marinko Bosiljevac and **Marijan Marjanovic** (Croatia):
Usage and Upgrade of the Croatian Positioning System – CROPOS (4865)
This is a flash presentation.

Victor H. S. Khoo, Hua Seng Tan and **Mohd Rashid Md Noor** (Singapore):
Evaluation of the Existing CORS Network Infrastructure in Singapore to Meet User Demand (4949)
This is a flash presentation.

Hasanuddin Z. Abidin, Irwan Gumilar, Heri Andreas, Wenny Rusmawar and **Farid H. Adiyanto** (Indonesia):
On the Use of GPS CORS for Cadastral Survey in Indonesia (4803)
This is a flash presentation.

Rui Fernandes (Portugal), **Barde Jatau, Ugochukwu Edozie** (Nigeria), **Domingos Armando** and **José Januário** (Angola):
Rigorous Estimation of the Coordinates of Two New National Permanent GNSS Networks in Africa: NIGNET (Nigeria) and REPANGOL (Angola) (5154)
This is a flash presentation.

Ömer Yıldırım, Ömer Salgın and **Sedat Bakıcı** (Turkey):
CORS-TR in Turkey (5244)
This is a flash presentation.

Gabriel Badescu, Ovidiu Stefan, Rodica Badescu, Mircea Ortelecan and **Samuel Ioel Veres** (Romania):
Positioning System GPS and RTK VRS Type, Using the Internet as a Base, a Network of Multiple Stations (5247)
This is a flash presentation.

TS03H – Development of Urban Infrastructures
Thursday, 19 May 16:00–17:30
Venue: Reda 2
Commission: 8
Chair: Mr. **Wafula Nabutola**, Morocco
Chair, FIG Commission 8
Rapporteur: Mr. **Ouail Benkirane**, Morocco

Younes Tazi (Morocco):
The National Strategy to Develop a Competitiveness Logistics in Morocco (5383)

Mostafa Ebrahim and **Ihab Abed-Elhafez** (Egypt):
Planning Road Networks in New Cities Using GIS: The Case of New Sohag, Egypt (5423)

Hesham Alfaleh (Saudi Arabia):
The Campus Master Plan Modernization Project, a King Saud University Operation Experience (5447)

Adil Daoudi (Morocco):
Management of Water and Electricity in Marrakech – Contexte de la réalisation du projet de Réutilisation (5448)

Nabil Mosleh (Morocco):
The National Office of Drinking Water – A Public Operator in the Heart of Sustainable Development (5408)

TS03I – Spatial Information Applications III
Thursday, 19 May 16:00–17:30
Venue: Reda 4
Commission: 3
Chair: Prof. **Mohammed Essadiki**, Morocco
Rapporteur: Mr. **Robert W. Foster**, USA

Amira Mahmoud (Egypt):
On-line Satellite Image Catalog System Using Open-source Software (5140)

Ghita Lahlou, Ali Elbattay, Jamal Eddine Abdellaoui, Miriam Wahbi and **M'hamed Ait kbir** (Morocco):
Implementation of a Building Integrated Photovoltaic in Urban Lands Using the Geospatial Technology (5356)

Mourad Bouziani, El Hassane Semlali, Hanane Idaali and **Karima Maaza** (Morocco):
A Geographic Information System for the Management and Monitoring of Animal Diseases in Morocco (5087)

Safaa Almodafer (Iraq):
Survey and Evaluation of the Water Quality in the Najaf Hill of Iraq (5303)

Joanna Kuczynska and **Agnieszka Chojka** (Poland):
Review of Technological Paths of Application Schema Transformation from UML to GML (5206)
This is a flash presentation.

Seyed Emad Mousavi and **Amir Abouhamzeh** (Iran):
Investigating and Analyzing Operating Systems of Smart Phones and Their Functioning in Providing GIS-based Services (5337)
This is a flash presentation.

TS03J – Land Administration Issues in Africa
Thursday, 19 May 16:00–17:30
Venue: Reda 5
Commission: 7, and 8
Chair: Prof. **Francis Gabele**, Belgium
Rapporteur: Mr. **Said Blili**, Morocco

Samuel Nguema Ondo Obiang (Gabon) and **Bernard Puepi** (Cameroon):
The Land Problematic in Central African Countries: Cameroun, Congo and Gabon's Cases Studies – La Problématique foncière dans les Pays d'Afrique Centrale : cas du Cameroun, du Congo et du Gabon (5059)

Mamadou Camara, Aly Waigalo and **Garibou Guindo** (Mali):
Problematic of the Cadastral Setting up in the Sub-Saharan Countries – Land Surveyor's Intervention – Problématique de la mise en place du Cadastre dans les pays Sub-Sahéliens (intervention du géomètre-expert) (5060)

Garibou Guindo, Mamadou Camara and **Aly Waigalo** (Mali):
Cadastral Works in the Rice-growing's Perimeter of the Office of Niger – Land Surveyor's Role – Travaux cadastraux dans les périmètres rizicoles de l'Office du Niger (place du géomètre) (5063)

Mamadou Ndir (Senegal):
National Domain, the Law and the Reform's Project Domaine National – la Loi et le Projet de Réforme (5170)

Opening Ceremony
Thursday, 19 May 17:45–18:45
Venue: Salle des Ministres, Palais des Congrès
Commission: All

Moroccan Evening / FIG Foundation Dinner
Thursday, 19 May 20:00–22:30
Venue: Restaurant Palais des Jbilates, Km 5 Route Principale de Casablanca, Jnane Kadate
www.lepalaisdesjbilates.com



Friday 09:00–

PS02 – Plenary Session II & 6th ONIGT Congress – Governance and Regionalization

Friday, 20 May 09:00–10:30
Venue: Salle des Ministres
Chair: Mr. **Sr Abdel Alkharafi**, President, International Federation of Engineering Organizations
Rapporteur: Prof. **Dalal S. Alnaggar**, FIG Vice President, Egypt

Aziz Hilali, ONIGT President, Morocco: Opening Address of 6th National Congress of ONIGT

Saad Hassar, State Secretary, Ministry of Interior (Morocco): Governance and Regionalization – Moroccan Perspective (5437)

Omar Azziman, Chairman, Advisory Commission of Regionalization (Morocco): Governance and Regionalization (5438)

Holger Magel, Technische Universität München (Germany): Governance and Regionalization: New Paradigms for Transparent Politics and Accountable Civic Engagement (5439)

Press Conference – FIG/ONIGT

Friday, 20 May 10:30–11:00
Venue: Reda 1

Friday, 20 May 2011 11:00–12:30

Academic Members Forum

Friday, 20 May 11:00–12:30
Venue: Commission MR5
Commission: FIG Academic Members and 2
Chair: Dr. **Chryssy Potsiou**, FIG Vice President
Rapporteur: Prof. **Steven Frank**, Chair, FIG Commission 2

FIG General Assembly – Breakout Session on Membership Issues (Voting Rights)

Friday, 20 May 11:00–12:30
Venue: Fes 2
Commission: FIG members
Chair: Mr. **Iain Greenway**, FIG Vice President

Open discussion on the membership issues (voting rights) based on the introduction at the first session of the General Assembly. Session is open for FIG member associations interested in this topic.

NOTE: Simultaneous interpretation is provided in sessions in rooms Salle des Ministres and Fes 1.

TS04A – National Geodesy I

Friday, 20 May 11:00–12:30
Venue: Salle des Ministres
Commission: 5
Chair: Mr. **Mikael Lilje**, Chair, FIG Commission 5
Rapporteur: Mme **Zahra Dafir**, Morocco

Daniel Roman and **Neil Weston** (USA):
OPUS-Database: Supplemental Data for Better Datum Conversion Models (4860)
This is a peer reviewed paper.

Vassilios D. Andritsanos, Michail Gianniu and **Vassilios Pagounis** (Greece):
Vertical Datum Evaluation Based on Heterogeneous Data Combination over Attica, Greece (5035)

John Beavan and **Graeme Blick** (New Zealand):
The Impact of the 2010 Darfield (Canterbury) Earthquake on the Geodetic Infrastructure in New Zealand (4859)

Jens Riecken (Germany):
Geodetic Reference System 2015 – the Approach in North-Rhine Westphalia (4899)

Abdelmajid Ben Hadj Salem (Tunisia):
The Unification of the Tunisian Geodetic Terrestrial Networks (5273)

TS04B – Management of State and Public Sector Land

Friday, 20 May 11:00–12:30
Venue: Fes 1
Commission: 7 and FAO
Chair: Dr. **Richard Grover**, United Kingdom
Rapporteur: Mr. **Hafid Saghir**, Morocco

Daniel Roberge (Canada):
The Register of the Domain of the State, an Essential Infrastructure of Public Land Management (5281)

Elikkos Elia (Cyprus) and **Richard Grover** (United Kingdom):
The Management of State and Public Sector Land (4814)

Elżbieta Bielecka, Dorota Latos and **Beata Calka** (Poland):
Methodological Approach for Designing GIS Management System for State Real Estate (5122)

Claire Galpin (France), **Mathias Koffi** (Cote D'Ivoire) and **Kader Fanta Ngom** (Senegal):
Le programme d'appui aux communautés rurales de la Vallée du fleuve Sénégal : Expérimentation de cadastre rural au Sénégal (5100)

Franz-Volker Müller (Cambodia):
Land Distribution in Cambodia – Experiences and New Approaches for State Land Management (5376)

My Ahmed Jkaoua (Morocco):
Collective Land Management in Morocco (5380)

TS04C – SIM and Planning

Friday, 20 May 11:00–12:30
Venue: Karam 1
Commission: 3 and 8
Chair: Mr. **Gerasimos Apostolatos**, Greece
Rapporteur: Mr. **Adil Boumazoied**, Morocco

Orhan Ercan and **Adem Tunca** (Turkey):
Usages of GIS Techniques in a Balanced Spatial Development Approach for 3rd Generation Planning Project of the Benghazi Region (4800)

Clarissa Augustinus (Kenya) and **Chryssy Potsiou** (Greece):
Informal Urban Development in Europe: Experiences from Albania and Greece (5192)

Saffet Erdoğan, M. Ali Dereli and **Mustafa Yalçın** (Turkey):
Spatial Analysis of Five Crime Statistics in Turkey (5202)

MohamadReza Rajabi, Ali Mansourian and **Kambiz Borna** (Iran):
Utilizing the Analytical Hierarchy Process and GIS to Identify and Transfer Schools and Residential Areas Adjacent to High Voltage Power Transmission Lines in Tabriz-Iran (5214)

Tahsin Yomralioglu and **Arif Cagdas Aydinoglu** (Turkey):
Managing Geo-Data to Support Urban Planning Development Process in Turkey (5353)

Davood Akbari (Iran):
Appointment of Appropriate Sites for Waste Depletion by GIS (4945)

TS04D – Valuations I

Friday, 20 May 11:00–12:30
Venue: Karam 2
Commission: 9
Chair: Mr. **Sidi Mohammed Talbi Alami**, Morocco
Rapporteur: Dr. **Frances Plimmer**, Chair, FIG Commission 9

Anna Baranska (Poland):
Qualitative and Quantitative Methods for Assessing the Similarity of Real Estate (4811)

Nabil Bounajma (Morocco):
The Practice of the Real Estate Valuation in Morocco (4929)

Victoria Bello (Nigeria):
The Impact of Urban Crime on Property Values in Akure, Nigeria (4775)

Mehmet Ertas and **Ayhan Goktepe** (Turkey):
Determination of the Valuation Criteria in Rural Areas and the Account of the Scoring Weights of Some (5049)



TS04E – Laser Scanners

Friday, 20 May 11:00–12:30
Venue: Karam 3
Commission: 6
Chair: Prof. **Alain de Wulf**, Belgium
Rapporteur: Prof. **Gethin Roberts**, Chair, FIG Commission 6

Seongha Lim (Republic of Korea): Realization and Operations of TLS (Terrestrial Laser Scanner) 3D Data on Web Browsers (4961)

Reginaldo Macedônio da Silva, Maurício Roberto Veronez, Francisco Manuel Wohnrath Tognoli, Larissa Jacobi and Débora Lamberty (Brazil): Digital Outcrop Model At Geological Analysis and Interpretation: Case Study Based on Data from Laser Scanner 3D Terrestrial (4988)

Jens-André Paffenholz, Tobias Kersten, Steffen Schön and Hansjörg Kutterer (Germany): Analysis of the Impact of Rotating GNSS Antennae in Kinematic Terrestrial Applications (4881)

Aymen Trigui (Tunisia): Postprocessing of Laserscanning Point Clouds for the As-built Modelling of Petrochemical Installations (5033)

George Pantazis and Konstantinos Nikolitsas (Greece): Assessing the Use of the “Light” Laser Scanners and the Monte Carlo Technique for the Geometric Documentation (5073)
This is a peer reviewed paper.

