

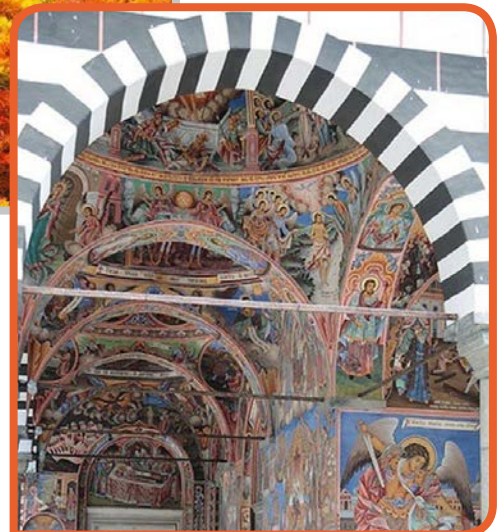


“From the wisdom of the ages to the challenges of modern world”

# FIG WORKING WEEK 2015 17-21 MAY SOFIA BULGARIA



## Programme Book



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Understanding our world.

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**Greetings from the President  
of the Chamber of Graduated Surveyors, Bulgaria**



*Dear Colleagues and Friends,*

It is an honor and great pleasure for me and the Chamber of Graduated Surveyors to welcome and invite you to the 2015 FIG Working Week in Sofia, Bulgaria.

2015 FIG Working Week is supported by the University of Architecture, Civil Engineering and Geodesy, the Geodesy, Cartography and Cadastre Agency, the Union of Surveyors and Land Managers in Bulgaria (a member of FIG) and the Association of Topographical Companies. The event will be held in the National Palace of Culture (NPC), Sofia. A variety of hotels around NPC have been selected to accommodate the delegates. Sofia Hilton is the main conference hotel.

Bulgaria is located at strategic crossroads and its capital, Sofia has a very rich and ancient history. Sofia is one of the oldest European capitals. Its history can be traced back to Neolithic times. Traces of several Neolithic settlements have been found on its territory dating from 5000 BC. Sofia (Serdika – the ancient name of the city and late called Sredets and now Sofia – that means city of the God’s wisdom) is a cultural center since the time of the Thracians, the Roman Empire, The East Roman Empire – Byzantium and the Bulgarian kingdoms.

The theme of 2015 FIG Working Week is “From the wisdom of ages to the challenges of modern world”. My colleagues and I think that it is suitable because Bulgaria is a very ancient country, with rich story and heritage of the ages. We must learn the lessons of the history and we must strive to make the world better, more comradely and more friendly, parallel with development and advance of modern technology.

The logo we selected represents the national theater Ivan Vazov. This was the first theater in Bulgaria and the national culture institution. The building is one of the symbols of the city and the country and it is more than 100 years old. The National Theater has been named after Ivan Vazov, a famous Bulgarian poet and writer, the patriarch of the Bulgarian literature. His works have kept the Bulgarian spirit alive through the ages. This is a building that influences each Bulgarian citizen. The background of the building is the Vitosha mountain– another symbol of the city.

We would like to cordially thank the management and the members of FIG for your votes and for the opportunity given to us to host this event. I would like cordially to invite all friends, colleagues and members of FIG to the 2015 FIG Working Week. Come and feel the spirit and the culture of the city.

**Angel Krumov Yanakiev**

President

## Greetings from the President of International Federation of Surveyors, FIG



*Dear Colleagues and Friends,*

I cordially welcome you to participate in our 2015 FIG Working Week in Sofia, Bulgaria. This is the first Working Week under the newly elected FIG Council and Commission Chairs. It will be jointly organised by FIG and the Chamber of Graduated Surveyors of Bulgaria and it will be supported by all relevant local major sectors, such as the academia, the government and the private practitioners.

At this event we expect around 900 participants from all over the world. The National Palace of Culture is an excellent venue and our Bulgarian colleagues are experienced professionals and great hosts. They already had the leadership of FIG many years ago and have successfully organised several memorable international events, the FIG Congress in 1983 and FIG Commission workshops.

The FIG Working Week 2015 in Sofia is an important event as the implementation of the new FIG Work Plan will be presented and broadly introduced at all levels of the FIG structure. I wish all our participants to be aware of this four-year plan and of its specific goals, and I encourage all to contribute to the achievement of those goals in terms of international professional cooperation for the advance-

ment of experience, knowledge, research, education, good governance and capacity building in our profession. This event will be an excellent opportunity for our participants to identify a concrete role in the implementation of this work plan through an active contribution to the FIG Commission activities. In this regard, I have special expectations for the role of young surveyors.

The selected theme of the conference is "From the wisdom of ages to the challenges of modern world". Through the centuries, the past and the recent history, a great deal of experience has been accumulated in the field of land and resources management in this region. It will be of significant interest for all of us to share this experience and the lessons learnt and through our collective expertise and the new technological developments to identify solutions for a better future.

I encourage all who have an interest in surveying to participate actively as I am sure that this Working Week will prove to be highly successful and rewarding for all. With great enthusiasm I look forward to welcoming you in Sofia in May.

**Chryssy Potsiou**  
President

## Greetings from the Conference Director



*Dear Friends and Colleagues,*

I am honoured to welcome you to FIG Working Week 2015 in Sofia. 32 years after the XVII International FIG Congress (International Federation of Surveyors) in 1983, now Sofia once again is the host of the most important event for the surveying community in 2015.

We expect more than 420 presentations and 100 technical sessions. You will see that the reports are at the highest technical and scientific level. I hope that we will have the opportunity to share many new ideas for the development of our profession. As organisers, we will do our best to help you discover all innovations in the field of surveying.

I am certain that this forum will establish many new contacts between colleagues from around the world, so that we can be useful to each other.

Besides the practical surveying information, as hosts we offer information on the history and present of one of the most ancient countries in Europe. The Bulgarian state was established in 681 and the marks of its 1300-year-long history have been preserved everywhere. You will be able to enjoy the wonderful Bulgarian cuisine and Bulgarian customs. You can visit the lovely Rose Valley and see for yourselves how the famous Bulgarian rose oil is made. You can get into the rhythm of modern Sofia.

I wish you pleasant and useful days in Sofia and we hope to see you in Bulgaria again.

**Zlatan Zlatanov**  
Co-Conference Director

## Greetings from the Conference Director



*Dear Participant at  
the FIG Working Week 2015,*

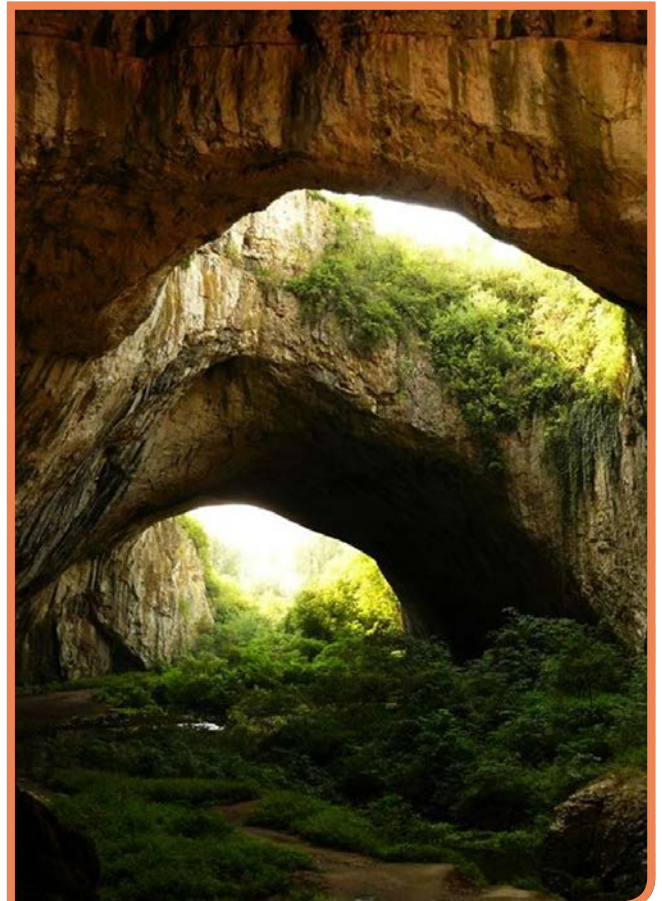
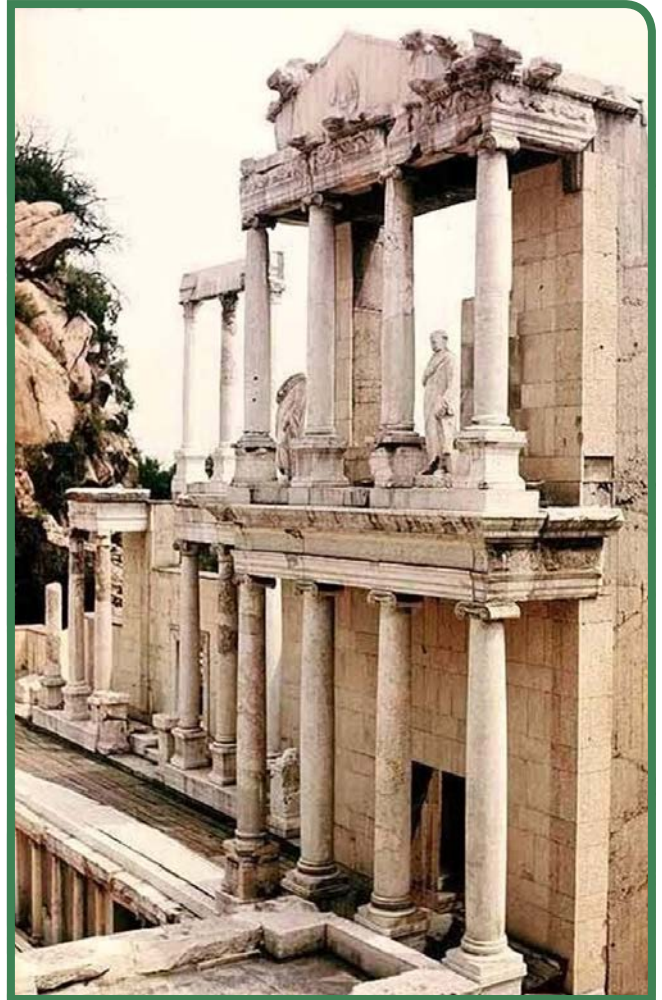
I have been looking very much forward to greeting you to this special Working Week in Sofia, Bulgaria. Ever since the destination was established at the General Assembly in Rome 2012 we have been looking forward to the day this Working Week should start and to welcome all participants to Sofia. Sofia is a city full of history, full of life, full of beautiful places, full of adventures, and Bulgaria is an extraordinary country to visit. As visitor you are met by a friendly and open atmosphere by the kind Bulgarian population. We have enjoyed immensely to organise this Working Week together with the local organising committee and all who have been involved both to ensure an interesting technical programme and to show you the very best of Sofia.

Sofia, Bulgaria is a unique place for the Working Week. The last time FIG Congress was held in Sofia was in 1983. Here the FIG Musical Fanfare, composed by Dipl. Ing. Jiri Simek, Prague, was introduced and performed for the very first time. Since then the FIG Fanfare has been a permanent part of the FIG conferences and marks the beginning and the end of the conference. It is therefore a special pleasure to be in Sofia again in 2015 – and again to hear the FIG Fanfare at the National Palace of Culture, Congress Centre Sofia.

I now hope that you will enjoy the Working Week, and also enjoy Sofia and the many specialties of Bulgaria. I also hope that you will profit from the many inspiring presentations throughout the technical programme that is carefully prepared for you by FIG Council, Commissions and other representatives, and that you will bring home much inspiration from the presentations, from your colleagues and from Bulgaria. Please note that the Working Week does not stop after the last presentation – afterwards you must pass on your new learning to colleagues, keep your international contacts and use your new inspiration in your daily work.