Hamza Alkhatib and Hansjörg Kutterer (Germany): Towards an Advanced Estimation of Measurement Uncertainty Using Monte-Carlo Methods – Case Study Kinematic TLS Observation Process (5143)

TS04F – Project and Organisation Management

Friday, 20 May 11:00–12:30
Venue: Karam 4
Commission: 10
Chair: Mr. **Robert Sinkner**, Chair, FIG Commission 10
Rapporteur: Mr. **Rachid Tellati**, Morocco

Krishna Mochtar (Indonesia): Technology Innovation Management in Indonesia Construction (5012)
This is a peer reviewed paper.

Chan KH (Hong Kong SAR, China): Appraisal of Determinants in Property Maintenance (5014)

Andrea Massaro (Italy): The Home Plan Proposed by the Italian Government Is a New Opportunity for Real Estate Owners (5077)

Li Zhang and Schwieger Volker (Germany): Real Time Quality Assurance Indexes for Residential House Construction Processes (4888)
This is a peer reviewed paper.

Borvorn Israngkura Na Ayudhya (Thailand): Appraisal of Common Dispute Problems over Residential Building Projects in Hong Kong (4788)
This is a peer reviewed paper.

TS04G – Gender Issues in Land Administration

Friday, 20 May 11:00–12:30
Venue: Karam 5
Commission: 7, UN-Habitat and GLTN
Chair: Ms. **Asa Jonsson**, UN-HABITAT
Rapporteur: Ms. **Claire Galpin**, France

Asa Jonsson (Kenya): Evaluating Land Tools from a Gender Perspective: GLTN’s Experience of Implementing the Gender Evaluation Criteria (4986)

David Ishaya, Basil Makama and Nathan Sabo (Nigeria): The Duties and Challenges Faced by Female Estate Surveyors and Valuers – Empirical Challenges from Kaduna, Nigeria (4931)

Ernest Uwayezu and Theodomin Mugiraneza (Rwanda): Land Reform Policy in Rwanda and Land Tenure Security for all Citizens: Provision and Recognition of Women’s Rights over Land (4914)
This is a peer reviewed paper.

TS04H – Land Administration in Africa: Case Studies

Friday, 20 May 11:00–12:30
Venue: Reda 2
Commission: 7 and FGF
Chair: Prof. **Michael Barry**, Canada

Leon Zalo (Cote D’Ivoire), **Kestutis Sabaliauskas** and **Steponas Deveikis** (Lithuania): L’acquis du cadastre et du registre foncier et immobilier de Lituanie pour les pays africains. Un bref rapport sur la mission du cadastre foncier rural de Côte d’Ivoire en Lituanie 2010 (5070)

El Hadji Moustaph Mbaye C. (Senegal): Cadastral Inquiries and Good Governance – Enquetes cadastrales et bonne gouvernance (5204)

Aly Waigalo, Mamadou Camara and Garibou Guindo (Mali): Land Problematic in the Sahelian Regions of Mali: Mopti Region’s Case Study – Land Surveyor’s Role – Problématique foncière dans les régions sahéliennes du Mali : cas de la région de Mopti (rôle du géomètre expert) (5061)

TS04I – Hydrography-Assisted Monitoring

Friday, 20 May 11:00–12:30
Venue: Reda 4
Commission: 4
Chair: Mr. **Antoine Mansour**, Lebanon
Rapporteur: Mr. **Gordon Johnston**, United Kingdom

Cheikhou Oumar Ndiaye, Alioune Kane (Senegal) and **Violeta Puscasu** (Romania): Vulnerability of Senegal’s South Coast: Perspectives with the Climate Change’s Context (4990)

Abdallah Saad, Ahmad Shaker, Dalal Alnaggar and Hoda Faisal (Egypt): Absolute Sea Level Rise Estimation at Alexandria Using Tide Records and GPS Observations (5163)

Kamyar Shojaee (United Arab Emirates): Underwater Circular Curve Implementation for Offshore Pipeline Installation; Case Study: South Pars Phase 12 Pipeline Snake-lay Operation (5378)

Miguel J. Sevilla, Joaquin Zurutuza and Adriana M. Martin (Spain): Three Years of Tide Gauge Measurements in the Pasajes Harbour (5245)
This is a flash presentation.

Sohair Saad Zaghloul (Egypt): The Hydrological Characteristics of the Blue Nile from Deim to Khartoum (5371)
This is a flash presentation.

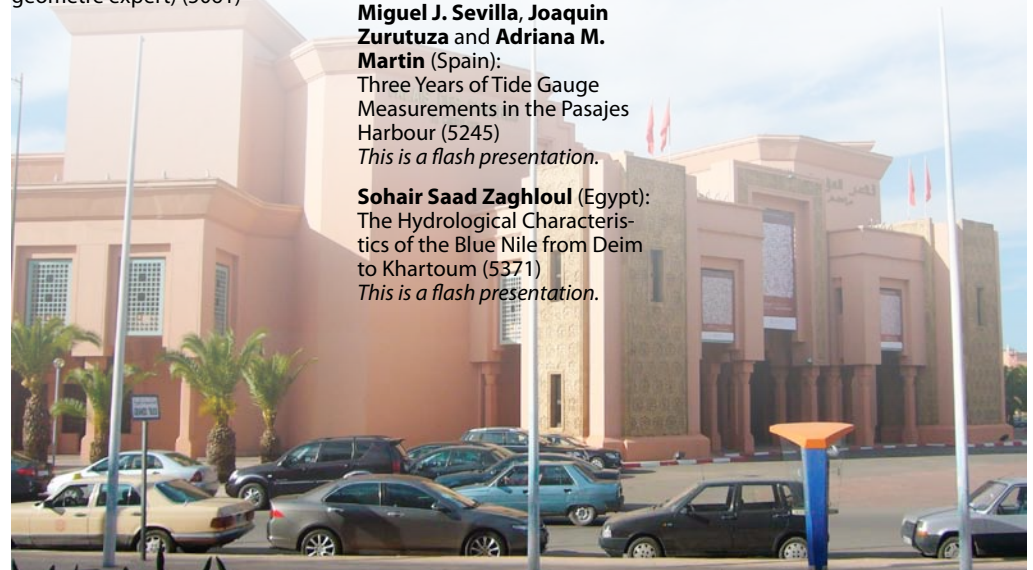
TS04J – Geodetic Applications in Various Situations

Friday, 20 May 11:00–12:30
Venue: Reda 5
Commission: 5 and 6
Chair: Dr. **Volker Schwieger**, Germany
Rapporteur: Mr. **Khaled El-Nabbout**, Lebanon

Mohamed Elsobeiey and Ahmed El-Rabbany (Canada): Effect of Second-Order Ionospheric Delay on Precise Point Positioning (5249)

Mohamed Azab, Ahmed El-Rabbany (Canada), **Nabil Ali Shoukry** and **Ramadan Khalil** (Egypt): Precise Point Positioning Using Combined GPS/GLONASS Measurements (5277)

Kate Fairlie, Mark Whitty, Mitchell Leach, Fadhillah Norzahari and Adrian White (Australia): Spatially Smart Wine – Testing Geospatial Technologies for Sustainable Wine Production (5089)



Director General Forum I

Friday, 20 May 14:00–15:30
Venue: Fes 2
Commission: Director General Forum
Chair: Mr. **CheeHai Teo**, FIG President
Rapporteur: Mr. **Iain Greenway**, FIG Vice President

– By invitation only

FIG Corporate Members Meeting

Friday, 20 May 14:00–15:30
Commission MR5
Commission: FIG Corporate Members
Rapporteur: Mr. **Markku Villikka**, FIG Director

– By invitation only

Standards Network Meeting

Friday, 20 May 14:00–15:30
Venue: Commission MR1
Commission: Standards Network
Chair: Dr. **David Martin**, Chair of the FIG Standards Network

– Open to all interested participants

TS05A – Planning Policies and Environmental Improvement

Friday, 20 May 14:00–15:30
Venue: Salle des Ministres
Commission: 8
Chair: Mr. **Ben Ali Taoufik**, Morocco
Rapporteur: Mr. **Kimuyu Mulinge**, Kenya

Thomas Bonnel (France):
The Notion of “Accessibility” (4884)

Hamid Mouatassim and Abdelwahed Idrissi (Morocco):
Towards Democratizing the Urban Planning (5373)

Aziz El Achhab (Morocco):
Land Governance – A Best Way for Highway Development (5444)

Youssef Idrissi (Morocco):
The National Highway Program (5445)

Mohamed Akaaboune (Morocco):
The Role of the Surveying Engineer in the Road Design Studies in Morocco (5384)

Latifa Lakfif, Abdallah Rattal and Latifa Lakfif (Morocco):
National Observatory of Environment (5386)

Aslı, Başarır, Şaban İnam, Mehmet Ertaş and Şükran Yalprı (Turkey):
Urban Renewal Projects and Existing Issues in Turkey (5040)

TS05B – Developments in Land Administration

Friday, 20 May 14:00–15:30
Venue: Fes 1
Commission: 7
Chair: Mr. **Najib BenZouina**, Morocco
Rapporteur: Mme. **Meriem El Guess**, Morocco

Pierre Clergot (France):
Les systèmes cadastraux français (5443)

Pierre Tessier and Marie-Renée C.-Lavoie (Canada):
Land Management Systems in Canada – Les systèmes fonciers du Canada (5243)

Muyiwa Agunbiade, Abbas Rajabifard and Rohan Bennett (Australia):
Land Administration for Housing Production: Drivers, Concepts and Analytical Tools (4809)
This is a peer reviewed paper.

Pierre Bibollet and Patrick Bezar-Falgas (France):
The French e-land Portal (4885)

Gérard Chouquer (France):
The Observatory of the Land Morphology – A FIEF Geoport (4887)

Gyula Iván (Hungary):
Future Trends in Hungarian Land Administration (5139)

François Mazuyer (France):
Synthesis of the Evaluation Seminar on the Training Needs of the African Land Surveyors from the Sub-Saharan Region (4886)

NOTE: Simultaneous interpretation is provided in sessions in rooms Salle des Ministres and Fes 1.

TS05C – Spatial Data Infrastructures III

Friday, 20 May 14:00–15:30
Venue: Karam 1
Commission: 3
Chair: Ms. **Sonja Dimova**, Macedonia FYROM
Rapporteur: Mme. **Nouzha Ouadou**, Morocco

Sedat Bakici and Akin Kisa (Turkey):
Spatial Data Infrastructure in Turkey and Projects (5255)

Sonja Dimova (Macedonia, FYROM):
Aspect of Preliminary Activities in the Function of Supporting NSDI (5257)

Kari Suominen (Finland), **Thongchanh Manixay** and **Bouasoth Souvannakhoumane** (Laos, PDR):
Strengthening National Geographic Services in Lao PDR (5298)

Tomas Mildorf and Vaclav Cada (Czech Republic):
Model Generalisation in the Context of National Infrastructure for Spatial Information (5332)

Hassan Tabyaoui, Chafiq Nakhcha and Fatima El Hammichi (Morocco):
Development of Urban Information Model for City Management: Case Study of Taza, Morocco (5349)

Ciprian Savoiu, Ionut Savoiu, Mircea Viorel Popa, Director at Cadastral and Land Registration Office and **Georgeta Chitac**, Chief of Cadastre at Brasov Municipality (Romania):
GIS Projects and Systematic Land Registration in Romania – BRASOV Case Study (5289)
This is a flash presentation.

TS05D – National Geodesy II (Flash)

Friday, 20 May 14:00–15:30
Venue: Karam 2
Commission: 5
Chair: Mr. **Rob Sarib**, Australia
Rapporteur: Mr. **Mohamed Hmam**, Morocco

Rachid Azzouzi (Morocco):
Redefinition of the Moroccan Merchich Local Geodetic System in the WGS84 and ITRF Global Reference Frames Related to Doppler, GPS and GNSS Observations (4903)
This is a flash presentation.

Nic Donnelly, John Ritchie and Matt Amos (New Zealand):
Re-establishment of the New Zealand Survey Control System Following the 2010 Darfield (Canterbury) Earthquake (4871)
This is a flash presentation.

Mikael Lilje and Lars E Engberg (Sweden):
Strategic Plan for Geodesy in Sweden (4804)
This is a flash presentation.

Michael Dennis and Mark Eckl (USA):
Making It More Efficient and More Accurate: Modernizing the U.S. National Spatial Reference System (5293)
This is a flash presentation.

Pavel Novak (Czech Republic):
Integrated Geodetic Infrastructure at the Geodetic Observatory Pecny, Czech Republic, in Service of National and International GNSS Projects (4867)
This is a flash presentation.

Pal Nikolli (Albania) and **Bashkim Idrizi** (Macedonia, FYROM):
Coordinate Reference Systems Used in Albania to Date (5038)
This is a flash presentation.

Haluk Ozener (Turkey):
Current Geodetic Deformation Rates at Western North Anatolian Fault Zone (NAFZ), Turkey (5360)
This is a flash presentation.



TS05E – Valuations II

Friday, 20 May 14:00–15:30
Venue: Karam 3
Commission: 9
Chair: Dr. **Frances Plimmer**, Chair, FIG Commission 9
Rapporteur: Mr. **Aziz elAchhab**, Morocco

Moha El-ayachi, Said El Azrek, Mohamed Yassine Mounir and Adnan Bajeddi (Morocco): Analysis of the Practicing of the Real Estate Aspects in Moroccan Urban Area (4956)

Conny Wang (Hong Kong SAR, China): Sustainable Built Environment in High Density Real Estate Development City: Service Life and Maintenance of External Façade (4983)

Eleni Tziortzioti and Christina Pelekanou (Greece): Valuation and the Management of Real Estate Hellenic Highways Affection (4877)

Oladapo Adejoke and Asaju Adebakin (Nigeria): Tenant-mix: An Effective and Efficient System of Shopping Mall Management in Nigeria (5195)

Adebakin Asaju and Mary Ajayi (Nigeria): Path to Sustainable Development: The Estate Surveyors and Valuer's Perspectives (5105)
This is a peer reviewed paper.

TS05F – Land Tenure in Africa

Friday, 20 May 14:00–15:30
Venue: Karam 4
Commission: 7 and Africa Task Force
Chair: Mr. **Danilo Antonio**, UN-HABITAT
Rapporteur: FIG Africa Task Force

Emmanuel Offei Akrofi (South Africa): Land for Peri-urban Infrastructure in Custamary Areas: A Case Study of Kumasi, Ghana (4965)

Adjoumany Emile Kokoh (Cote D'Ivoire): Land Administration under Customary Regimes in Africa: Case Study of the Bryon Gyaman People in Ivory Coast – L'Administration des terres sous les régimes coutumiers en Afrique: cas du peuple Bron Gyaman en Côte d'Ivoire (5094)

Jean Marie Habwintahe, René Claude Niyonkuru (Burundi) and **Claire Galpin** (France): Bilan d'une expérience novatrice au Burundi ou comment œuvrer à combler le fossé des cultures (5098)

René Claude Niyonkuru (Burundi): Land Administration in Burundi: Risk and Dispute Analysis, Prevention and Management (5099)

Bareng Malatsi (Botswana) and **Åke Finnström** (Sweden): Reformation of the Land Administration in Botswana (5233)

Wallace Mukupa (Zambia): Land Administration to Support Sustainable Development (5191)

Edward Chikhwenda (Malawi): Assessing Community Based Rural Land Development Project in Malawi (5137)

TS05G – Innovative and Pro-poor Land Records and Information System II

Friday, 20 May 14:00–15:30
Venue: Karam 5
Commission: 7
Chair: Mr. **Mohamed Timoulali**, Morocco
Rapporteur: FIG Commission 7

Paul van Asperen (Netherlands): Evaluation of Pro-poor Land Administration from an End-user Perspective: A Case-study from Peri-urban Lusaka, Zambia (5280)

Ying Jing (China, PR), **Jaap Zevenbergen** (Netherlands) and **Zhimin Ma** (China, PR): Assessing LARSI-integrated Participation Procedure in Urban Adjudication in China (5068)

Geoff Hay and G. Brent Hall (New Zealand): Implementing Open Source Software for Land Administration Processes in Developing Nations (4857)

Krishna Raj B.C. (Nepal): Modernization Initiatives with the Use of OSCAR (Open Source Cadastre and Registration Software) in Nepal Cadastre and Land Registration (5234)

Katarzyna Sobolewska-Mikulska (Poland): Development of Rural Areas in the International Aspects (4849)

Oksana Sukhova (Ukraine): How to Stop Emigration by Land Policy (4902)

TS05H – Cadastre – Case Studies

Friday, 20 May 14:00–15:30
Venue: Reda 2
Commission: 7
Chair: Mr. **Francis Roy**, Canada
Rapporteur: Mr. **Omar Oubella**, Morocco

Mohammad Azmi Mohd Zin (Malaysia): Public Private Partnerships in Innovation: The Exciting Dimension of Leap-frogging the the Malaysian Surveying and Mapping Industry's Progress (5343)

Leiv Bjarte Mjøs (Norway): Land Subdivisions in Norway: A Comparison with Denmark and Sweden (5284)

Aune Rummukainen (Finland): Usufructs in the Finnish Juridical System (4828)

Lars Åstrand and Ida Magni (Sweden): Cadastral Procedures for Modernising Regional Electric Power Grids (4955)

Jelena Unger and Željko Bačić (Croatia): Role of Cadastre in Sustainable Planning and Development in Croatia (4815)

Bambang-Edhi Leksono, Yuliana Susilowati, Suyuz Windayana and Idin Yunindra (Indonesia): Managing Land Registration Spatio Temporal Aspects in National Land Information System (5184)

TS05I – Spatial Information Processing I

Friday, 20 May 14:00–15:30
Venue: Reda 4
Commission: 3
Chair: Ms. **Helen Murray**, Ireland
Rapporteur: Mr. **Fatiha Ibannain**, Morocco

Olalekan Isioye and Paul Jobin (Nigeria): An Assessment of Digital Elevation Models (DEMs) from Different Spatial Data Sources (4911)

Sanae Ettarid El Messati Bochra and Mohammed Cherkaoui-Omari (Morocco): Direct Georeferencing of Aerial Photographs Using GPS/INS Assisted Aerotriangulation (5148)

Kazimierz Becek and Khairunnisa Ibrahim (Brunei Darussalam): On the Positional Accuracy of the GoogleEarth® Imagery (4947)

Ahmed Elsonbaty and Mostafa Ebrahim (Egypt): A New Algorithm to Measure The Details on Objects' Surfaces Using Digital Close-Range Photogrammetry (5084)

Milan Talich, Ondrej Bohm and Lubomir Soukup (Czech Republic): Bayesian Classification of Digital Images by Web Application (4827)

Sinasi Kaya, Erkan Bozkurtoglu, E. Ozgur Avsar, Umut Aydar and Dursun Zafer Seker (Turkey): Determination of Roughness Angles of Surfaces Using Laser Scanner (5187)
This is a flash presentation.

TS05J – Hydrography in Practice

Friday, 20 May 14:00–15:30
Venue: Reda 5
Commission: 4
Chair: Mr. **Ali Moulid**, Morocco
Rapporteur: Ms. **Angela Etuonovbe**, Nigeria

Iman Abdel Hamid, Victor Abbott, Samantha Lavender and Kenneth Kingston (United Kingdom): Chromostereoscopy for Enhanced Viewing in Opaque Environment (4895)

Volker Boeder, Thomas P. Kersten, Thomas Thies and Arne Sauer (Germany): Mobile Laser Scanning on Board Hydrographic Survey Vessels – Applications and Accuracy Investigations (4927)

Harry Wirth and Thomas Brüggemann (Germany): The Development of a Multiple Transducer Multibeam Echoso-under System for Very Shallow Waters (5200)

Hugh Parker, Mark Penley, Mark Sinclair (Australia) and **Paul Seaton** (United Arab Emirates): Fugro Commence New Airborne Lidar Bathymetry Trials (5389)

Erwin Heine (Austria): Hydrographic Surveying of the Subaqueous Delta Plain of the River Rhine at Lake Constance (5290)

Lotfi Diouri and Mohammed El Aichati (Morocco): The Surveying Profession in the Service of the Harbor Activities (5304)
This is a flash presentation.

Sylvester Efe Owhojeta (Nigeria): Early Production System (EPS) Barge Movement and Installation at Olero Creek Production Platform, Benin River Area (5145)
This is a flash presentation.

Director General Forum II

Friday, 20 May 16:00–17:30
Venue: Fes 2
Commission: Director General Forum
Chair: Mr. **CheeHai Teo**, FIG President
Rapporteur: Mr. **Iain Greenway**, FIG Vice President

– By invitation only

FIG Commission 5 Working Group 5.1 Standards, Quality Assurance and Calibration

Friday, 20 May 16:00–17:30
Venue: Commission MR1
Commission: 5
Chair: Dr. **David Martin**, Chair of the FIG Standards Network.

– Open for all interested participants

NOTE: Simultaneous interpretation is provided in sessions in rooms Salle des Ministres and Fes 1.