Welcome to the FIG Working Week 2015 in Sofia Bulgaria!

**Louise Friis-Hansen**  
Co-Conference Director



### International Federation of Surveyors, FIG



The International Federation of Surveyors is an international, non-government organisation whose purpose is to support international collaboration for the progress of surveying in all fields and applications.

FIG is the premier international organisation representing the interests of surveyors worldwide. It is a federation of the national member associations and covers the whole range of professional fields within the global surveying community. It provides an international forum for discussion and development aiming to promote professional practice and standards. FIG was founded in 1878 in Paris as the Fédération Internationale des Géomètres. This has become anglicised to the International Federation of Surveyors. It is a UN-recognised nongovernment organisation (NGO), representing more than 120 countries throughout the world, and its aim is to ensure that the disciplines of surveying and all who practice them meet the needs of the markets and communities that they serve.

#### FIG Council Members (2015–2016)

- President: Prof. Dr. **Chryssy Potsiou** (Greece)
- Vice President: Dr. **Pengfei Cheng** (China)
- Vice President: Dr. **Diane Dumashie** (United Kingdom)
- Vice President: Mr. **Bruno Razza** (Italy)
- Vice President: Prof. Dr. **Rudolf Staiger** (Germany)
- ACCO Representative: Mr. **Brian J. Coutts** (New Zealand)

### Chamber of Graduated Surveyors in Bulgaria



Chamber of Graduated Surveyors has been established in 2006 to answer the increased volume of work for surveyors, which is in progress in Bulgaria, and the need of equalization the activities that could be performed and the certificates issued by the European Union.

It is a non-government organisation, which unites graduated engineers' surveyors. Its main aim is to support, encourage, regulate and promote the interests of all its members and to increase the value of their services to the public. In its activity it will provide support for its members to continue their professional development and keeping them inform for the national and international standards in the field of surveying, cartography and photogrammetry.

- Dipl. Eng. **Angel Krumov Yanakiev** – chairman

#### FIG's Technical Work is Led by Ten Commissions (Commission Chairs 2015–2018)




- Commission 1 – Professional Standards and Practice – Mr. **Brian J. Coutts** (NZIS, New Zealand)
- Commission 2 – Professional Education – Ms. **E.M.C (Liza) Groenendijk** (GIN, Netherlands)
- Commission 3 – Spatial Information Management – Mr. **Enrico Rispoli** (CNGeGL, Italy)
- Commission 4 – Hydrography – Ms. **Angela Etuonovbe** (NIS, Nigeria)
- Commission 5 – Positioning and Measurement – Ing. **Volker Schwieger** (DVW, Germany)
- Commission 6 – Engineering Surveys – Mr. **Ivo Milev** (USLMB, Bulgaria)
- Commission 7 – Cadastre and Land Management – Ms. **Gerda Schennach** (OVG, Austria)
- Commission 8 – Spatial Planning and Development – Mr. **Kwame Tenadu** (GhIS, Ghana)
- Commission 9 – Valuation and the Management of Real Estate – Mr. **Liao Junping** (CIREA, China)
- Commission 10 – Construction Economics and Management – Mr. **See Lian Ong** (RICS, Malaysia)

- Dipl. Eng. **Rumen Zhelev Georgiev** – vice chairman
- Dipl. Eng. **Atanas Ivanov Ivanov** – member
- Dipl. Eng. **Svetla Georgieva Zaharieva** – member
- Dipl. Eng. **Krasimira Bozhkova Katelieva** – member
- Dipl. Eng. **Hristo Nedyalkov Hristov** – member
- Dipl. Eng. **Yanko Milchov Milenkov** – member
- Dipl. Eng. **Kostadin Velikov Kostadinov** – member
- Dipl. Eng. **Mihail Stoyanov Kirov** – member
- Dipl. Eng. **Boryana Stefanova Ivanova** – member
- Dipl. Eng. **Nikola Raichev Badev** – member
- Dipl. Eng. **Dimitar Genchev Arnaudov** – member
- Dipl. Eng. **Krasimir Stanchev Stanev** – member
- Dipl. Eng. **Mariana Stoyanova Marinova** – member
- Dipl. Eng. **Zlatan Georgiev Zlatanov** – member
- Dipl. Eng. **Aleksander Georgiev Lazarov** – member
- Dipl. Eng. **Iliyan Todorov Todorov** – member







## FIG Corporate Members

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 Bentley	Bentley Systems www.bentley.com
 esri	Environmental Systems Research Institute, Inc. (ESRI), www.esri.com
 Leica Geosystems	Leica Geosystems AG www.leica.com
 Trimble	Trimble Navigation Ltd www.trimble.com



### Silver Level

 COWI	COWI A/S www.cowi.dk
 GeoWeb	Geoweb S. p. A www.geoweb.it
 MERIDIAN+	Meridian+ www.agpmeridian.com
	The State Enterprise "State Land Cadastre Centre", Ukraine
 THOMSON REUTERS	Thomson Reuters grm.thomsonreuters.com

### Bronze Level

 GIM INTERNATIONAL	GIM International – Geomares Publishing www.gim-international.com
 KQ GEO Technologies	KQ Geo Technologies Co www.kanq.com.cn
 RIPRO	RIPRO Corporation, Japan


### Basic Level

 DERINSU	Derinsu Underwater Engineering & Consulting www.derinsu.com
 NEH	NEH Engineering Survey and Mapping Limited Company, Vietnam

### Regional Level

	Branco Etera Ltd, Kazakhstan
	Concord Surveying Works Co. concordsurveying.com
	Coordinates Magazine www.mycoordinates.org
	GEO:connexion Ltd www.geoconnexion.com
	ISQ Portugal www.isq.pt
	JKO Surveyors & Consultants (Pvt) Ltd, Sri Lanka, www.jko.lk
	Orbits Engineering Firm www.orbitseng.com

### Other Sponsorship

	Den danske Landinspektørforening (DdL) www.landinspektoren.dk
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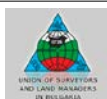
LOCAL SUPPORTERS



University of Architecture, Civil Engineering and Geodesy



The Geodesy, Cartography and Cadastre Agency



Union of Surveyors and Land Managers in Bulgaria



Association of Topographical Companies

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such as GPS, laser, optical and inertial with application software, wireless communications and services, Trimble provides complete solutions that are focused on applications requiring position or location – including surveying, construction, mining, agriculture, utilities, public safety, asset management and mapping. Trimble solutions are used in over 100 countries around the world. Our portfolio includes over 900 patents and serves as the basis for the broadest positioning offerings in the industry. With employees in more than 21 countries and a highly capable network of distribution partners, Trimble customers are served and supported with world-class training, support and service capabilities.



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## Organising Committee

### Steering Committee

#### **Chryssy Potsiou**

President  
FIG  
*Chair*

#### **Zlatan Zlatanov**

Member of the Managing Committee  
Chamber of Graduated Surveyors  
in Bulgaria  
*Co-Conference Director*

#### **Angel Yanakiev**

President  
Chamber of Graduated Surveyors  
in Bulgaria  
*Chair of the Organising Committee*

#### **Louise Friis-Hansen**

FIG Manager  
*Co-Conference Director*

### Local Organising Committee

#### **Angel Krumov Yanakiev**

President  
Chamber of Graduated Surveyors  
in Bulgaria  
*Chair of the Organising Committee*

#### **Ivan Klalchev Ivanov**

Vice President of the Union of Surveyors  
and Land Managers in Bulgaria  
*Member*

#### **Rumen Zhelev Georgiev**

Member of the Executive Board  
of the CGS  
*Vice Chair of the Organising Committee*

#### **Boris Grozdanov Krastev**

Member of Union of Surveyors and Land  
Managers in Bulgaria  
*Member*

#### **Zlatan Zlatanov**

Member of the Managing Committee  
Chamber of Graduated Surveyors  
in Bulgaria  
*Co-Conference Director*

#### **Svetla Zaharieva**

Member of the Executive board  
of the CGS  
*Member*

#### **Borislav Marinov**

Dean of Faculty of Geodesy  
*Member*

#### **Slaveyko Gospodinov**

University of Architecture,  
Civil Engineering and Geodesy  
*Member*

#### **Kremena Boyanova**

Secretary of the CGS  
*Secretariat*

#### **Penyo Penev**

University of Architecture,  
Civil Engineering and Geodesy  
*Member*

#### **Tatyana Arshinkova**

Secretary of the CGS  
*Secretariat*

### FIG Office

#### **Louise Friis-Hansen**

FIG Manager  
*Co-Conference Director*

#### **Hanne Elster**

*Event and  
Office Coordinator*

#### **Claudia Stormoen Pedersen**

*Event and  
Office Coordinator*

## Conference Information

### Conference Delegates

Full registration includes admission to all technical sessions and exhibition, lunches, coffee breaks with refreshments, Welcome Reception, Opening Ceremony as well as the Farewell Reception.

Daily registration includes lunch and coffee breaks and the social event of the day of registration if it is included in the delegate registration fee.

### Students / Young Professionals

Full registration includes admission to all technical sessions and exhibition, lunches, coffee breaks with refreshments, Welcome Reception, Opening Ceremony as well as the Farewell Reception.

### Accompanying Persons

Accompanying registration includes the Opening Ceremony and the Welcome Reception, the Farewell Reception, Sofia City tour and Bulgarian souvenir.

### Registration Desk

The registration desk is located at the National Palace of Culture, 5<sup>th</sup> floor.

*Opening hours:*

Saturday 16 May	10:00–18:00
Sunday 17 May	08:00–18:00
Monday 18 May	08:00–18:00
Tuesday 19 May	08:00–18:00
Wednesday 20 May	08:00–18:00
Thursday 21 May	08:00–14:00

Registration for the 3<sup>rd</sup> FIG Young Surveyors Conference takes place at the University of Architecture, Civil Engineering and Geodesy.

### Speakers Preparation Corner

The Speakers' Preparation Corner is located at 6<sup>th</sup> floor. All speakers are requested to visit the Speakers' Preparation Corner to upload their presentation at least 24 hours prior to the start of their session.

*Opening hours:*

Sunday 17 May	12:00–18:00
Monday 18 May	08:00–18:00
Tuesday 19 May	08:00–18:00
Wednesday 20 May	08:00–18:00
Thursday 21 May	08:00–12:00

### Conference Bag

After having registered the delegate will receive a conference bag.

### Name Badge

Each delegate registered for the conference will receive a name badge at the Registration Desk. The badge will be the official pass and must be worn to obtain entry to all sessions, exhibition and social functions. Together with the name badge there will be tickets for dinners and tours that are paid for.

### Delegate List

The delegate list with the name, organisation and country of registered delegates is available in the Conference App, as well as on the Conference Web Site [www.fig.net/fig2015](http://www.fig.net/fig2015) and will be updated with late registrations.

### Lunch and Coffee Breaks

18–20 May lunch and coffee will be served during the breaks at 5<sup>th</sup> and 7<sup>th</sup> floor in the exhibition area. 17 and 21 May lunch and coffee is served at 7<sup>th</sup> floor.

### Wireless Internet

Free Wireless Internet is provided by the National Palace of Culture. Login: NDK FREE WI FI. No password is needed. In addition, there will be a Business Center on 6<sup>th</sup> floor where computers are available for public use.





### FIG Conference Web App

The free conference web app allows you to quickly get the latest information about the programme, speakers and participants.

To access the app, please visit [www.fig.net/app](http://www.fig.net/app).

To sign in, please enter your Username (the email address you used when you registered to the conference), and your personal password.

If you have lost your password, or do not have one, enter your registration email address in the Username field and click a link that is shown below the "Sign In" button to have the password sent to your inbox.

The app can also be used without signing in but with limited features. More about the app on conference web site at [www.fig.net/fig2015](http://www.fig.net/fig2015).