TS06A – Planning and Managing Urbanization

Friday, 20 May 16:00–17:30
Venue: Salle des Ministres
Commission: 8
Chair: Mr. **Taieb Berrada Allam**, Morocco
Rapporteur: Mr. **Wafua Nabutola**, Chair, FIG Commission 8

Hassan Chtouki (Morocco):
City Planning and Urban Management in Morocco (5236)

Abdelwahed Idrissi (Morocco):
Urban Planning between Identity and a Trivial Behavior (5315)

Kalla Mahdi, Dridi Hadda, Merdaci Abdelmoumen and Habibi Yahiaoui (Algeria):
La circulation dans la ville de Batna-Eest algerien Realite et perpectives – approche par les SIG (5189)

Guessoum Nabila, Ait Benamar Dalila, Zerabib Ahcene, Hamdidouche Ouassila and Haddouche Abida (Algeria):
Apport des études de microzonage sismique dans l'aménagement de futures nouvelles villes: cas de la nouvelle ville de Sidi Abdellah (Algérie) (5364)

Mounia Diaa Lahlou (Morocco):
The Public Policies in Social Housing Management in Morocco (5305)

Mehdi Ziaei and Fatemeh Hajizade (Iran):
Remote Sensing/GIS Integration for Evaluating Urban Expansion and Monitoring and Predicting Land Use/Cover Changes in Birjand, Iran (5158)
This is a flash presentation.

TS06B – Spatial Data Infrastructures in Support of Climate Change and Risk/Disaster Management I

Friday, 20 May 16:00–17:30
Venue: Fes 1
Commission: 3
Chair: Mr. **Pierre Bibollet**, France
Rapporteur: Mr. **Tarek El Mafrouhi**, Morocco

Redouane Bouaicha, Mohamed Rouchdi and Ahmed Bouziane (Morocco):
Application of Remote Sensing and GIS to Spatial Hydrologic Modeling – Taifine Basin in Tangier Area (4930)

Mohamed Abdalla (Bahrain):
3D City Modelling for Natural Disasters Management and Homeland Security Applications (4942)

Bence Toronyi, Gyula Iván and Gábor Mikus (Hungary):
Support of Disaster Management by Land Administration and SDI (5138)

Raid Al-Tahir, Marcus Arthur and Dexter Davis (Trinidad And Tobago):
Low Cost Aerial Mapping Alternatives for Natural Disasters in the Caribbean (5153)

Abdelali Taouss (Morocco):
Geomatic in the Service of Urban Management: Issues and Perspectives – Les Systèmes d'Informations Géographiques au service de la Gestion du milieu Urbain: Enjeux et Perspectives (5431)

Muhammad Adeel (Pakistan):
Role of Public SDIs for Sustainable Urban Development of Developing Countries (5424)

TS06C – Land Administration: Environmental Issues

Friday, 20 May 16:00–17:30
Venue: Karam 1
Commission: 7
Chair: Prof. **El Hassan Semlali**, Morocco
Rapporteur: Mr. **Jean-Paul Miserez**, Switzerland

Ha Nguyen Manh (Viet Nam):
Application USLE and GIS Tool to Predict Soil Erosion Potential and Proposal Land Cover Solution to Reduce Soil Loss in Tay Nguyen, Vietnam (5011)

Massimiliano De Martin (Italy):
“The Best Energy Is Not Consumed” – Project for the Development of Micro-generation Plants in Agriculture (5066)

David Mitchell (Australia), **Jaap Zevenbergen, Christiaan Lemmen and Paul van der Molen** (Netherlands):
Land Administration for REDD+ and Voluntary Carbon Market Projects (5044)
This is a peer reviewed paper.

Perti Onkalo (Finland) and **Muhammad Salim Sulaiman** (Tanzania):
Zanzibar: Sustaining the Environment at the Confluence of Cultures (5051)

Jean-Yves Bourguignon (France):
Polluted Soils (4985)

Tarun Ghawana (India), **João P. Hespanha** (Portugal), **Jaap Zevenbergen and Peter van Oosterom** (Netherlands):
Spatial Dimensions of Land Administration and User Rights over Groundwater: Case study of Kerala, India vs. Coca-Cola (5275)

Benmessaoud Hassen (Algeria):
Utilisation des SIG dans la cartographie des risques de désertification – cas de la région Sud des Aurès (Algérie) (5282)
This is a flash presentation.

TS06D – Informal Settlement Issues, Spatial Development, Planning and Governance

Friday, 20 May 16:00–17:30
Venue: Karam 2
Commission: 8
Chair: Prof. **Moulay Abdelghani Abouhani**, Morocco
Rapporteur: Mr. **Collins K'Owuor**, Kenya

Daniel Weldegebriel Ambaye (Ethiopia):
Informal Settlement in Ethiopia, the Case of Two Kebeles in Bahir Dar City (5096)
This is a peer reviewed paper.

Florence Galeon (Philippines):
Determining Formalities of Settlement Clusters Using Fractal Dimensions (5108)

Frida Granbom and Emeli Ljunghusen (Sweden):
Documenting Dharavi's Informal Housing Market (5263)

Divankhan Ahadov (Azerbaijan):
Informal Settlements in Azerbaijan (5226)

Turgut Ayten (Turkey):
Formation of Fringe Towns Metropolitan Cities: Konya Karatay-Sakyatan Village Example (4821)

Saadi Samira (Algeria):
Développement de zone périurbaine du Grand Alger (5201)
This is a flash presentation.

TS06E – Laser Scanning and Photogrammetry

Friday, 20 May 16:00–17:30
Venue: Karam 3
Commission: 6
Chair: Dr. **Oluropo Ogundipe**, United Kingdom
Rapporteur: Prof. **Mohamed El Ghout**, Morocco

Orthodoxia Arabatzi, Maria Tsakiri and Vassilios Pagounis (Greece):
Experiences from Cultural Heritage Documentation Using Modern Geodetic Techniques – Monuments at the Acropolis of Athens (4992)

Timothy Nuttens, Philippe De Maeyer, Alain De Wulf, Rudi Goossens and Cornelis Stal (Belgium):
Terrestrial Laser Scanning and Digital Photogrammetry for Cultural Heritage: An Accuracy Assessment (5267)

Kamal Ben Addou Idrissi and Kenza Ait Kadi (Morocco):
Auscultation of the Mosque Hassan 2 in Morocco by Lasergrammetry: Constraints and Lessons (5331)

Ferruh Yildiz, Murat Yakar, Mustafa Zeybek, Melisa Yolcu and Cakan Osman Tanidik (Turkey):
Photogrammetric Modeling of Fasillar Monuments (5333)

Murat Yakar, Ferruh Yildiz, Mustafa Zeybek, Melisa Yolcu and Tuba Filiz (Turkey):
Photogrammetric Modeling of Lilac Spring Monuments (5334)



TS06F – Construction and Sustainable Development

Friday, 20 May 16:00–17:30

Venue: Karam 4

Commission: 10

Chair: Mr. **Robert Sinkner**, Chair, FIG Commission 10

Rapporteur: FIG Commission 10

Thoetida Thipparat and Wirat Sanudomm (Thailand):

Model for Assessing Environmental Pollution for Road Construction Activities by Pollution Index Using FuzzyAHP (4770)

Canon Tong (Hong Kong SAR, China):

Knowledge Transfer between Partners in Public Private Partnership Projects (5129)

Mauro Catalano (Italy):

Sustainable Housing in the Province of Alto Adige, Italy – “Climate House” (5078)

Mohamed Bouabaz and Mourad Mordjaoui (Algeria):

Comparison of Models for Estimating Construction Costs Based on Neural Networks and Fuzzy Logic for Bridges and Civil Engineering Works (4791)

*This is a flash presentation.***TS06G – GNSS and Land Deformation (Flash)**

Friday, 20 May 16:00–17:30

Venue: Karam 5

Commission: 5, 3 and 8

Chair: Mr. **Graeme Blick**, New ZealandRapporteur: Mr. **Mostapha Akendouch**, Morocco**Hasanuddin Z. Abidin, Irwan Gumilar, Heri Andreas, Teguh P. Sidiq** (Indonesia) and **Yoichi Fukuda** (Japan):

Study on Causes and Impacts of Land Subsidence in Bandung Basin, Indonesia (4784)

Marcin Uradzinski (Poland):

Range Analysis of RTK Base Station in Urban Environment (5017)

*This is a flash presentation.***Dexter Davis, Ijaz Ramsahai,****Machel Higgins** (Trinidad And Tobago), **Allison Kealy** (Australia) and **Raid Al-Tahir** (Trinidad And Tobago):

Evaluating the Quality of GNSS CORS Data for Seismic Monitoring in the Eastern and Southern Caribbean (5213)

*This is a flash presentation.***Eleonora Bertacchini, Alessandro Capra, Cristina Castagnetti and Alessandro Corsini** (Italy):

Atmospheric Corrections for Topographic Monitoring Systems in Landslides (4905)

*This is a flash presentation.***Gincho Kostov** (Bulgaria):

Using of both Fast Static and RTK Modes for GNSS Determinations to Obtain Required High Accuracy and Productivity, According to the Current Possibilities of the IT (4933)

*This is a flash presentation.***Pedro Almeida** (Portugal), **Rachid Azzouzi, Youssef Hahou** (Morocco) and **Rui Fernandes** (Portugal):

Investigation of the Current Kinematics of the Nubia-Eurasia Plate Boundary in North West Morocco (5155)

*This is a flash presentation.***TS06H – Boundary Delineation Issues: From Parcel to Country Level**

Friday, 20 May 16:00–17:30

Venue: Reda 2

Commission: 1 and 7

Chair: Mr. **Daniel Roberge**, Chair, FIG Commission 7

Rapporteur: FIG Commission 7

Sora Lokita and Astrit Rimayanti (Indonesia):

The Role of Indonesian Surveyors in Solving Indonesia-East Timor Land Boundary (5134)

Paula Santos, Ana Roque (Portugal) and **José Mucombo** (Mozambique):

Revision of the Mozambique Frontiers: a Cooperation Project (5107)

Paddy Prendergast, Colman Horgan and Gabriel Brennan (Ireland):

Issues Related to Boundary Mapping in Ireland (5390)

TS06I – Valuations CAMA (Computer Assisted Mass Appraisal) I

Friday, 20 May 16:00–17:30

Venue: Reda 4

Commission: 9

Chair: FIG Commission 9

Rapporteur: FIG Commission 9

Arvydas Bagdonavicius and Steponas Deveikis (Lithuania):

Mass Appraisal – the Method and an Experience in Lithuania * Evaluation de masse – la recherche de la méthode et l'expérience en Lituanie (4890)

Stojanka Brankovic and Nenad Tesla (Serbia):

Development of Real Estate Mass Valuation Concept in the Republic of Serbia (4896)

Varnavas Pashoulis (Cyprus):

The General Valuation Law and the CAMAS in the Lands and Surveys Department in Cyprus (5406)

Weidong Qu (China, PR):

The Appraisal of Land Transfer Price Using Monte Carlo Hypothetical Development Method (4936)

Jolu Bunda, Ernest Bugay, Louie Balicanta, Matthew Dimal and Enrico Paringit (Philippines):

Site Selection for Subdivision Development in Guiguinto, Bulacan Using GIS and Regression Analysis (5043)

TS06J – Hydrography and the Environment

Friday, 20 May 16:00–17:30

Venue: Reda 5

Commission: 4

Chair: Dr. **Michael Sutherland**, Chair, FIG Commission 4Rapporteur: Mr. **Nabil Ait Jaad**, Morocco**Angela Kesiena Etuonovbe** (Nigeria):

Devastating Effect of Flooding in Nigeria (5002)

Olusegun Badejo and Peter Nwilo (Nigeria):

Oil Spill Model for Oil Pollution Control (5005)

*This is a peer reviewed paper.***Rami Al Ruzouq, Abdullah Al Zoubi, Abdrahman Abueladas and Emad Akawwi** (Jordan):

Hazard Mapping Along the Dead Sea Shoreline (5037)

*This is a peer reviewed paper.***Murat Uysal, Saffet Erdoğan and Ünal Yıldırım** (Turkey):

Changes in the Coastline and Water Level of the Akşehir and Eber Lakes between 1975 and 2010 (5225)

Rabii El Hamzaoui, Ahmed Raissouni and Abdelkrim El Arrim (Morocco):

The Contribution of Geomatics in the Sustainable Management of Coastal Areas: Application of a Coastal Geographic Information System in North-Western Morocco (5325)

*This is a flash presentation.***Berk Üstün** (Turkey):

Mapping Water Quality by Using Satellite Imagery (5194)

*This is a flash presentation.***Arab Union of Surveyors – Executive Board Meeting of AUS**

Friday, 20 May 17:30–18:30

Venue: Fes 2

Commission: AUS members

– By invitation only

China Forum – China Surveying and Mapping Serves the World

Friday, 20 May 18:00–19:30

Venue: Fes 1

– Open for all interested participants

Programme

- MapWorld-Platform of Internet Geomatics Service of China
- Innovative Geospatial Technology in China
- Chinese Surveying Equipment: The Driving Force for Development of Africa
- China GIS Industry and SuperMaps Achievements
- Speech by Dr. **Li Pengde**, Deputy Director General, State Bureau of Surveying and Mapping of China
- Followed by a reception

China Forum Reception

Friday, 20 May 20:00–21:00

Venue: Palais des Congrès

Reception hosted by State Bureau of Surveying and Mapping of China

– By invitation only

PS03 – Plenary Session III – Environmental Issues and Sustainable Development

Saturday, 21 May 09:00–10:30
Venue: Salle des Ministres
Chair: Prof. **Mohamed Sadiqi**, President, Institute of Agronomy and Veterinary Medicine, Morocco

Rapporteur: Prof. **John Hannah**, Chair, FIG Task Force on Surveyors and Climate Change, New Zealand

Abdelkebir Zahoud, Secretary of State, Energy Mines, Water and Env. (Morocco):

Environmental Issues and Sustainable Development – Moroccan Perspective (5440)

Kamel Ayadi, International Consultant (Tunisia): Environmental Issues and Sustainable Development (5441)

Stig Enemark, Aalborg University (Denmark): The Climate Change Challenge: the Role of Land Professionals (5442)

NOTE: Simultaneous interpretation is provided in sessions in rooms Salle des Ministres and Fes 1.

**TS07A – SIM and Cadastre**

Saturday, 21 May 11:00–12:30
Venue: Salle des Ministres
Commission: 3 and 7
Chair: Dr. **Martin Salzman**, Netherlands
Rapporteur: Mr. **Amed Tabai**, Morocco

Gerhard Muggenhuber, Gerhard Navratil, Christoph Twaroch and Reinfried Mansberger (Austria): Development and Potential for Improvements of the Austrian Land Administration System (5112)

Martin Salzmann (Netherlands): Co-creating SDI's: Bridging the Gap between Organizational Cultures (4817)

Bachir Ablat (Morocco): The GIS: A Decision Support Tool in Irrigation Domain (5411)

Laurent Polidori (France): Potential and Limitations of Remote Sensing for Cadastre and Land Management (5230)

El Hassan Benaim, René M. Kabré and Mohamed El Mehdi El Imame (Morocco): Can We Use ACFC Permanent GPS Stations in the Cadastral Work in Morocco? (5197)
This is a flash presentation.

TS07B – Land Governance

Saturday, 21 May 11:00–12:30
Venue: Fes 1
Commission: 7
Chair: Mr. **Mouhsine Alaoui Mhamdi**, Morocco
Rapporteur: Mr. **Tommy Osterberg**, Sweden

Chris Grover (United Kingdom): Modelling Indicators of Land Governance (4999)

Christian Thellufsen (Denmark): Developing Cadastral Cross-governmental Digital Administration (4826)

Xavier Prigent (France): Sustainable Development – Sensitization and Methodological Approach (4882)

Samsudin Salfarina (Malaysia), **Lim Lay-Cheng J** and **William Mc Cluskey** (United Kingdom): A Review of Organizational Arrangements in Malaysia Land Administration System towards Good Governance: Issues and Challenges (4853)

Joseph Salukvadze (Georgia) and **Olga Medvedkov** (USA): Land Governance in the South Caucasus Region: Comparative Study of Georgia, Armenia and Azerbaijan (5027)

Fahria Masum (Germany): Strengthening Individual and Institutional Capacity and Developing Framework for Good Governance: Need an Alternative Approach for Proper Land Administration (5159)

Manfred Bottmeyer (Germany): Land Management of Former Industrial Landscapes in the Economic Metropolis Ruhr (4798)

TS07C – Geoid and GNSS Heighting

Saturday, 21 May 11:00–12:30
Venue: Karam 1
Commission: 5
Chair: Mr. **Michael Dennis**, USA
Rapporteur: Mr. **Mohammed Ouabi**, Morocco

Eleni-Georgia Alevizakou and Evangelia Lambrou (Greece): Fast and Convenient Determination of Geoid Undulation N in an Urban Area (4973)

El Hassan El Brirchi and Driss El Azzab (Morocco): Comparing Global Geoids over Morocco Area for GNSS Altimetry Determination (5231)

Mahmoud El-Nokrashy Osman Ali, Mohamed E. A. El-Tokhey and Emad Lotfy M. S. El-Manaily (Egypt): GPS for Orthometric Heights Determination of Long Lines: Egyptian Case Study (5115)

Mevlut Gullu, Mustafa Yilmaz and Ibrahim Yilmaz (Turkey): Application of Back Propagation Artificial Neural Network for Modelling Local GPS/Levelling Geoid Undulations: A Comparative Study (5239)

Nadim Dayoub (Syria), **Philip Moore, Stuart Edwards and Nigel Penna** (United Kingdom): The Geoid Geopotential Value for Unification of Vertical Datums (5023)
This is a flash presentation.

TS07D – Planning and Managing Urbanization

Saturday, 21 May 11:00–12:30
Venue: Karam 2
Commission: 8
Chair: Mr. **Abdelouahed Fikrat**, Morocco
Rapporteur: Mr. **Collins K'Owuor**, Kenya

Wafula Nabutola (Kenya): Planning and Managing Urbanization in Kenya Following the New Constitutional Dispensation Promulgated in August 2010 (5261)

Bernard Puepi (Cameroon): Lutte contre la pauvreté: l'habitat du pauvre en milieu urbain (4792)

Joel Chaeruka and Innocent Chirisa (Zimbabwe): Inclusive Cities and Housing: Analysis of Stewardship Instruments in Epworth, Zimbabwe (4762)

Cromwell Manaloto (Italy): The Surveyor's Role on Urban Renewal in Small Italian City Centers (5069)

TS07E – Engineering Surveying

Saturday, 21 May 11:00–12:30
Venue: Karam 3
Commission: 6
Chair: Mr. **Patrick Prendergast**, Ireland
Rapporteur: Mme **Siham Boutayeb**, Morocco

Edi Meier (Switzerland): Georadar: Locating Dangerous Zones Prior to Drilling the 57 km Long Gotthard Tunnel in Switzerland (5109)

Mohamed Ouham, Mohammed Alaoui, Tayeb Tachallait and Yassine Bahij (Morocco): Contribution of the Surveying Operations in the Monitoring of the Tunnels: A Case Study of Rabat (5168)

Werner Stempfhuber (Germany): High-End and Low-Cost RTK GNSS in Machine Control and Precision Farming Applications (5283)

El Hassane Semlali, Mourad Bouziani, Hicham Oumina and Hicham Anjar (Morocco): Contribution of GPS in the Surveying of Quarries (4926)

Mirza Dalando, Suwardi Wiyono and Bernhard Manurung (Indonesia): Carpenter's Level Measurement to Determine Different Height and Reference Elevation on Kelly Bushing Coal Bed Methane Well (CBM) Block SSE-03 SE PT. Medco E & P Indonesia (5097)

Jacob Ehiorobo and Christopher Izinyon (Nigeria): Measurements and Documentation for Flood and Erosion Monitoring and Control in the Niger Delta States of Nigeria (5126)

TS07F – Mobile and Asset Mapping Systems

Saturday, 21 May 11:00–12:30
Venue: Karam 4
Commission: 5 and 6
Chair: Dr. **Allison Kealy**, Australia
Rapporteur: Mr. **Abdelhaq Bedaou**, Morocco

Chantal Arguin (Canada):
Introducing an Innovative 3D Intelligent Mobile Mapping System (4970)

Akihisa Imanishi, Kikuo Tachibana and **Koichi Tsukahara** (Japan):
The Development of Accuracy Maintenance Method for Mobile Mapping System (MMS) Data at GPS Invisible Area (4982)

Moha El-ayachi, Hicham Hajji, Mohamed Bensaid and **Youness Ismaili** (Morocco):
Design of a Spatio-temporal Model for Cadastral Data – Case Study of Morocco (4957)

Cristina Castagnetti, Ludovico Biagi and **Alessandro Capra** (Italy):
Design of a Low-cost GPS/magnetometer System for Land-based Navigation: Integration and Auto-calibration Algorithms (5106)

Barkan Fatima (Morocco):
The Digital Territorial Management – When the Numerical Technology Reinforces the Territorial Development (5429)

TS07G – Innovative and Pro-poor Land Records and Information System

Saturday, 21 May 11:00–12:30
Venue: Karam 5
Commission: 7, 3 and GLTN
Chair: Prof. **Ian Williamson**, Australia
Rapporteur: Mr. **Mourad Choukri**, Morocco

Danilo R. Antonio (Kenya):
Social Tenure Domain Model Towards Addressing the Information Requirements of Informal Settlements (5391)

Christiaan Lemmen, Harry Uitermark, Peter van Oosterom, Jaap Zevenbergen (Netherlands) and **Iain Greenway** (United Kingdom):
The Road to a Standard for the Land Administration Domain Model (LADM), and beyond... (5121)

Jaap Zevenbergen (Netherlands) and **Clarissa Augustinus** (Kenya):
Designing a Pro Poor Land Recordation System (5028)

Jacobus Meijer and **Christiaan Lemmen** (Netherlands):
Low Cost Cadastral Data Acquisition (5262)

TS07H – Learning and Teaching Methodology

Saturday, 21 May 11:00–12:30
Venue: Reda 2
Commission: 2
Chair: Dr. **Liza Groenendijk**, Netherlands
Rapporteur: Mr. **Gert Steinkellner**, Austria

Audrey Martin (Ireland):
Video Supports the Lecturing Star (5036)

Zoran Blagojevic and **Dragana Lazić** (Serbia):
Multilingual Geodetic Dictionary in eLearning (5295)

Daberechi. C Anyaoha (Nigeria):
E-Learning and Student Support in Survey Profession, Nigeria (4922)

TS07I – Task Force on Surveyors and the Climate Change

Saturday, 21 May 11:00–12:30
Venue: Reda 4
Commission: Task Force on Climate Change
Chair: Prof. **John Hannah**, Chair, FIG Task Force on Surveyors and the Climate Change
Rapporteur: Dr. **Michael Sutherland**, Chair, FIG Commission 4

John Hannah, Rob Bell and **Ryan Paulik** (New Zealand):
Auckland: A Case Study in the Regional Assessment of Long-Term Sea Level Change (4854)
This is a peer reviewed paper.