### Social Media



[www.facebook.com/#!/internationalfederationofsurveyors](http://www.facebook.com/#!/internationalfederationofsurveyors)



[twitter.com/FIG\\_NEWS](https://twitter.com/FIG_NEWS)



[www.linkedin.com/groups?trk=group-name&gid=2669121](http://www.linkedin.com/groups?trk=group-name&gid=2669121)



### 3<sup>rd</sup> FIG Young Surveyors Meeting

Date: Saturday 16 May 9:00–20:00

Venue: University of Architecture, Civil Engineering and Geodesy

After several great successes of the FIG Young Surveyors events, such as the 1<sup>st</sup> FIG YSEM held in Lisbon and the 2<sup>nd</sup> FIG YSEM in Berlin, the European Young Surveyors are eager to take the Network's initiative even further. Thus organise the 3<sup>rd</sup> FIG Young Surveyors Meeting.

### General Assembly – Session 1

Date: Sunday 17 May 9:00–16:30

Venue: Conference Hall 3, 7<sup>th</sup> floor, NPC

### General Assembly – Session 2

Date: Thursday 21 May 9:00–15:00

Venue: Conference Hall 3, 7<sup>th</sup> floor, NPC

### Opening Ceremony

Date: Monday 18 May 9:00–10:30

Venue: Conference Hall 3, 7<sup>th</sup> floor, NPC

The opening ceremony will provide a spectacular introduction to the Working Week 2015, its theme, and its historical location.

### International Map Year 2015–2016

Date: Tuesday 19 May 11:00–12:30

Venue: Conference Hall 3, 7<sup>th</sup> floor, NPC

The UN committees endorse the International Map Year 2015–2016 as proposed by the International Cartographic Association as a valuable means to promote the importance of maps and Geoinformation.

The cartographic exhibition of wall maps is organised by Bulgarian Cartographic Association with the support of International Cartographic Association. It will be held during FIG Working Week and will accompany the ICA session in FIG Working Week. The best maps will be awarded by FIG and ICA presidents.

### Presidents' Meeting

Date: Thursday 21 May 8:30–10:30

Venue: NPC

By invitation only

Meeting of Presidents and head of delegations of FIG member associations.

# FIG WORKING WEEK 2017

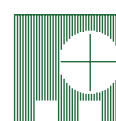
[www.fig.net/fig2017](http://www.fig.net/fig2017)

29 May - 2 June  
Helsinki Finland

Organised by:



International  
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LET'S MEET WHERE

Continents & Cultures,  
Past & Present,  
Old & New,  
Modern & Traditional MEET...

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6–11 May 2018





**National Palace of Culture**

Photo [www.kempinski.com](http://www.kempinski.com)



**The Kempinski Hotel Ballroom**

Photo Ann Wuyts, CC BY 2.0

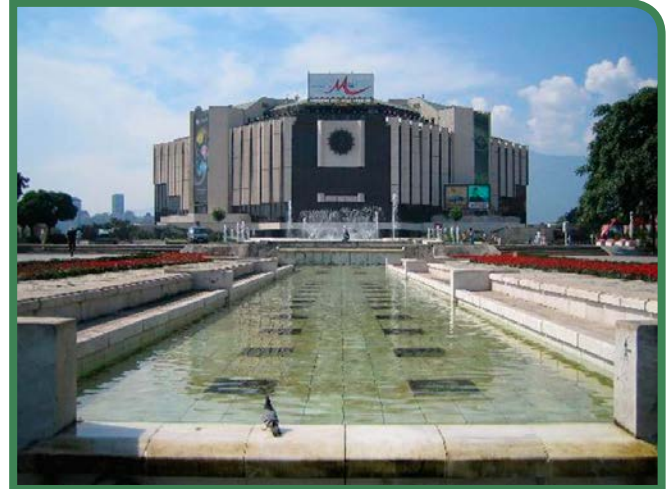


**The National Museum of History**

Photo [www.vodenitsata.com](http://www.vodenitsata.com)



**The Vodenitsata Restaurant**



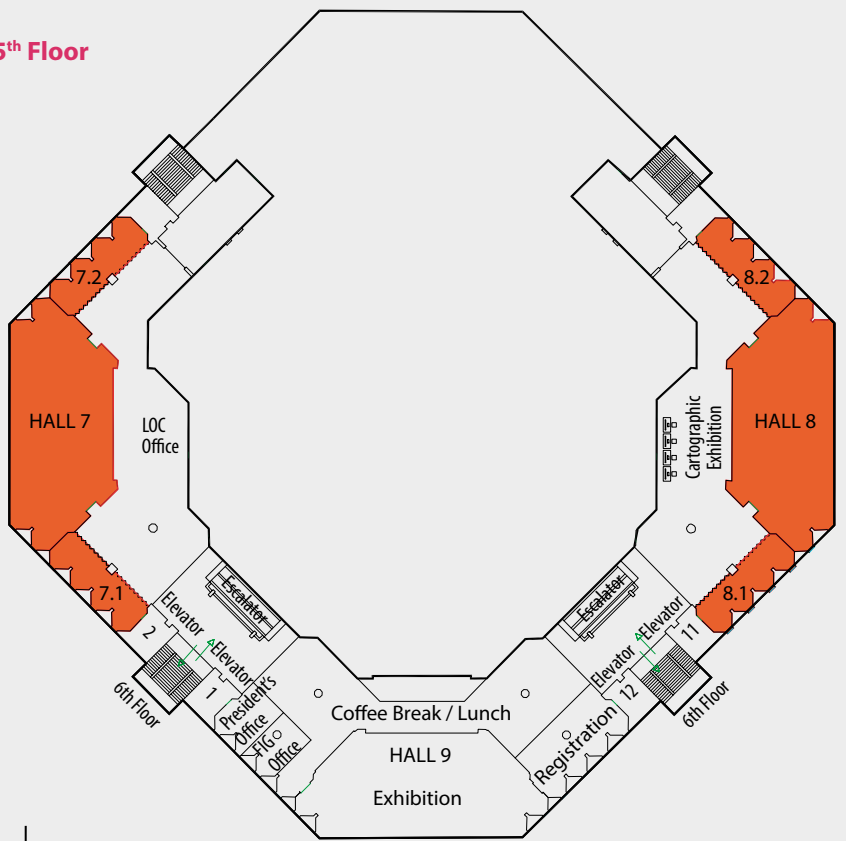
The National Palace of Culture – Congress Centre Sofia is the largest multifunctional complex in South Eastern Europe perfectly equipped for realizing prestigious events of the whole range of cultural and social-economic life. The complex contains 15 multifunctional halls, 55 rooms for meetings, with total capacity of more than 8,000 seats and more than 15,000 square meters of exhibition area.

The venue is the winner of the 2009 New European Economy Silver Award in the category of “Best Congress Centre”, the 2008 European Business Assembly Quality Award and the 2005 AIPC Apex Award for the “World’s Best Congress Centre”.

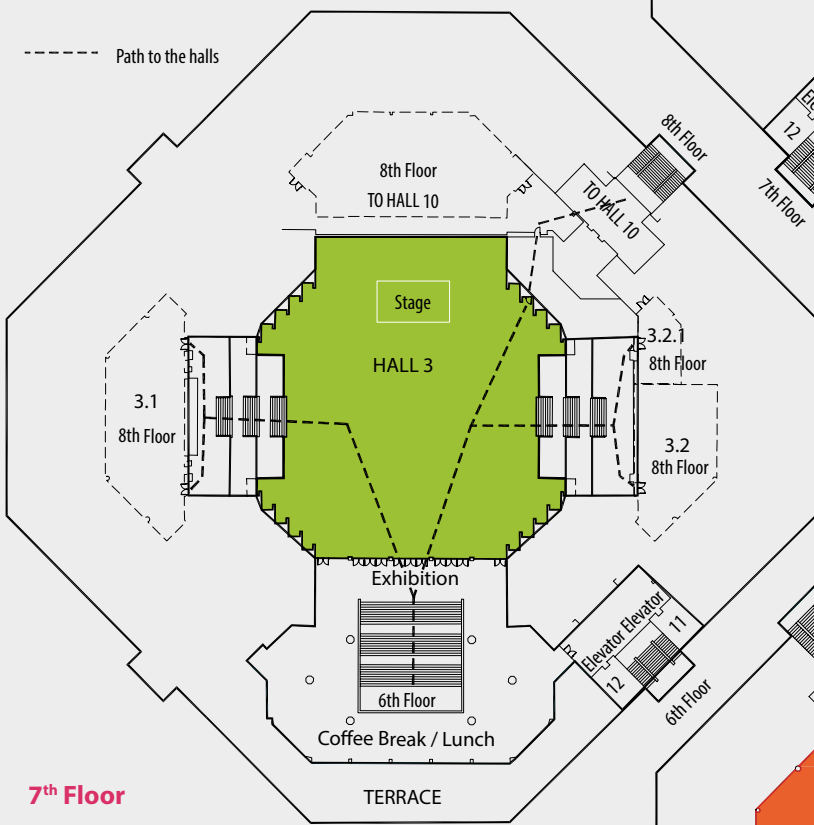
### Events and Locations

ACCO Meeting	Hilton Hotel, Hall
Bulgarian Evening	The Vodenitsata Restaurant
Business Center	NPC, 6 <sup>th</sup> floor
Coffee and Lunch	NPC, 5 <sup>th</sup> , 7 <sup>th</sup> floor
Council Meeting	Hilton Hotel, Hall
Exhibition	NPC, 5 <sup>th</sup> , 7 <sup>th</sup> floor
FIG Farewell Reception	NPC, 7 <sup>th</sup> floor
Gala Dinner	The Kempinski Hotel Ballroom
General Assembly	NPC, Hall 3, 7 <sup>th</sup> floor
Office – FIG	NPC, 5 <sup>th</sup> floor
Office – FIG President	NPC, 5 <sup>th</sup> floor
Opening Session	NPC, Hall 3, 7 <sup>th</sup> floor
Plenary Sessions	NPC, Hall 3, 7 <sup>th</sup> floor
Speakers’ Preparation Corner	NPC, 6 <sup>th</sup> floor
Technical Sessions, Special Sessions and Forums	NPC, 5 <sup>th</sup> , 7 <sup>th</sup> and 8 <sup>th</sup> floor
Welcome Reception	The National Museum of History

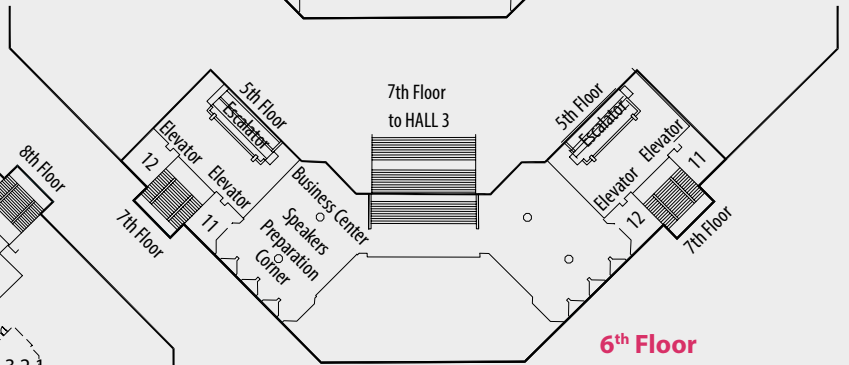
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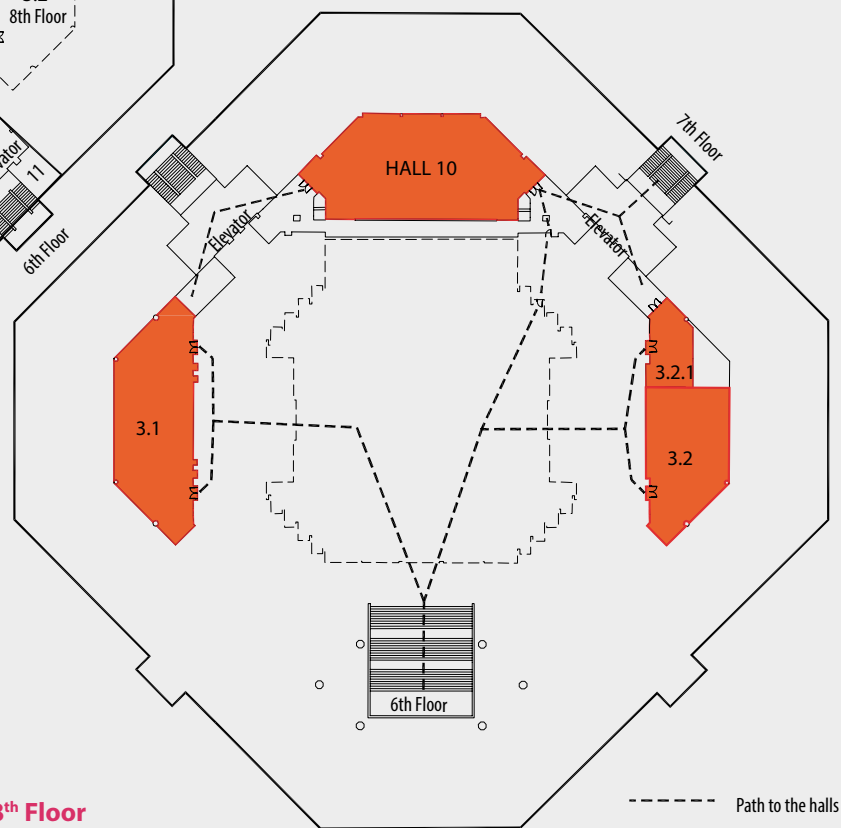
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7<sup>th</sup> Floor



6<sup>th</sup> Floor



8<sup>th</sup> Floor

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### Plenary Session 1

**General Focus:** The Surveyors' Response to Changing the City Management

**Chair:** Prof. **Rudolf Staiger**, FIG Vice President



*Next generation Smart Cities – the role of Geomatics* by Prof. em. Dr. **Armin Gruen**, Chair for Information Architecture, Institute of Geodesy and Photogrammetry, Federal Institute of Technology (ETH) Zurich, Switzerland

Dr. Armin Gruen retired 1 August 2009 and is now with the Chair of Information Architecture, Department of Architecture, ETH Zurich. Currently he is acting as a Principal Investigator on the Simulation Platform of the SEC-FCL (Singapore ETH Centre – Future Cities Laboratory) in Singapore.

Armin Gruen graduated 1968 as Dipl.-Ing. in Geodetic Science and obtained his doctorate degree 1974 in Photogrammetry, both from the Technical University Munich, Germany. From 1969 to 1975 he worked as Research and Teaching Associate, and until 1981 as Chief Engineer at the Institute of Photogrammetry and Cartography, Technical University Munich. From 1981 to 1984 he acted as Associate Professor at the Department of Geodetic Science and Surveying, The Ohio State University, Columbus, Ohio, USA.



*Combination of public and private interests in the process of territorial planning – challenges for the Bulgarian local authorities* by Ms. **Valentina Bakalova**, Lawyer, Bulgaria

Acting lawyer with more than 20 years of experience, specialised in the field of territorial planning, territorial focusing of investments, organisation of the investment process and legal statute of the properties. Lecturer in "Administration and urban planning" at the University of Architecture Civil Engineering and Geodesy – Sofia. Lecturer at the Architecture department at the Varna Free University (2009–2014) and the Legal studies department of Plovdiv university (1998–2001). Lecturer at seminars and trainings for the application of the Territorial Planning Law and the Cadaster and Property Register Law at the Public Administration, "Krastio Tsonov" Lawyers training center, etc. In 1992–1999 a legal advisor and head of legal section of Sofia municipality – "Architecture and town planning" division. Member of Sofia Bar association as of 1999. Author of numerous publications in the field of town planning and cadaster. Graduate of the Law Faculty of the Sofia University in 1987.



*Modern Cartography* by Prof. **Georg Gartner**, Professor, Technical University Vienna, Austria

Georg Gartner is a Full Professor for Cartography at the Vienna University of Technology. He holds graduate qualifications in Geography and Cartography from the University of Vienna and received his Ph.D. and his Habilitation from the Vienna University of Technology. He was awarded a Fulbright grant to the USA and several research visiting fellowships. He is Dean for Academic Affairs for Geodesy and Geoinformation at

Vienna University of Technology. He is Editor of the Book Series "Lecture Notes on Geoinformation and Cartography" by Springer and Editor of the "Journal on LBS" by Taylor & Francis.

He serves currently as President of the International Cartographic Association.

### Plenary Session 2

**General Focus:** The Surveyors' Response to Pro-Growth Land Management

**Chair:** Dr. **Pengfei Cheng**, FIG Vice President



*World Bank support to Pro-Growth Land Management* by Mr. **Daniel Roberge**, Senior Land Administration Specialist, World Bank, United States

Mr. Roberge holds a bachelor degree in Geodesy from Laval University, Canada and a graduate diploma in International Administration from the Ecole Nationale d'administration Publique, Quebec, Canada.

After carrying out several large-scale projects in the private sector, he joined Québec's Government, where he held many managing positions, namely as Head of the Cadastral registration service, Director of the Office of the Surveyor General of Quebec, and Director of the Digital Economy. During this period he namely led the implementation of the Québec's new cadastre, the conception, development and implementation of the Register of the Domain of the State and the online managing system of the Archives of the Surveyor general of Quebec.

Mr. Roberge has been involved in FIG for many years, namely as the Canadian delegate of Commission 7 (Cadastre and Land Management) and as chair of this Commission from 2011–2014.

He is member of the Board of the Champlain Branch of Canadian Institute of Geomatics since 2004 and co-chaired two editions of the very successful GeoConference in 2007 and 2014.

Since 2013, he is working for the World Bank as Senior Land Administration specialist and is involved on many land related projects worldwide, namely in Romania, Russia, Kosovo and Palestine.



*Land Administration Reform for Pro Growth Land Management* by Dr. **Clarissa Augustinus**, Global Land Tool Network, UN-Habitat, Kenya

Clarissa Augustinus is founder and Lead on the Global Land Tool Network, a network of over 60 international partners (from 2004 to date) and Unit Leader of Land and Global Land Tool Network, UN-Habitat based in Nairobi, Kenya (from 2003 to date). She is the focal point for urban land in the United Nations system. Ms. Augustinus holds a Ph.D. in Social



Anthropology from Rhodes University (South Africa) on the conversion of land from tribal to informal settlement and a change model of Zulu tenure (1995).

She started her career in land administration with a South African land industry grant to understand what the industry would need to do to be prepared for a new government. She then became a senior lecturer in the Department of Land Surveying in the School of Engineering, Surveying and Construction at the University of KwaZulu Natal with focus on land management and cadastral reform (1994–2000).

She was involved with a wide range of consultancies at global, regional and country level for a wide range of governments and organisations on range of issues associated with land. Moreover she is the author of a number of journal publications and book chapters in pro poor land management.



*The Challenging Role of Surveyors in the Land Management Issues Related to Growing Economies* by Mr. **Ionut Savoiu**, Deputat in Romanian Parliament, Romania

Ionut Savoiu is member of The Romanian Parliament – Vice-president of IT&C Commission. Between 2005–2012, he was country managing director of Blom Romania, Romania and international consultant in Blom International. During the Blom Romania period, Ionut Savoiu was in charge of business development, sales and projects in Romania and countries in East Europe. Further Ionut was responsible of mapping and GIS production for Blom Group. In 2004, he was appointed as Deputy General Manager of National Agency for Cadastre and Land Registration (NACLR), Romania. He is honorary advisor to the Board of the Romanian Surveyors Association.

Ionut Savoiu graduated from Faculty of Geodesy – Technical University for Construction Bucharest, Romania. His diploma was prepared at Institute for Photogrammetry – Hannover University, Germany. He holds an MBA at IEDC – School of management Bled, Slovenia.

### Plenary Session 3

**General Focus:** Global and Regional Professional and Institutional Reforms

**Chair:** Dr. **Diane Dumashie**, FIG Vice President



*UN GGIM from a Global and a Regional Perspective* by Mr. **Bengt Kjellson**, Director General and Executive Chief of Lantmäteriet, Sweden

Bengt Kjellson was appointed as the Director General and Executive Chief of Lantmäteriet in July 2011, and before his appointment to head the authority, Bengt was Head of Lantmäteriet's Division for Land Registration. Lantmäteriet is the Swedish mapping, cadastral and land registration authority.

He has also been involved in international matters related to Land Administration.

Other assignments:

- Chairman of UN GGIM Europe Executive Committee, 2014–
- Member of board and vice president of Eurogeographics, 2012–2014
- Member of the Swedish e-Government delegation
- Chairman of Credit- and Real Estate Market Advisory board
- Chairman of high level advisory board, Geodatarådet
- Faculty of Law, Uppsala University. Chairman of the Institute of Real Estate Legal Research, 2005–, member of board since 1999.
- Chairman of board for EULIS
- Chairman of UN ECE Working Party on Land Administration (2001–2005), and Bureau member 1999–2005.

Bengt got his law degree from University of Uppsala, Sweden.



*Global and Regional Professional and Institutional Reform, some actions of the CLGE* by Mr. **Maurice Barbieri**, President, CLGE, Switzerland

Maurice Barbieri graduated in 1986 as Dipl. Kulturingenieur at the Technical School of Zurich (ETH). After passing the Surveyor's Federal State exam in 1988, he became Publicly Appointed Surveyor. He owns the companies Géodétec (Surveying office) and SIT-Conseil (GIS office). His companies are active in Switzerland and abroad.

Since 1998 he is member of the Ex-Board of IGS (Ingenieur-Geometer Schweiz, Surveyors Association of Switzerland) and President since 2009.

Since 2011, he is vice-President of SOGI Switzerland (Swiss GI Association) and member of the Ex-Board of EUROGI since 2014.

Between 2010 and 2015, he was Chair of CLGE / IG PARLS (Interest Group of Publicly Appointed Surveyors of the European Council of Surveyors).

Since 2015 he is President of CLGE (the Council of Geodetic European Surveyors).



*Professional Geodetic Education in Bulgaria – Condition, Problems and Perspectives* by Assoc. Prof. **Todor Kostadinov**, Applied Geodesy Department, University of Architecture, Civil Engineering and Geodesy, Bulgaria

Assoc. Prof. Dr. Eng. Todor Kostadinov has been a professor at the University of Civil engineering, Architecture and Geodesy in Sofia since 1987. He has graduated from the Higher Institute of Civil Engineering, Sofia, in 1980 with a Master's degree in "Geodesy, Photogrammetry and Cartography". He has defended his Ph.D. thesis in the Moscow Institute of Geodesy, Cartography and aerial images in Moscow, Russia. He is the Head of Department Applied Geodesy and is teaching course lectures on the topic "Geodetic works in designing infrastructure and complex projects" to the students from the Faculty of Geodesy, Applied Geodesy specialization.

He has been a member of the Chamber of Engineers in Investment Design since 2006 and a member of the Management Board of the abovementioned Chamber since 2009. Since 2011 he has been Vice Chairman of the national department "Geodesy, Applied Geodesy" and a member of the Board of the Union of scientists in Bulgaria – Technical section "Surveying and Land Management" since 2010.