Michael Sutherland and **Amit Seeram** (Trinidad And Tobago):
Sea Level Rise Modelling in Support of Socioeconomic Impact Analysis: Grande Riviere, Trinidad and Tobago (4921)

Oyewole Mustapha Bello (Nigeria):
Responding to Global Warming Using Integrated Landuse Management in Sub-Saharan Africa (5157)

Ahmed Zegrar (Algeria):
Impact of Climate and Analysis of Desertification Processes in Semi Arid Land in Algeria: Using Data of Alsat-1 and Landsat (5205)

Diego Navarra and **Paul van der Molen** (Netherlands):
A Global Perspective on Cadastres and Geo-ICT for Sustainable Urban Governance in View of Climate Change (5398)

TS07J – Property Markets

Saturday, 21 May 11:00–12:30
Venue: Reda 5
Commission: 9
Chair: Dr. **Frances Plimmer**, Chair, FIG Commission 9
Rapporteur: FIG Commission 9

Malgorzata Renigier-Bilozor, Radoslaw Wisniewski and **Marek Walacik** (Poland):
Real Estate Markets in Poland – Analysis of Subsystem Structure (4975)
This is a peer reviewed paper.

Winrich Voss (Germany):
Transparency of Property Markets – the 1. National Level Market Report (5130)

Peter Dent (United Kingdom) and **Mouaiad Al-Omari** (Jordan):
How Land Administration Systems Determining Land Market Efficiency (5181)
This is a peer reviewed paper.

Krystyna Czarnecka (Poland):
Polish Real Estate Market Recovery after Financial Crisis (5274)

Alexander Sagaydak and **Anna Lukyanchikova** (Russia):
Development of Agricultural Land Market in the Russian Federation (4778)

Catherine Kariuki and **Nicky Nzioki** (Kenya):
Some Suggestions Towards an Efficient Land Market in Kenya (5279)



TS08A – Surveyors and Different Ways of Service Delivery

Saturday, 21 May 14:00–15:30
Venue: Salle des Ministres
Commission: 1
Chair: Ms. **Leonie Newnham**,
Chair, FIG Commission 1
Rapporteur: Mr. **Sebti Sidhomi**,
Algeria

Khalid Yousfi, Aziz Hilali and El Mostafa El Batane (Morocco):
The Organizational Aspects of the Surveying Engineering Profession in Morocco (5348)

Khalid Yousfi, Aziz Hilali and Sidi Mohamed Alami Talbi (Morocco):
The Service Opportunities for the Surveying Engineers in Morocco (5347)

Hervé Grélard (France):
The Mutual Recognition Agreement between France and Quebec – the Reinforcement of the Links between the Surveyors of both Countries (4883)

Maria Lodin (Sweden):
The Role of a Swedish Land Administrator (4879)

Mohammed Rabah (Algeria):
The Exercise of the Surveyor Profession: A Keyrole for the Development – L'Exercice de la Profession de Géomètre-Expert "Un Acteur au Service du Développement" (5312)

Tak-ming Koo and Simon Kwok (Hong Kong SAR, China):
Professional Surveyors in Hong Kong (5227)

Winston Ayeni (Nigeria):
Survey Technicians without Borders (5361)

TS08B – Disaster Risk Management

Saturday, 21 May 14:00–15:30
Venue: Fes 1
Commission: 7, 8 and 3
Chair: Dr. **Jaap Zevenbergen**,
Netherlands
Rapporteur: Mr. **Abdelhamid Najjari**,
Morocco

Rafic Khouri (France):
Spatial Data for Haiti Reconstruction – The French Cadastre Project for Haiti (5188)

Nic Donnelly, Mark Smith, Mack Thompson and Don Grant (New Zealand):
Re-establishment of Cadastral Boundaries Following the 2010 Earthquake in Canterbury, New Zealand (4852)

Shabnam Farboud (Iran):
Disaster Prevention and Preparedness Planning for Earthquake (5141)

Si Mohamed Ben Massou (Morocco):
Introduction à la gestion des risques et des catastrophes (4842)

Med Boucham, Abdallah Rattal and Latifa Lakfif (Morocco):
The National Program for Liquid Sanitation (NPLS) (5387)

Mohammed Ben Hafoune (Morocco):
The Socio-economical and Environmental Impacts of the Rural Development Projects in the Drought and Semi Drought Areas: A Case Study of the Eastern Morocco (5446)

TS08C – Spatial Data Infrastructures in Support of Climate Change and Risk/Disaster Management II

Saturday, 21 May 14:00–15:30
Venue: Karam 1
Commission: 3
Chair: Mr. **Gerhard Muggenhuber**,
Austria
Rapporteur: Mr. **El Mostafa Tammah**,
Morocco

A. Bernoussi and Mena Amharref (Morocco):
Disasters and Risks Management (5302)

Enrico Paringit (Philippines):
The Use of Geospatial Information and the Role of Surveyors in Meeting the Challenges of Disaster Risk Reduction and Climate Change Adaptation: The Case of the Archipelagic Nation the Philippines (5196)

This is a peer reviewed paper.

Mostafa Telgerdi and Alireza Telgerdi (Iran):
Using GIS Improves the Productivity and Reliability of Supply Chain in Preparation for Disasters (5166)

Arif Cagdas Aydinoglu, Elif Demir and Tahsin Yomralioglu (Turkey):
An Approach to Use Geo-Information Effectively in Disaster & Emergency Management Activities in Turkey (5354)

Hassan Tabyaoui, AbdelAli Chaouni and Fatima El Hammichi (Morocco):
Application of GIS Technique for Solid Waste Selection and Protecting the Environment: Case Study of Taza, Morocco (5350)

TS08D – Regional and Local Structure Planning

Saturday, 21 May 14:00–15:30
Venue: Karam 2
Commission: 8
Chair: Prof. **Mohamed Rouchdi**,
Morocco
Rapporteur: Mr. **Kimuyu Mulinge**,
Kenya

Zdravko Cesarec and Zeljko Bacic (Croatia):
Role of Cadastre in the Development of Regional and Local Planning Structure in Croatia (4862)

Abdelouahed Fikrat (Morocco):
De l'aménagement du territoire au Développement territorial (5270)

Gülten Kara (Turkey):
The Examination of the Urban Renewal Projects – A Case Study of Trabzon, Turkey (5286)

Idriss Haddouche (Algeria), **Slim Saidi** (France) and **Khelladi Mederbal** (Algeria):
Remote Sensing and Dynamic Landscapes in Arid and Semi Arid Area in Algeria: Cases of the Region of Nâama – La télédétection et la dynamique des paysages en milieu aride et semi-aride en Algérie: Cas de la région de Nâama. (5185)

Dridi Hadda, Kalla Mahdi and Annab Redha (Algeria):
Modélisation de l'érosion dans le bassin de oued Reboa et son impact sur le barrage de Timgad – approche multicritères (5190)
This is a flash presentation.

TS08E – Engineering Surveying – Equipment

Saturday, 21 May 14:00–15:30
Venue: Karam 3
Commission: 6
Chair: Dr. **Maria Joao Henriques**,
Portugal
Rapporteur: Prof. **Gethin Roberts**,
Chair, FIG Commission 6

Mazher Choudhury and Chris Rizos (Australia):
Test Results of Locata Technology for Deformation Monitoring (4928)
This is a peer reviewed paper.

Oluropo Ogundipe and Gethin Roberts (United Kingdom):
Antenna Selection for Bridge Deformation Monitoring – Comparison of Multipath Mitigation Characteristics for Three Types of Antennas (5238)

Alain De Wulf, Denis Constales, Jessica Meskens, Timothy Nuttens and Cornelis Stal (Belgium):
Procedure for Analyzing Geometrical Characteristics of an EDM Calibration Bench (5266)

Jelena Gučević, Siniša Delčev and Vukan Ogrizović (Serbia):
Determining Temperature Dependence of Collimation Error of Digital Level Leica DNA 03 (4993)
This is a peer reviewed paper.

Cornelis Stal, Philippe De Maeyer, Alain De Wulf, Rudi Goossens and Timothy Nuttens (Belgium):
Comparison of Geometric and Radiometric Information from Photogrammetry and Color-enriched Laser Scanning (5276)

Denis Burenkov, Andrey Polyanskiy, Yuriy Pupkov and Petr Murzincev (Russia):
The Research of Precision Characteristics of Internal Electronic Level API Laser Tracker 3 (4779)
This is a flash presentation.

TS08F – Adjustment and Coordinate Transformation

Saturday, 21 May 14:00–15:30
Venue: Karam 4
Commission: 5
Chair: Prof. **Moha Elayachi**,
Morocco
Rapporteur: Dr. **David Martin**,
France

Gomaa Dawod, Meraj Mirza and Khalid Al-Ghamdi (Saudi Arabia):
Simple Precise Coordinates Transformations for Geomatics Applications in Makkah Metropolitan Area, Saudi Arabia (4953)
This is a peer reviewed paper.

Laszlo Banyai (Hungary):
Rigorous 3D Integrated Adjustment of GPS Baselines, Geodetic Total Station and Levelling Measurements (5363)

Moha El-ayachi (Morocco):
A New Didactical Mechanism to Understand Map Projections (4980)

NOTE: Simultaneous interpretation is provided in sessions in rooms Salle des Ministres and Fes 1.

TS08G – Taxation and Compulsory Purchase

Saturday, 21 May 14:00–15:30

Venue: Karam 5

Commission: 9

Chair: Dr. **Frances Plimmer**, Chair,

FIG Commission 9

Rapporteur: FIG Commission 9

Marek Walacik and **Sabina Żróbek** (Poland):

Comparative Study on International Compulsory Purchase Compensation Solutions in Accordance to FAO Principles of Equity and Equivalence (4799)

This is a peer reviewed paper.

Frances Plimmer and **William J McCluskey** (United Kingdom):

Sustainability and Property Taxation (4869)

This is a peer reviewed paper.

Rene Gudat (Germany):

Going West or Going East – Fundamental Changes in the German Property Tax System (5026)

This is a peer reviewed paper.

Craig Harris (New Zealand):

Return of State Land in New Zealand – Offer Back and Treaty Claim Settlements (5222)

Belachew Yirsaw (Ethiopia):

Expropriation, Valuation and Compensation Practice in the Amhara National Regional State (ANRS) – The Case of Two Cities (Bahir-Dar and Gonder) (5399)

TS08H – Marketing and Management of Professional Survey Education

Saturday, 21 May 14:00–15:30

Venue: Reda 2

Commission: 2

Chair: Ms **Chris McAlister**,

Australia

Rapporteur: Dr. **Marina Vaskovich**,

Sweden

Helen Murray-O'Connor

(Ireland):

What is Geomatics? An Evolving Discipline Requires Innovative Methods to Raise Awareness (5210)

Annick Jatton (Canada):

Bridging the Gap between Academic, Government and Private Sectors to Recruit the Next Generations of Land Surveyors and Geomatics Engineers – A Success Story in Quebec, Canada (5301)

Garfield Young, Martin Smith and **Roger Murphy** (United Kingdom):

Marking Surveying Education Relevant (4833)

Benedicta Ugwulebo (Nigeria):

Female Gender in Professional Education (Nigeria) (4918)

TS08I – GNSS Processing and Analysis

Saturday, 21 May 14:00–15:30

Venue: Reda 4

Commission: 5

Chair: Prof. **Rachid Azzouzi**,

Morocco

Rapporteur: Mr. **Graeme Blick**,
New Zealand

Seyit Ali Yilmaz (Turkey):

Improvement of Ellipsoidal Heights with Atmospheric Data Calculated from GNSS Data (5203)

Sefa Yalvac and **Aydin Ustun**

(Turkey):

Adaptive Filtering of Multipath Effect on Pseudo-range Measurements (5101)

Houaria Namaoui, Kahlouche Salem and **Hicham Dekkiche**

(Algeria):

Optimal Choice for the Estimation of Precise GPS Stations Coordinates Choix Optimal pour l'Estimation Précises des Coordonnées des Stations GPS. (4836)

Sofiane Khelifa, Salem Kahlouche and **Mohamed Faouzi Belbachir**

(Algeria):
Application of Wavelet Analysis to GPS Stations Coordinate Time Series (5095)

Hasan Jamil (Malaysia):

GNSS Heighting and Its Potential Use in Malaysia (5410)

Mir Radia, Kahlouche Salem and **Touam Said** (Algeria):

Investigation of Deformations in North of Algeria with GPS Data and Kinematic Model (4834)

This is a flash presentation.