# Programme at a Glance

		Monday 9:00–18:30		Tuesday 8:30–18:30		Wednesday 8:30–18:30		Thursday 21 May		Time	
		Monday 18 May		Tuesday 19 May		Wednesday 20 May		Thursday 21 May		Time	
8:00		Registration 8:00–18:00	Registration 8:00–18:00	Registration 8:00–18:00	Registration 8:00–18:00	Registration 8:00–18:00	Registration 8:00–18:00	Registration 8:00–14:00		8:00	
9:00	Council Meeting	Acco Meeting (cont.)	3 <sup>rd</sup> Young Surveyors European Meeting	FIG General Assembly Part 1	FIG General Assembly Part 1	3 <sup>rd</sup> Young Surveyors European Meeting (cont.)	FIG Foundation Board of Directors Meeting 7:30–9:00	Presidents Meeting		9:00	
10:00	Tea / Coffee Break	Tea / Coffee Break	Tea / Coffee Break	Tea / Coffee Break	Tea / Coffee Break	Tea / Coffee Break	Plenary Session 3	Tea / Coffee Break		10:00	
11:00	Council Meeting (cont.)	Acco Meeting (cont.)	3 <sup>rd</sup> Young Surveyors European Meeting (cont.)	FIG General Assembly Part 1 (cont.)	11 Technical Sessions, Special Sessions and Forums	FIG Member Association Forum	11 Techn. Sess. & Spec. Sess. and Forums	General Assembly Part 2		11:00	
12:00	Lunch 12:30–13:30	Lunch 12:30–13:30	Lunch 12:30–13:30	Lunch 12:30–13:30	Lunch 12:30–14:00	Lunch 12:30–14:00	Lunch 12:30–14:00	Lunch 12:30–14:00		12:00	
13:00										13:00	
14:00				FIG General Assembly Part 1 (cont.)	11 Technical Sessions, Special Sessions and Forums	FIG Member Association Forum	11 Technical Sessions, Special Sessions and Forums	General Assembly Part 2 and Closing Ceremony		14:00	
15:00	Council Meeting (cont.)	Acco Meeting (cont.)	3 <sup>rd</sup> Young Surveyors European Meeting (cont.)	FIG General Assembly Part 1 (cont.)	11 Technical Sessions, Special Sessions and Forums	FIG Young Surveyors Workshop	11 Technical Sessions, Special Sessions and Forums	Farewell Reception		15:00	
16:00					11 Technical Sessions, Special Sessions and Forums	Tea / Coffee Break	Tea / Coffee Break   Exhibition Closes			16:00	
17:00					11 Technical Sessions, Special Sessions and Forums	FIG Young Surveyors Workshop	11 Technical Sessions, Special Sessions and Forums			17:00	
18:00					Commission 1–5 Annual Meetings	Commission 6–10 Annual Meetings	Commission 6–10 Annual Meetings			18:00	
19:00			Young Surveyors Get Together							19:00	
20:00	Council Dinner			Welcome Reception at the National Museum of History	Bulgarian Evening / Foundation Dinner at the Vodenitsata Restaurant	Commission Dinners / Free evening (venue to be decided)	Gala Dinner at Kempinski Hotel Ballroom			20:00	
21:00–										21:00–	

### Round Table on Regional Network – Africa

Date: Tuesday 19 May 8:00–9:00

### 2015 FIG Member Associations Forum

Date: Tuesday 19 May 11:00–12:30

By invitation only

The 2015 FIG Member Associations Forum provides national leaders of our Profession the opportunity for peer-to-peer engagement to exchange share and discuss current and in-country challenges and opportunities facing the Profession. Presidents, Chairpersons, Heads of Delegations (or their representatives) representing FIG Member Associations at the 38<sup>th</sup> FIG General Assembly can interact and exchange experiences.

### French Speaking Session

Date: Tuesday 19 May 14:00–15:30 and 16:00–17:30

As per tradition two Francophone sessions are planned.

### FIG Task Force on Commission Structure

Date: Tuesday 19 May 16:00–17:30

### FIG Task Force on Scientific Journals

Date: Wednesday 20 May 11:00–12:30

### 2015 FIG Director Generals Forum

Date: Wednesday 20 May 11:00–12:30 and 14:00–15:30

By invitation only

The Annual FIG Director Generals Forum brings together Chief Executives or Director Generals (or their representatives or nominees) of national (or provincial) agencies and FIG Affiliate Membership that has responsibility over mapping, cadastral, valuation, planning and development, land administration and management from around the world.

### 2015 FIG Academic Members Forum

Date: Wednesday 20 May 11:00–12:30 and 14:00–15:30

The 2015 FIG Academic Members Forum is the platform within the 38<sup>th</sup> FIG General Assembly where the Academic Members of FIG and other academicians gather to discuss about academic responsibilities and prepare actions.

### 2015 FIG Corporate Members Meeting

Date: Wednesday 20 May 16:00–17:30

By invitation only

The 2015 FIG Corporate Members Meeting is where the corporate membership within FIG meets the FIG Administration to exchange information, provide feedbacks and discuss on-going and proposed activities.

### Joint UN-Habitat and FIG Session: GLTN Land Tools

Date: Monday 18 May 14:00–15:30

The session aims:

- To sensitise stakeholders on Global Land Tool Network, its values and activities
- To share GLTN's approach to land tool development
- To share GLTN's suite of pro-poor gender sensitive land tools.

### Joint UN-Habitat GLTN, Kadaster International and FIG Session: Continuum of Land Rights

Date: Monday 18 May 16:00–17:30

The session aims:

- To sensitise stakeholders on the Continuum of Land Rights
- To share key elements of the Continuum strategic framework
- To discuss implications and potentials for country level implementation, expansion or replication.

### Joint UN-Habitat GLTN and FIG Session: Valuation of Unregistered Lands Tool Progress and Outlook

Date: Tuesday 19 May 11:00–12:30

GLTN and FIG are collaborating to develop a tool:

- To sensitise stakeholders on the need for Valuation of Unregistered Lands
- To share progress update on the initiative of developing a tool for Valuation of Unregistered Lands
- To discuss next steps and options for piloting of Valuation of Unregistered Lands.

### Joint UN-Habitat GLTN and FIG Session: Sharing STDM Country Experiences

Date: Tuesday 19 May 16:00–17:30

The session aims:

- To discuss emerging issues on STDM use and application
- To share the experiences from various country context
- To appreciate the global trends in pro poor land administration.

### Joint UN-Habitat GLTN and FIG Session: CoFLAS Progress Report

Date: Tuesday 19 May 16:00–17:30

The session aims:

- To sensitise stakeholders on the need for building a business case for LAS
- To share progress update on the initiative of developing CoFLAS tool

- c. To seek further guidance and recommendations on best opportunities for piloting of the CoFLAS tool.

**Joint UN-Habitat GLTN and FIG Session:  
Improving Women’s Access to Land**

Date: Wednesday 20 May 16:00–17:30

The session aims:

- a. To discuss barriers to enhancing women’s access to and control of land and property
- b. To discuss how surveyors and other land stakeholders can jointly ensure the needs and interests of both men and women and mainstreamed in land administration
- c. To propose actions and partnerships for maximizing synergy among land stakeholders to address gender parity challenges within the land sector.

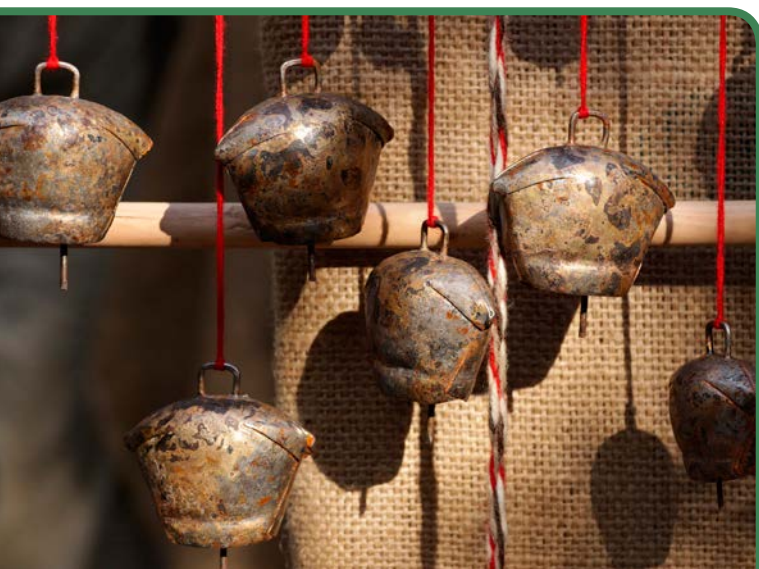
**Joint UN-Habitat and FIG Workshop:  
STDM Awareness – Hands on**

Date: Wednesday 20 May 9:00–12:30

**Joint UN-Habitat and FIG Workshop: STDM Awareness  
– Discussion of the Role of STDM and Youth**

Date: Wednesday 20 May 14:00–17:30

It is about one year since the release of STDM source code in Kuala Lumpur, Malaysia, which marked start of global campaign towards country adoption of the tool and an opportunity for developer community to further contribute to its development. However, user reviews and trends have shown that, there is more to be done to raise awareness and the technical capacity of users to increase uptake of the STDM and other GLTN tools and approaches in different context. The outcomes of the workshop shall be deemed an incentive for strong youth engagement in land tools implementation, an avenue for growth, exposure and further research in related areas.



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## Technical Tours

A number of attractive and informative technical tours have been organised to complement the conference experience. These tours will visit sites and organisations of particular interest to the participants. Technical tours are available to delegates and in case these tours will not be fully subscribed at the time of the conference, places are offered to all interested participants. Please visit the registration desk for additional tickets.

The technical tours meeting point is located at the main entrance of the National Palace of Culture 10 minutes prior to departure time.

**Geodesy, Cartography and Cadastre Agency**

Date: Monday 18 May 13:30 (1<sup>st</sup> Group)

Monday 18 May 15:00 (2<sup>nd</sup> Group)

Duration: approx. 3 hours

Cost: 30 EUR

Geodesy, Cartography and Cadastre Agency is an executive agency to the Minister of Regional Development and Public Works. The Agency is a legal entity, having its seat in Sofia and operating through its 28 regional units – Geodesy, Cartography and Cadastre Offices, located in the administrative centres of the regions (oblast centres). Aiming at better servicing of clients, remote working places are created at the municipal centers with high demand of cadastral services. The main functions of the Geodesy, Cartography and Cadastre Agency are as follows:

- creation and maintenance of cadastral map and cadastral registers for the whole territory of the country; as well astopographic maps in scales 1:5,000 and 1:10,000 for the territory of the country
- drafting acts and regulations in the field of cadastre and geodesy, as well as programmes and concepts on future development
- implementation of cadastral activities in close coordination with these of the property register, UCATTU (Unified Classification of Administrative-Territorial and Territorial Units), BULSTAT (Unified Classification of identification of juridical persons), ESGRAON (Unified System for identification of physical persons), registers of state and municipal properties.

**University of Architecture, Civil Engineering  
and Geodesy (UACEG)**

Date: Tuesday 19 May 14:00

Duration: approx. 4 hours

Cost: 30 EUR

The university was founded as a Higher Technical School in 1942. In 1945 it was transformed into a State Polytechnic. In

1953 Engineering-Construction Institute (ISI) was formed, which in 1963 was renamed to Higher Institute of engineering and construction, and in 1977 – the Higher Institute of Architecture and Construction (VIAS).

On July 21, 1995 by decision of the National Assembly VIAS was transformed into University of Architecture, Civil Engineering and Geodesy (UACEG).

### Faculty of Geodesy

The Faculty of Geodesy is successor of one of the first two (Building and Land Surveying Engineering) majors, opened in 1942 in the oldest technical school in Bulgaria. At present, the Geodesy Faculty has six departments:

- Geodesy
- Geodesy and Geoinformatics
- Land Management and Agrarian Development
- Applied Geodesy
- Photogrammetry and Cartography
- Descriptive Geometry and Engineering-Constructive Graphics.

### The Cartography Exhibition “Centuries-old Legacy of the Military Geographical Service”

Date: Wednesday 20 May 14:00

Duration: approx. 4 hours

Cost: 30 EUR

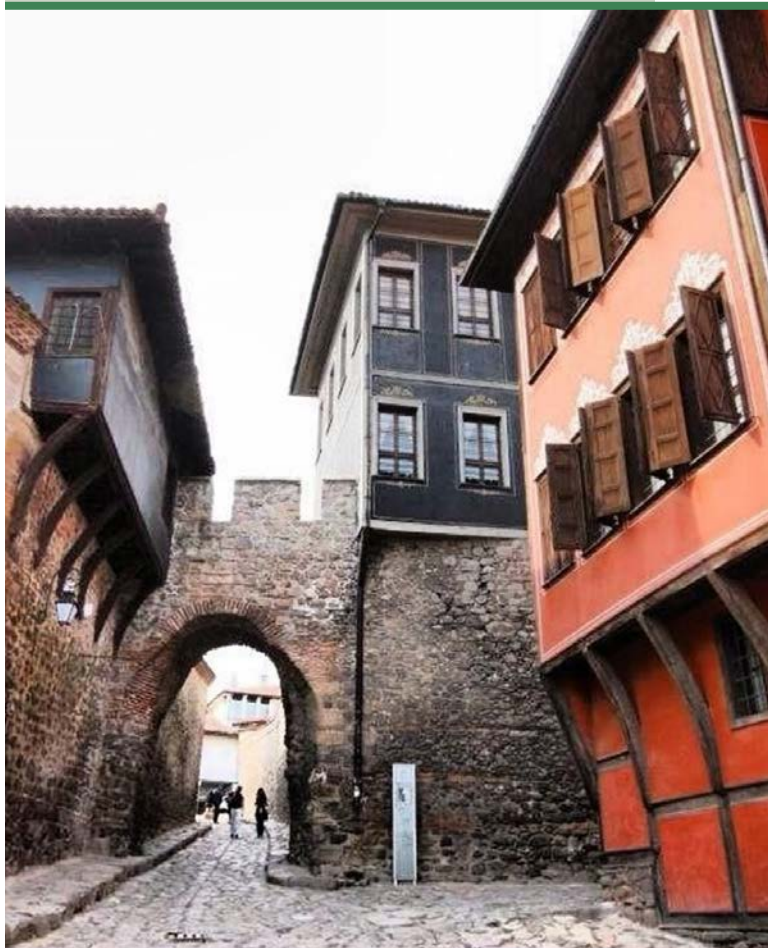
The Military Geographic Service is a unit of the Bulgarian Armed Forces responsible for meeting the obligations of the Bulgarian Ministry of Defense in the field of cartography and geographic information. This includes the mapping and production of topographic maps of 1:25000 and lesser scale, maintaining the national geodetic network, and providing topographic and geographic data, digital products and information to the Armed Forces, government institutions and private users. According to the 2006 Law of Geodesy and Cartography, the areas subject to such mapping comprise the country’s territory as well as the area of the Bulgarian base in Antarctica.

The mapping activities of the Service are carried out by its Military Geographic Centre based in the city of Troyan in northern Bulgaria. Among the products of the Centre is the 2009 Bulgarian topographic map of Livingston Island, Desolation Island, Half Moon Island, Greenwich Island, Aitcho Islands, Robert Island, Rugged Island, Snow Island and Smith Island in the South Shetland Islands, Antarctica.

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## Social Programme



An excellent programme of social functions has been put together for the Working Week that promises delegates a tantalizing taste of some of the great locations, cuisine and performance art of Sofia and Bulgaria.

### Welcome Reception

**Time:** Sunday 17 May 20:00 (transport 19:15)

**Venue:** National Museum of History

**Dress code:** Smart/formal

**Fee:** Included in the registration fee

**Organised transportation provided**

You are kindly invited to the Welcome Reception at the National Museum of History, the largest museum in Bulgaria with the most impressive collection of national treasures. Through more than 650,000 artefacts, it tells the story of the Bulgarian lands and nation.

It hosts world famous artifacts such as the Panagyurishte gold Treasure, the Gradeshnitsa tablets, the Vila Armira mosaics, the St. Theodor ceramic Icon and many others. Witnesses of all European history periods – from Paleolithic, through Neolithic, Copper Age, Bronze Age, Thracian, Hellenistic, Roman and Byzantine history, with focus on the 1300 years history of the Bulgarian state, the museum is one of the best places to visit while in Sofia.

The Welcome reception will be held in the Museum Grand Foyer & Sunny Lounge overlooking the picturesque mountain Vitosha among part of Bulgarian artifacts. Meeting point at the main entrance of the National Palace of Culture at 19:15 from where transportation to the National Museum of History is organised. Welcome cocktail at 20:00.

### Bulgarian Evening / Foundation Dinner

**Time:** Monday 18 May 20:30 (transport at 19:30)

**Location:** Vodenitsata Restaurant

**Dress code:** Smart casual

**Fee:** 85 EUR

**Organised transportation provided**

We are delighted to invite you to a Bulgarian Style Dinner in the footsteps of the spectacular Vitosha Mountain at the Vodenitsata Restaurant. An old water-mill will welcome you with unique combination of beautiful nature, traditional brickwork and wood carvings. You are welcome to join us in a traditional Bulgarian atmosphere among rich ethnographic collection and warm hospitality. National cuisine will be presented at a delicious 4 course menu & Bulgarian wine.

An authentic national folklore dances and traditions will be performed by professional folklore ensemble. Unique fire dancing show (named Nestinarstvo) will be the

exclusive end of the evening. It involves a barefoot dance on smouldering embers performed by fire dancers.

Meeting point at the main entrance of the National Palace of Culture at 19:30 from where transportation is organised to the restaurant. Dinner at 20:30.

### Commission Dinners

**Time:** Tuesday 19 May

**Venue:** To be decided by each Commission

**Fee:** Individual payment

Details of Commission Dinner are sent to commission delegates from the commission chairs prior to the conference.

### Gala Dinner

**Date:** Wednesday 20 May 20:00 (transport at 19:30)

**Location:** Kempinski Hotel Ballroom

**Dress code:** Smart/formal

**Fee:** 95 EUR

**Organised transportation provided**

For the highlight of the social events programme of FIG Working Week 2015, we are delighted to invite you to the Gala Dinner – full of excellent food, good music, stylish ambience and cultural insights. This night will be the perfect occasion to share knowledge with colleagues, to be entertained and to celebrate your latest scientific achievements in the exclusive atmosphere of Kempinski Hotel Ballroom.

A splendid four-course meal in the magnificent Kempinski Hotel will follow along with speeches and awards.

A special Light show & Live music programme will be performed at the stage. We hope you will join us for this special night of networking, good cheer and food delights in the heart of Sofia.

Meeting point at the main entrance of the National Palace of Culture at 19:30 from where transportation is organised to the restaurant. Dinner at 20:00.

### Farewell Reception

**Time:** Thursday 21 May 15:00

**Venue:** The National Palace of Culture, 7<sup>th</sup> floor

**Fee:** Included in the registration fee

Delegates are invited to farewell the Working Week 2015 and its host city in an informal environment. Join us as we toast to a successful event and at the same time have a taste of Working Week 2016 in New Zealand.

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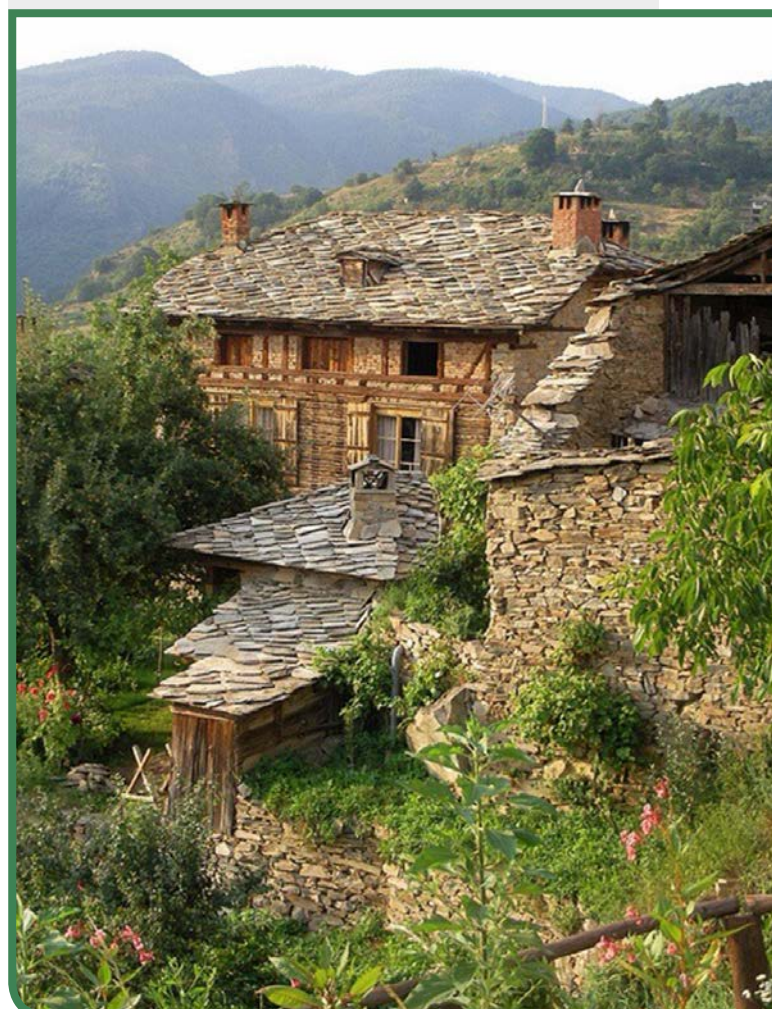




Photo Plamen Agov, GFDL

Alexander Nevsky Memorial Church



Photo Klearchos Kapoutsis, CC BY 2.0

Plovdiv Old Town



Photo W. Robrech, CC BY-SA 3.0

Bachkovo Monastery

A range of social tours are offered for participating delegates and accompanying persons. All sightseeing tours include the services of a guide, all entry fees and meals where specified. All tours are based on a minimum number of participants. If this number is not reached, alternative places will be allocated strictly in order of receipt of bookings. Meeting point: Main entrance of the NPC.

### Tour to Plovdiv and Bachkovo Monastery

**Date:** Sunday 17 May 8:00

**Duration:** 8:00–18:00 (approx. 10 hours)

**Cost:** 65 EUR (Minimum number of participants: 25)

**Meeting point:** National Palace of Culture

Plovdiv is Bulgaria's second biggest city after the capital Sofia. Plovdiv was recently announced as the oldest city in Europe and sixth oldest in the world, with history dating back more than 6,000 years. The Old Town of Plovdiv is part of the UNESCO world heritage.

The Bachkovo monastery is located in the Rhodope Mountains, not far from the town of Assenovgrad. Founded in the 11<sup>th</sup> century, it is one of the oldest monasteries on the Balkan Peninsula. It is connected with three cultural periods: Byzantine, old Georgian and Bulgarian. It has preserved unique and highly valuable monuments of architecture and painting, typical of Eastern Orthodox culture.

Go on a sightseeing tour in the old quarters of Plovdiv, visiting the most interesting churches, museums, the Roman Theater and ancient houses. In the afternoon, visit the Bachkovo Monastery – the second largest in Bulgaria.

**Includes:**

- Transportation with a comfortable bus
- Professional tour guidance in English
- Lunch.

### Sofia City Walking Tour

**Date:** Tuesday 19 May 14:00

**Duration:** Approx. 4 hours

**Cost:** 25 EUR

Sofia is the second oldest city in Europe, founded 7,000 years ago by the Thracian tribe Serdi. Later, Sofia was the capital of the Roman province of Inner Dacia in 29 A.D. Through the ages, the city played role as an important trading center in the Byzantine and Bulgarian Empires. You will explore the compact city center, Boyana Church (UNESCO) and the National History Museum – one of the largest on the Balkans. Enjoy a sightseeing tour of Sofia, a pleasant city of boulevards and open spaces and see the city's most important places of worship – Alexander Nevsky Memorial Church and St. George Rotunda. Walk along the main streets and



see the most important landmarks in the city centre – St. Nedelya Square and St. Nedelya Church, St. Petka of the Saddlers, the Synagogue, the Central Baths, the Mosque, Alexander Battenberg Square, the National Theatre, and others.