TS08J – Marine/Coastal Modelling and Technology

Saturday, 21 May 14:00–15:30

Venue: Reda 5

Commission: 4

Chair: Mme. **Najlaa Diouri**,

Morocco

Rapporteur: Dr. **Volker Boeder**,
Germany

Dexter Davis, Cassandra Nanlal

and **Michael Sutherland** (Trinidad And Tobago):

Towards the Development of a Methodology for Vertical Separation Models in the Caribbean (5246)

Satheesh Gopi, Eman Ahmed Al khatibi Al falasi, Mustafa Mohammed Baqer and **Kumar Subbaraju Renati**

(United Arab Emirates):

Establishing and Updating Vertical Datum for Land and Hydrographic Surveying in Dubai Emirate (5058)

Shabnam Farboud (Iran):

Determination of Accurate Sea Border Lines of Countries (5136)

Hyun Sook Lee and **Man Seung Cho**

(Republic of Korea):
A Comparative Study on Marine Spatial Management between China and South Korea (5258)

Agustín Molina García, César García Aranda and **M^a Blanca González San Martín**

(Spain):
A Comparative Analysis of Capabilities and Limitations of Collected Systems of Hydrographic Marine Data (5288)



TS09A – Alternatives and Backups to GNSS

Saturday, 21 May 16:00–17:30
Venue: Salle des Ministres
Commission: 5 and 6
Chair: Dr. **Sarkis Fadous**, Lebanon
Rapporteur: Dr. **Charles Toth**, USA

Chris Rizos, Yong Li, Nonie Politi, Joel Barnes and Nunzio Gambale (Australia):
Locata: A New Constellation for High Accuracy Outdoor and Indoor Positioning (4917)
This is a peer reviewed paper.

Dorota Grejner-Brzezinska, Charles Toth, Jong-Ki Lee, Xiankun Wang and Jiti Gupta (USA):
Positioning and Navigation in GPS-challenged Environments: Cooperative Navigation Concept (4960)

Charles Toth, Dorota Grejner-Brzezinska (USA), **Nonie Politi** and **Allison Kealy** (Australia):
Reference Data Set for Performance Evaluation of MEMS-based Integrated Navigation Solutions (4994)

Allison Kealy (Australia), **Charles Toth, Dorota Brzezinska** (USA) and **Gethin Roberts** (China, PR):
A New Paradigm for Developing and Delivering Ubiquitous Positioning Capabilities (5019)

Christian Lukianto and Harald Sternberg (Germany):
Overview of Current Indoor Navigation Techniques and Implementation Studies (5102)
This is a peer reviewed paper.

Said El Azrak (Morocco):
The Vocational Education in Surveying and Geomatics: a Moroccan Experience at the International Standards (5372)

TS09B – Land Reform

Saturday, 21 May 16:00–17:30
Venue: Fes 1
Commission: 7
Chair: Mr. **Kees de Zeeuw**, Netherlands
Rapporteur: Mr. **Ahmed El Bouari**, Morocco

Bruno Razza (Italy):
The "Building Works Culture" of the Modern Society, through the Day-to-day Work of the Building Surveyor – Constant Updating of Building Register (5062)

Jouni Johannes Anttonen (Finland):
Multi-Donor Efforts for Improving Land Administration Systems in Developing Countries: Lessons Learnt from the Cambodian Land Management and Administration Project (LMAP) (5367)

Ji-yeon Jeong, Jong-ho Lee, Hee-chang Kwak, Yong-ho Lee and Jong-dae Jeong (Republic of Korea):
An Approach to Real Estate Information Unification (4948)

Dimo Todorovski (Macedonia, FYROM):
Characteristics of Post-conflict Land Administration with Focus on the Status of Land Records in Such Environment (5016)
This is a peer reviewed paper.

Muhammad Bashar Nuhu (Nigeria):
Land Reform in Nigeria and Global Agenda: The Nigerian Institution of Estate Surveyors and Valuers Perspective – Challenges and Prospects (5321)

Ivan Sivtsov (Russia):
Land Reform in Russia: Results and Prospects (5418)
This is a flash presentation.

TS09C – Spatial Information Processing II

Saturday, 21 May 16:00–17:30
Venue: Karam 1
Commission: 3
Chair: Mr. **Guyla Ivan**, Hungary
Rapporteur: Mr. **Tarik Ourouadi**, Morocco

Rudiney Pereira and Ana Benedetti (Brazil):
Dynamic Modeling for Changes Simulations in the Forest Cover Rio Grande do Sul State, Brazil (5116)

Dursun Zafer Seker, T. Murat Celikoyan, Sinasi Kaya, Emin Ozgur Avsar and Elif Sertel (Turkey):
Investigation Landuse Changes in Megacity Istanbul between the Years 1903–2010 by Using Different Types of Spatial Data (5183)
Mr. Aydar, Umut (Turkey)

Oludayo Emmanuel Abiodun, James Bolarinwa Olaleye, Andrew Nnamdi Dokai and Adedayo Kazeem Odunaiya (Nigeria):
Land Use Change Analysis in Lagos State from 1984 to 2005 (5142)

Njike Chigbu (Nigeria):
Analysis of Landuse and Land-cover Changes of Aba Urban Using Medium Resolution Satellite Imageries (5151)

Mudher Abdullah (Iraq):
Catchment Area Delineation Using GIS technique for Bekhma Dam (5335)

Ajay K Singh and S. S. Singh (India):
Forest Vegetation Analysis and Land Cover Assessment in Tan Sub Watershed of Hasdeo River Basin, Chhattisgarh, India (5103)

TS09D – Public Private Partnerships in Planning and Land Development II

Saturday, 21 May 16:00–17:30
Venue: Karam 2
Commission: 8
Chair: Mr. **Enrico Rispoli**, Italy
Rapporteur: Mr. **Lahoussaine Ragtaoui**, Morocco

Hakan Senol Kutoglu, Kurtulus Sedar Gormus, Murat Oruc, Sayim Ongel and Simsek Safak (Turkey):
An Investigation of Coastal Zone Change on the Zonguldak Hard Coal Basin Depending on Developing Industry since over a Century (5123)

Antonio Sica (Italy):
République du Madagascar, de la Région de Tulear, de la forêt Mikea, je projette GIS pour 1500000 hectares pour la détermination des aires sans forêt, de installer avec des espèces autochtones déjà présentes en mode spontanée comme la Jatropha Curcas (4846)

Mara Morbin (Italy):
Oasis Water Project – Water Care for Life (5072)

Ponn Virulrak (Thailand):
Parking Variance: New Legal Paradigm for Bangkok Hotel Development (4870)
This is a peer reviewed paper.

TS09E – Engineering Surveying – Software

Saturday, 21 May 16:00–17:30
Venue: Karam 3
Commission: 6
Chair: Prof. **Hicham Hajji**, Morocco
Rapporteur: Prof. **Gethin Roberts**, Chair, FIG Commission 6

Jana Halickova and Alojz Kopicik (Slovakia):
Automated Model Creation from TLS Data (4848)

Christian Manthe (Germany):
Plane Based Free Stationing (5118)

Ioan Stoian, Virgil Olaru and Nicusor Baroiu (Romania):
Making Landslides Risk Maps as Monitoring Systems of the Phenomenon Based on Precision Geodesic Measurements (5160)

Shahrbanu Firuzi, Mohammad Bager Sharifi, Kambiz Borna and Mohammadreza Rajabi (Iran):
Using Empirical Relationships and Neural Network in GIS for Developed Rainfall-runoff Modeling (5264)

TS09F – Land Rights Infrastructure

Saturday, 21 May 16:00–17:30
Venue: Karam 4
Commission: 7
Chair: Mr. **Andras Ossko**, Hungary
Rapporteur: Prof. **Tayeb Tachallait**, Morocco

Danilo Antonio (Philippines):
Questioning the Century-Old Paradigm – Securing Land Rights in the Philippines (5379)

Francis Roy (Canada):
Building Public Confidence towards Cadastral Systems (4991)

Thaer Shunnar and Michael Barry (Canada):
Tracking Fraudulent Activities in Real Estate Transactions (4995)

Sebastian Kropp and Theo Kötter (Germany):
Real Estate Transactions in the Digital Age (5085)

Henri Nubukpo (Togo):
Needs for a Land Rights Infrastructure in Togo – Besoins pour une infrastructure foncière au Togo (5092)

Okan Yildiz and Cemal Biyik (Turkey):
Analysis of Turkish Cadastre in Terms of Multipurpose Cadastre (5091)

NOTE: Simultaneous interpretation is provided in sessions in rooms Salle des Ministres and Fes 1.



TS09G – Surveying History

Saturday, 21 May 16:00–17:30
Venue: Karam 5
Commission: History
Chair: Mr. **John Brock**, Australia
Rapporteur: Mr. **Alain Wright**,
United Kingdom

John Brock (Australia):
Surveyor-General and Registrar-
General of Upper Egypt in the
XVIIIth Dynasty of New Kingdom
Egypt – Rekhmire (c.1400–1340
B.C.) (4916)

Maria Luisa Palanques and
Miguel Calvo (Spain):
Cartography, Cadastre and Sur-
veying and the Development of
Cities during the Nineteenth Cen-
tury in Spain (5029)

Ana Roque and **Paula Santos**
(Portugal):
History, Cartography and Science:
The Present Day Importance of
Mapping of Mozambique in the
19th Century (5030)

Adam Lyszkowicz and **Marcin**
Uradzinski (Poland):
The Four Century of Polish Books
for Land Surveying (5090)
This is a flash presentation.

Carlos Alfredo Rodriguez Rojas,
Julio Hernan Bonilla Romero
and **Niño Niño Edilberto**
(Colombia):
Topography and Astronomy in
Community Muisca, Colombia
(5323)

**TS09H – Accreditation and
Quality Assurance**

Saturday, 21 May 16:00–17:30
Venue: Reda 2
Commission: 2
Chair: Dr. **Tim Goodhead**, United
Kingdom
Rapporteur: Dr. **Gary Jeffress**,
USA

Tim Goodhead (United King-
dom):
Accreditation and Quality As-
surance – Mobility of Surveyors
across International Professional
Institutions (4976)

K Chan (Hong Kong SAR, China):
Assessing the Gap in Higher Edu-
cation Reform for Property and
Construction (5013)

Siddique Motala (South Africa):
Constructive Alignment of an In-
troductory University Geographic
Information Systems Course
(4872)
This is a peer reviewed paper.

Laila El Abbadi, Aboubakr
Bouayad and **Mohamed Lamrini**
(Morocco):
International Quality Assurance
Systems in Higher Education vs.
the Moroccan Quality Assurance
System (4909)

Amara Otmani (Algeria):
Review of Quality Assurance in
Higher Education (4964)
This is a flash presentation.