Includes:

- Transportation with comfortable bus
- Professional English-speaking guide.

### Tour to Tsari Mali Grad

Date: Wednesday 20 May 13:30

Duration: Approx. 4 hours

Cost: 45 EUR (Minimum number of participants: 25)

Tsari Mali Grad was chosen as Bulgaria's most significant archaeological discovery in the new millennium in Standart's Wonders of Bulgaria referendum. Tsari Mali Grad, the first fully restored Roman fortress in Bulgaria.

It is built on top of a hill, known as Sveti Spas (St. Spas) mount, only an hour drive from the capital – Sofia, which carries the ancient history, myths and legends of the area. It is believed that the mount was a part of a bigger settlement known as Tsari Mali Grad 'little tsar's/king's town' though some enthusiasts go even further and interpret the name as 'little Tsarigrad', that is Constantinople.

The fortress has preserved evidence from several different eras and peoples – Thracians, Goths, Huns and Romans. The area is popular among the locals with its spiritual and religious powers and traditions. For centuries it has been used for worship and various sacral rites and observances have taken place here. The remains of ancient Thracian shrines and sanctuaries and early and medieval Christian missions and temples were found here. Some of the latter were literally built on top of one another.

Includes:

- Professional tour guidance in English
- Transportation with comfortable bus
- Soft drink and snack.

### Tour to Rila Monastery and Boyana Church

Date: Thursday 21 May 8:00

Duration: 8:00–16:30 (approx. 8.30 hours)

Cost: 70 EUR (Minimum number of participants: 25)

Meeting point: National Palace of Culture

Rila Monastery was listed as a UNESCO List of Global Cultural Heritage in 1983. It is the largest monastery in Bulgaria and located in the heart of Rila mountain. The Rila Monastery is one of the most visited heritage sites of Bulgaria.

The Boyana Church is a medieval Bulgarian Orthodox church situated on the outskirts of Sofia. The east wing of



Rila Monastery

Rila Monastery



the two-storey church was originally constructed in the late 10<sup>th</sup> or early 11<sup>th</sup> century, then the central wing was added in the 13<sup>th</sup> century under the Second Bulgarian Empire. The church owes its world fame mainly to its frescoes from 1259. They form a second layer over the paintings from earlier centuries and represent one of the most complete and well-preserved monuments of Eastern European mediaeval art. A total of 89 scenes with 240 human images are depicted on the walls of the church.

Includes:

- Transportation with comfortable bus
- Professional English-speaking guide
- Lunch.

### **The Thracian Tomb of Kazanlak and the Ethnographic Complex Damascena**

Date: Thursday 21 May 8:00

Duration: 8:00–17:30 (approx. 9.30 hours)

Cost: 75 EUR (Minimum number of participants: 25)

Meeting point: National Palace of Culture

*The Thracian Tomb of Kazanlak (replica)*

Discovered in 1944, this tomb dates from the Hellenistic

period, around the end of the 4<sup>th</sup> century BC. It is located near Seutopolis, the capital city of the Thracian king Seutes III, and is part of a large Thracian necropolis. The tholos has a narrow corridor and a round burial chamber, both decorated with murals representing Thracian burial rituals and culture. These paintings are Bulgaria's best-preserved artistic masterpieces from the Hellenistic period.

### *The Ethnographic complex Damascena*

The Ethnographic complex "Damascena" is located in the village of Skobelevo. This is a mix between a museum and a demonstration of historic distillery ("gyulapana") for rose oil. The distilling installation is made in same way as it was done 3–4 centuries ago. The visitors of the Ethnographic complex can watch a demonstration how the rose oil had been obtained and to feel the spirit of this old tradition.

Includes:

- Transportation on a comfortable bus
- Professional tour guidance in English
- Lunch
- Demonstration of the rose oil production
- Rose liquor and Rose jam tasting.

# SURVEY REVIEW

Volume 47 (2015), 6 issues per year

[www.maneyonline.com/sre](http://www.maneyonline.com/sre)

*Survey Review* is an international peer-reviewed journal, published since 1931, that brings together research theory and practice of positioning and measurement, engineering surveying, cadastre and land management, and spatial information management. Papers come from government, private industry and academic organisations worldwide.

Areas of interest include:

- Global Positioning Systems (GPS)
- Land management and cadastre
- Mapping
- Geodesy
- Geographic Information Systems (GIS)
- Geomatics
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## General Information

### Climate

The climate in Bulgaria is determined by four clear seasons. In the northern part of the country in moderate continental, while in Southern Bulgaria it is intermediate continental tending to Mediterranean. The climate of the seaside regions is milder in the winter and cooler in the summer than in the interior of the country. The average temperature in Bulgaria in May is 15–20 °C.

### Transport

Sofia has a very well developed public transport infrastructure which helps easily to go to the desired direction from the city airport. For maximum comfort of the participants in the conference there will be organised transportation from the airport to the hotel of accommodation and back with modern vehicles and professional drivers, who will provide assistance if needed.

### Taxi

For your comfort and safety, we recommend the services of the taxi operator "OK Supertrans AD" as contractual partner of Sofia Airport. You can request the service at the offices of OK Supertrans at the Arrivals of Terminal 1 and Terminal 2. (+359 2) 973 21 21, [www.oktaxi.net](http://www.oktaxi.net) or at the designated taxi stands.

**IMPORTANT:** We recommend that you do not use taxi services offered outside the office of the taxi operator or in front of the terminal to avoid the risk of abuse.

### Time

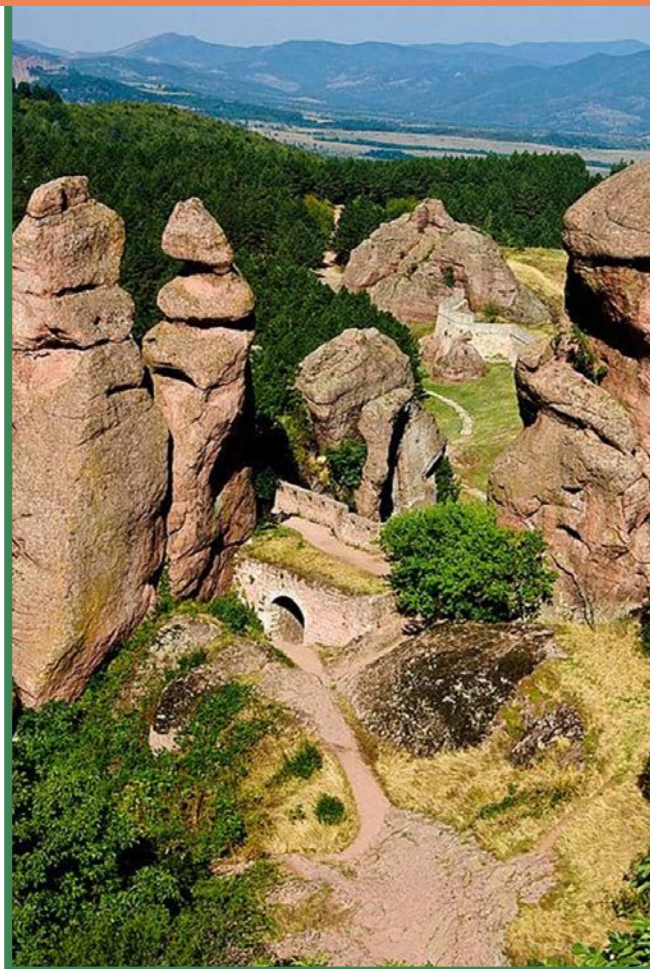
Greenwich Mean Time + 2 hrs, Central European Time + 1 hr.

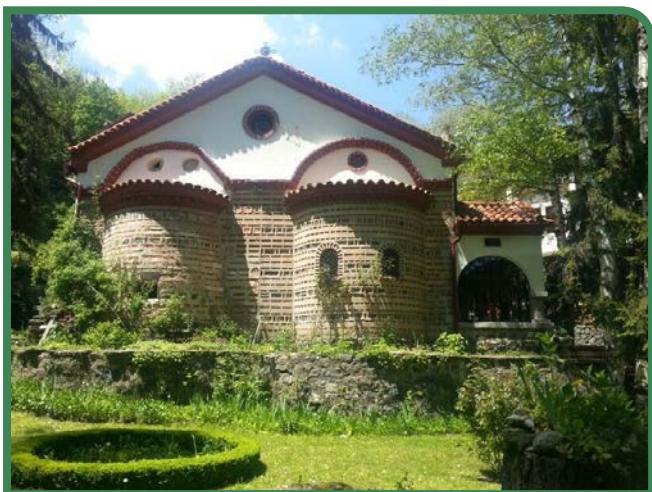
### Phone Calls

Bulgaria country code is (+359). International calls can be made from a public phone using a long distance calling card. Emergency number is 112.

### Passports & Visas

No visas are required for the citizens of the European Union and EFTA member countries to enter Bulgaria. European Identity Cards and passports are a valid identification document in Bulgaria. Participants are requested to check with their consulate or diplomatic mission in their home country or with their travel agency for visa requirements. It is the responsibility of the participant to obtain a visa if required. Detailed and up-to-date information about obtaining a Bulgarian visa as well as a list of visa exempted countries can be found at [www.mfa.bg/en/pages/109/](http://www.mfa.bg/en/pages/109/).





### Electricity

220–240 V, 50 Hz. The electricity plug is an European standard.

### Currency

Bulgarian lev: The lev is the currency of Bulgaria. It is divided in 100 stotinki.

### Banks and Exchange

Money can be exchanged safely in the banks and also at reputable exchange bureaus (airports usually quote less favorable rates). Exchange bureaus are required to display clearly the exchange rates and they are no longer allowed to charge commissions, so check this first. Exchange rates at the time of publishing: 1 EURO = 1.95583 BGN. Banks are open from 9:00 to 17:00 Monday to Friday.

### Credit Cards

The main international credit cards are accepted in most hotels, shopping centers, car rental offices and some restaurants. The stickers on the shop-windows or at the hotel entrances will provide you with information as to which credit cards are accepted.

### Pharmacy

Usually open from 8:00 to 20:00. There are also 24-hour operating pharmacies.

### Water

Tap water is safe to drink. However, it is advisable to drink bottled mineral water.

### Official Language

The official language in Bulgaria is Bulgarian. English, German, French and Russian are fairly spoken as well.

### Religion

The main religion in Bulgaria is Eastern Orthodox; other – Catholicism, Judaism, Islam, etc.

### Shops

Shops are normally open every day from 10:00 to 20:00 including Saturday and Sunday from 11:00 to 14:00, in shopping centers from 10:00 to 22:00. There are also food stores open 24h.

### Tipping

In restaurants and hotels, taxis or other services, tipping is customary if you are pleased with the service. Approximately 10% of the bill is a good guideline.



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## The FIG Foundation – Building a Sustainable Future



THE FIG  
FOUNDATION

The *FIG Foundation* is an independent body under the International Federation of Surveyors.

– The Foundation has been established for the purpose of raising funds to finance surveying education development projects and supporting young surveyors in order to build a sustainable future.

- The Foundation funds shall not be used to support the normal activities of FIG.
- The Foundation is administered by the FIG Office in Copenhagen and directed by a Board of five Directors appointed by the FIG Council.
- The Directors of the Foundation will announce every year the scholarships and grants available. The first grants were given in 2002.

The Board of Directors 2015–2018 are: **John Hohol**, President (NSPS, USA), Prof. **Michael Barry** (CIG, Canada), Ir. **E.M.C. (Liza) Groenendijk**, (ITC, Netherlands), Dr. **Pengfei Cheng** (CSGPC, China) and Prof. **Paul van der Molen** (GIN, Netherlands). The Foundation is also proud to acknowledge Trimble Navigation as an FIG Foundation Charter Partner.