TS09I – Cadastral Reform

Saturday, 21 May 16:00–17:30
Venue: Reda 4
Commission: 7
Chair: Mr. **Daniel Roberge**, Chair,
FIG Commission 7
Rapporteur: Mr. **Farid Moussaide**,
Morocco

Stojanka Brankovic, Ivana
Stankovic and **Nenad Tesla**
(Serbia):
Quality Improvement of the Real
Estate Cadastre in Serbia (4892)

Hasan Cagla, Sabahattin Akkus,
Erhan Civik and **Ibrahim Ozgur**
(Turkey):
Konya Example of Cadastre Ren-
ovation Work in Turkey (4807)

Ömür Engin Demirkol (Turkey),
Murat Meha (Kosovo), **Sinan**
Üzümcü, Coşkun Demir (Turkey)
and **Vselaj Besmir** (Kosovo):
Prizren Cadastral Zone Cadastre
Reconstruction Project and Ben-
efits (4810)
Eng.Milot Lubishtani

Şaban İnam, Mehmet Ertaş,
Şükran Yalpir, Aslı and Başarrı
(Turkey):
Renovation Studies in Turkish
Cadastre: Reasons and Project
Results (5039)

Kim Jae-Myeong, Kwon Il-Hyuk
and **Choi Yun-Soo** (Republic of
Korea):
A Study on Cadastral Re-Investi-
gation Based on Conflict Model:
A Case of the Korean Cadastral
Resurvey Project (5252)
This is a flash presentation.

**TS09J – Valuations CAMA
(Computer Assisted Mass
Appraisal) II**

Saturday, 21 May 16:00–17:30
Venue: Reda 5
Commission: 9 and 7
Chair: Mr. **Marc Vanderschueren**,
Belgium
Rapporteur: Mr. **Ali Ait Mhaned**,
Morocco

Francis Gäbele (Belgium):
Identification of the Character-
istics of the Immovable Estate
Submitted to a Valuation – Iden-
tification des caractéristiques
des immeubles lors d'évaluation
foncière (5055)

Raymond Gheldof (Belgium):
Immovable Transparency by an
Area Measures Code (Part 1) –
Transparence en immobilier par
un code de mesurage de surfaces
(Partie 1) (5067)

Gérard Roulleau (France):
The Area Measures Code for the
Building Immovable – Le code de
mesurage des surfaces applicable
aux immeubles bâtis (5071)

El Hassane Semlali, Essaid Bajja,
Lahsen Elmoutaouif and **My**
Abdeslam Adad (Morocco):
Experimentation of a New Ap-
proach of Expertise of Real Estate
Properties to Evaluate the Venal
Values of Moroccan Habitats
(5178)

**Closing Ceremony of the 6th
National Congress of ONIGT**

Saturday, 21 May 17:30–18:30
Venue: Salle des Ministres
Commission: All participants

Chair: Mr. **Aziz Hilali**, ONIGT
President
Co-chair: Mr. **CheeHai Teo**, FIG
President

Conference Dinner

Saturday, 21 May 20:00–23:00
Venue: Le Pacha Restaurant



Sunday, 22 May 2011

Presidents Meeting

Sunday, 22 May 08:30–10:30
Venue: Fes 1
Commission: Presidents of FIG members
Chair: Mr. **CheeHai Teo**, FIG President

- For Presidents of FIG member associations

FIG General Assembly II

Sunday, 22 May 11:00–12:30
Venue: Salle Royale
Commission: FIG members

- FIG members
- Open for observers

FIG General Assembly II / Closing Ceremony

Sunday, 22 May 14:00–16:00
Venue: Salle Royale



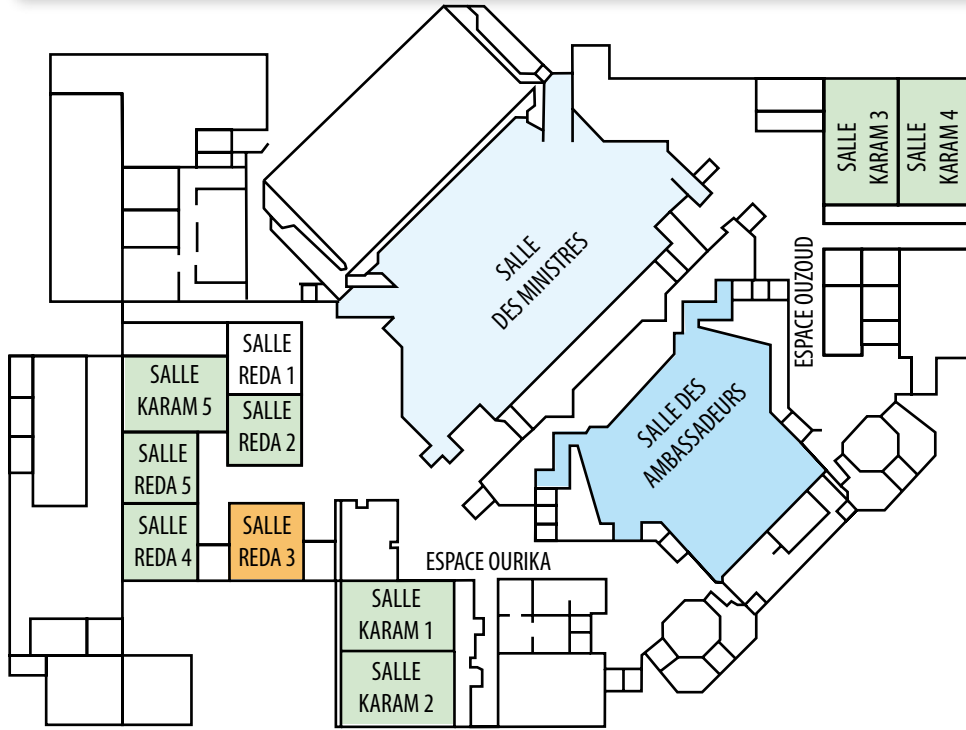
Farewell Reception – Welcome to FIG 2012 in Rome

Sunday, 22 May 16:00–17:00
Venue: Foyer outside Salle Royale, Palais des Congrès

- Farewell Reception hosted by CNNGI from Italy
- Reception will follow immediately after the Closing Ceremony



Venue Floor Plans – Palais des Congrès



Level -1

Registration

- Espace ASNI 2 (Level 0)

Plenary Sessions / Opening Ceremony / Technical Sessions

- Salle des Ministres (Levels -1, 0 & 1)

Technical Sessions

- Salle Karam 1-5, Salle Reda 2, 4, 5 (Level -1), Salle Fes 1 (Level 1)

Special Forums: Salle Fes 2 (Level 1)

Speakers Preparation Room: Salle Reda 3

FIG General Assembly II, Farewell Reception

- Salle Royale (Level 0)

Commission Meeting Rooms: MR 1-5 (Level 0)

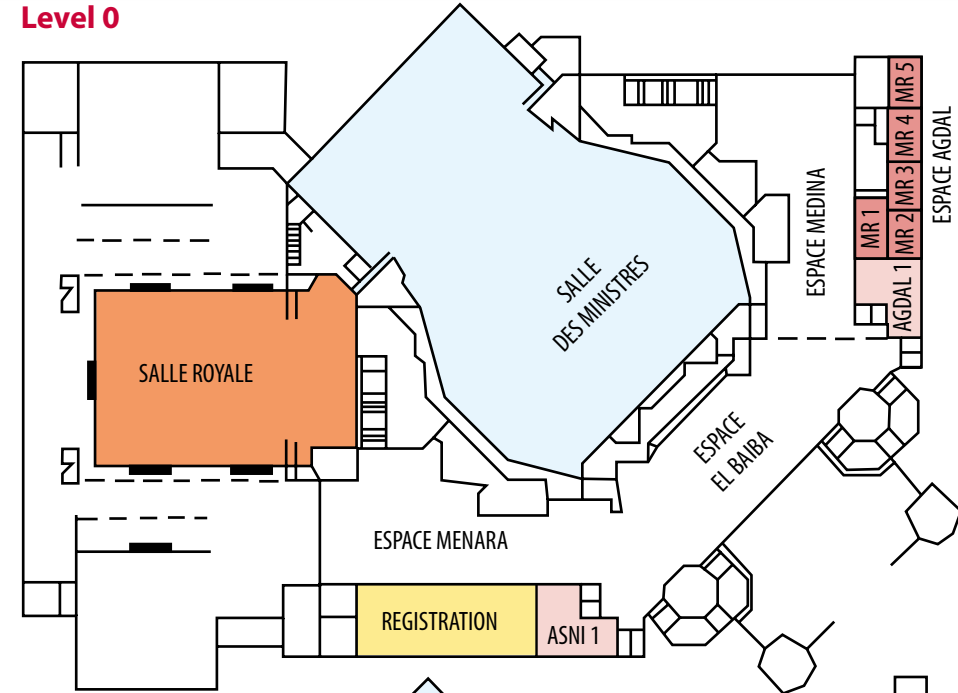
FIG Office: ASNI 1 / FIG President: Fes 1A

ONIGT Office: AGDAL 1 / ONIGT President: Fes 2A

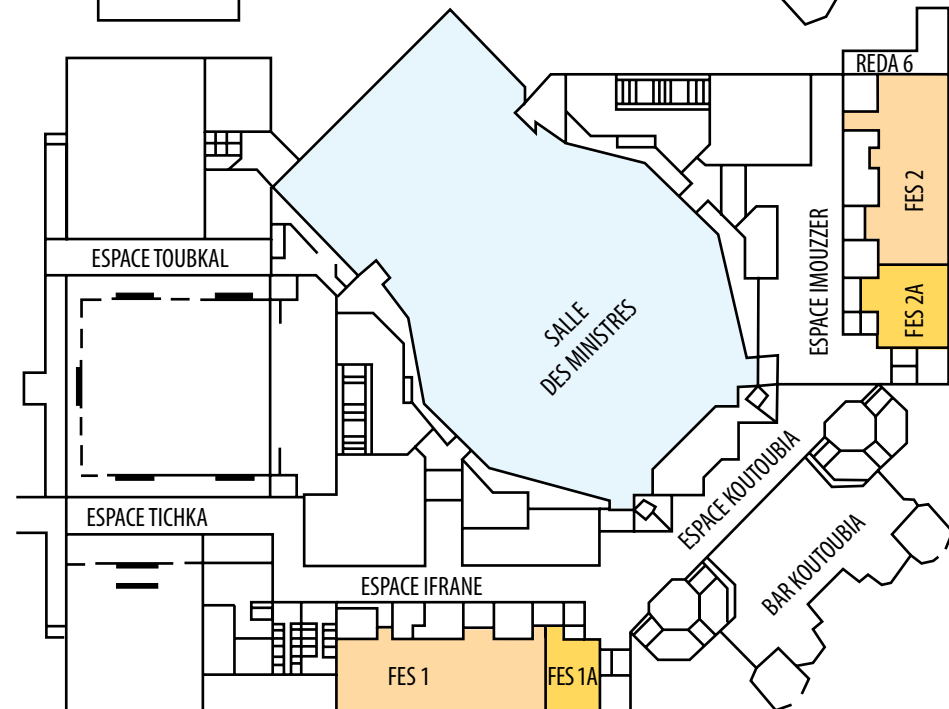
Exhibition: Level 0

NOTE: Simultaneous interpretation is provided in sessions in rooms Salle des Ministres and Fes 1.

Level 0



Level 1





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www.onigt.ma/fig2011 (French and Arabic)

Conference proceedings web site:

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