### The FIG Foundation – How Can I Contribute?

Companies, associations, institutions, events, surveyors' groups and individuals may contribute to the Foundation by:

- Donations which will be recognised by a plaque or a certificate of different categories reflecting the sum of donation as follows:
  - platinum plaque 25,000 €
  - gold plaque 10,000 €
  - silver plaque 5,000 €
  - bronze plaque 1,000 €.
- Donations to support specific projects or by offering scholarships. Donors and Benefactors may use the FIG Foundation logo to promote their project donations or scholarships.
- Voluntary donation when registering to FIG events.
- Attending social functions such as the FIG Foundation Dinners held during every FIG Congress and Working Week and other events.

## Young Surveyors Network



The purpose of the Young Surveyors Network is:

- To improve the number of young professionals participating within the FIG.
- To help young professionals in the beginning of their careers with contacts.
- To increase co-operation between the commissions and the students and young professionals network.

The target groups of this working group are Master and PhD Students, young professionals and commission delegates.

In a time where many of the member organisations are facing difficulties to attract young people to the profession of surveying this working group have been created. The goal is to create connections.

This year FIG Young Surveyors are involved with the planning of the 3<sup>rd</sup> FIG Young Surveyors European Meeting, two Young Surveyors Sessions during the Technical Programme and the Joint UN-Habitat and FIG Workshop: STDM Awareness.

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The 3<sup>rd</sup> FIG Young Surveyors European Meeting takes place Saturday 16 May at the University of Architecture, Civil Engineering and Geodesy.

## Exhibition

An exhibition will run concurrently with the conference on 5<sup>th</sup> and 7<sup>th</sup> floors and showcases the latest and best in surveying and spatial products and services.

For up-to-date information about the exhibition, please visit [www.fig.net/fig2015/exhibitors.htm](http://www.fig.net/fig2015/exhibitors.htm).

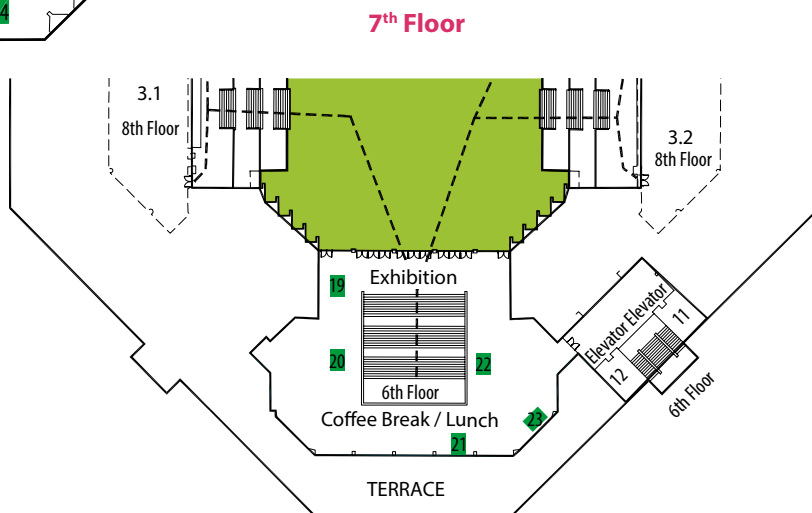
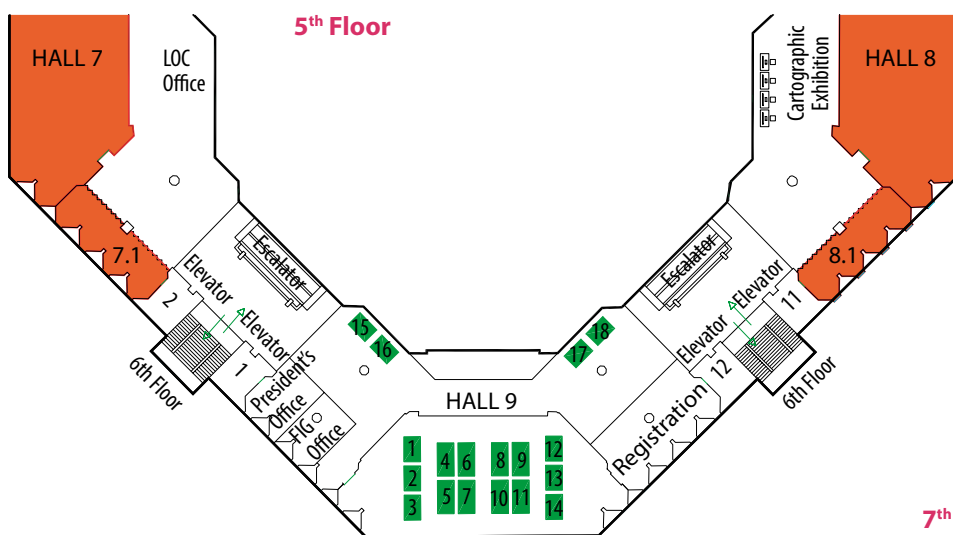
### Opening hours

Monday, 18 May	9:00–18:30
Tuesday, 19 May	8:30–18:30
Wednesday, 20 May	8:30–18:30

### List of Exhibitors

Booth		Company
1		ComNav Technology Ltd
4 & 6		Trimble
5 & 7		General Directorate of Land Registry and Cadastre of Turkey
8 & 9		ESRI
10		senseFly
12 & 13		Leica Geosystems
14		Carlson Software
15		Mena 3D

Booth		Company
16		Pythagoras BVBA
17		CHC
18		GEOCAD-93
19		Sivan Design
20		FIG Working Week 2017, Helsinki, Finland
21		FIG Congress 2018, Istanbul, Turkey
22		FIG Working Week 2016, Christchurch, New Zealand
23		FIG





VENUE



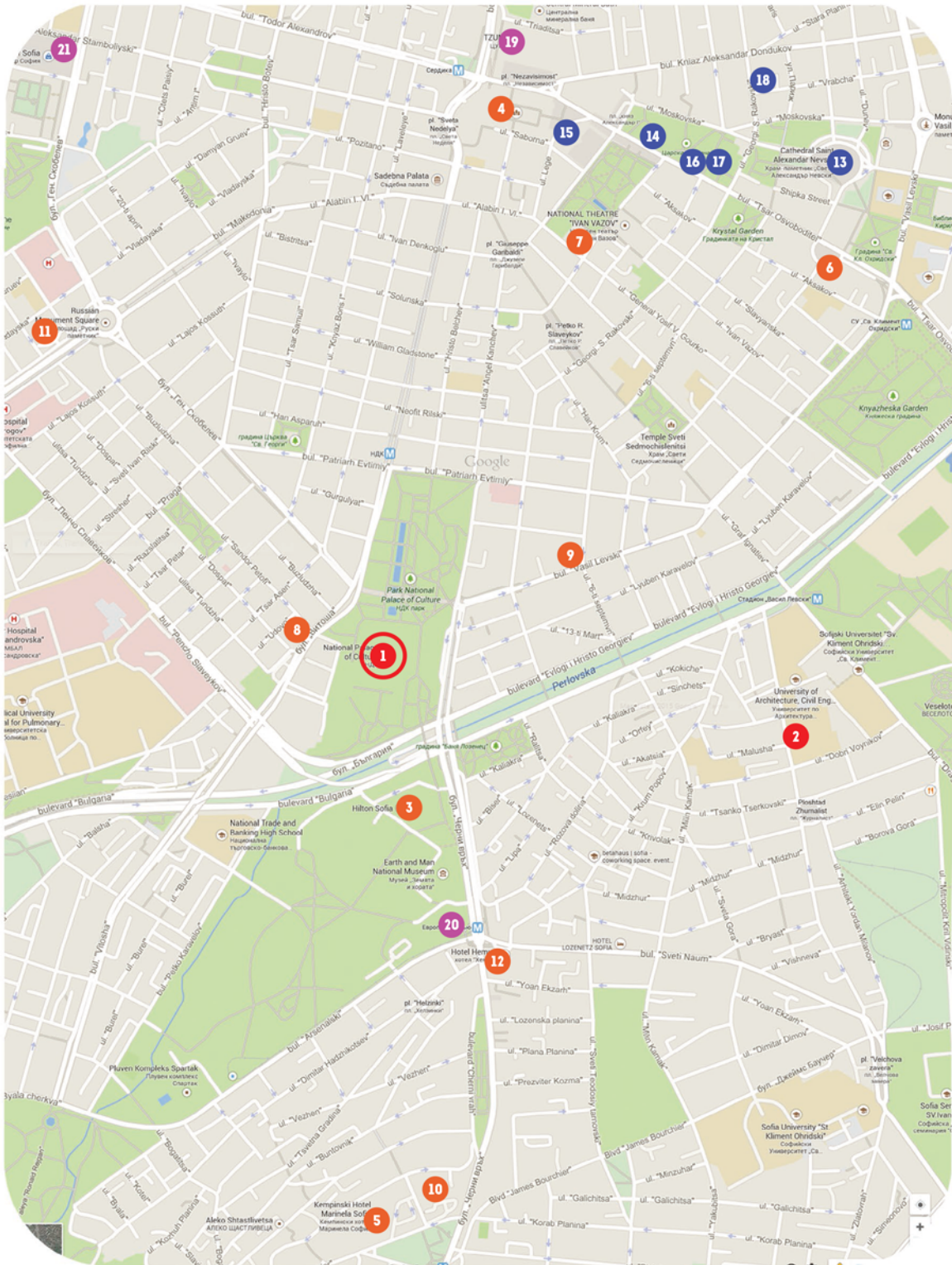
HOTEL



SIGHTSEEING



SHOPPING CENTER



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**1 NATIONAL PALACE OF CULTURE**

**2 UACEG**

**3 HILTON SOFIA HOTEL**

**4 SOFIA HOTEL BALKAN**

**5 KEMPINSKI HOTEL ZOGRAFSKI**

**6 RADISSON BLU GRAND HOTEL**

**7 GRAND HOTEL SOFIA**

**8 CENTRAL PARK HOTEL**

**9 DOWNTOWN HOTEL**

**10 HILL HOTEL**

**11 HOTEL RODINA**

**12 HEMUS HOTEL**

**13 CHURCH ALEXANDER NEVSKI**

**14 NATIONAL GALLERY**

**15 ARCHEOLOGICAL MUSEUM**

**16 NATIONAL MUSEUM OF NATURAL HISTORY**

**17 RUSSIAN CHURCH**

**18 SOFIA OPERA**

**19 TZUM**

**20 CITY CENTER SOFIA**

**21 MALL OF SOFIA**

## Contacts

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[www.fig.net](http://www.fig.net)

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BULGARIA  
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Fax: +359 (0) 2 955 61 13  
Email: [kamara@kig-bg.org](mailto:kamara@kig-bg.org)  
[www.kig-bg.org](http://www.kig-bg.org)

### Conference Web Site

[www.fig.net/fig2015](http://www.fig.net/fig2015)

### Conference Proceedings

[www.fig.net/resources/proceedings/fig\\_proceedings/fig2015](http://www.fig.net/resources/proceedings/fig_proceedings/fig2015)

## Forthcoming Events

### FIG Working Week 2016

2-6 May 2016  
Christchurch, New Zealand  
[www.fig.net/fig2016](http://www.fig.net/fig2016)

### FIG Working Week 2017

29 May - 2 June 2017  
Helsinki, Finland  
[www.fig.net/fig2017](http://www.fig.net/fig2017)

### FIG Congress 2018

6-11 May 2018  
Istanbul, Turkey  
[www.fig.net/fig2018](http://www.fig.net/fig2018)



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# FIG Working Week 2016



2-6 MAY  
CHRISTCHURCH  
NEW ZEALAND

Recovery  
from disaster

[www.fig.net/fig2016](http://www.fig.net/fig2016)

