

Surveying the world of tomorrow – From digitalisation to augmented reality



Messukeskus 28th May 2017 Helsinki, Finland

Website

fig.net/fig2017/youngsurveyors.htm





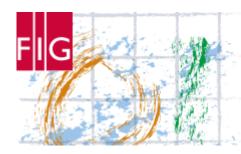


Supported by:









Surveying the world of tomorrow – From digitalisation to augmented reality



Venue

Messukeskus Helsinki, Finland

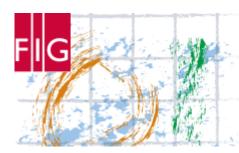


Website: www.messukeskus.com

Address of the Venue: Congress Venue - Helsinki Exhibition & Convention Centre (HECC)

Messuaukio 1, P.O. Box 21, 00521 Helsinki

Room 208



Surveying the world of tomorrow – From digitalisation to augmented reality



Welcome Addresses

Chryssy Potsiou FIG President

Dear colleagues,

The FIG Young Surveyors concept was born in 2006, as a WG of FIG Commission 1. In 2009 it was upgraded to the FIG Young Surveyors Network in an effort to activate young professionals to participate in FIG and to contribute to the work of all 10 Commissions, and to ensure the continuous flow of young experts from our Member Associations to FIG.



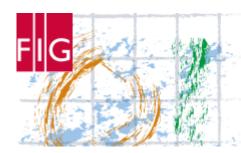


Ensuring that Young Surveyors are well represented and active in the FIG Commissions and their work plans is imperative.

Since 2006 we have achieved a remarkable progress toward this objective. It is the result of a systematic, hard and collaborative effort, and I wish to acknowledge the contribution of FIG past and current administrations, our FIG member Associations, the critical role of FIG Foundation and its President all these years; the support of our donors and FIG corporate members; the support of our FIG Commission chairs; the successful leaderships of the YS Network through the years; and of course the real commitment and enthusiasm of our individual young surveyors.

Through this coordinated action plan and with the co-operation of leading organizations such as UN-Habitat, World Bank, FAO, and CLGE, we can now say that FIG has managed to establish a robust mechanism that creates "global surveyors": young experts aware of the global challenges, who through their up-to-date technical and professional skills act as ambassadors and agents of "change" everywhere, to achieve the Sustainable Development Goals (SDGs) as agreed by 193 UN member states in 2015. I am confident that the anticipated "Surveyors' Rapid Response to Change" will be brought to function by you, the Young Surveyors of today and professionals of tomorrow, those who will serve the needs of the "citizens of tomorrow".

It is astonishing to realize how significantly location information has changed people's perceptions in what they can do with their economies during the last 15 years. Senior leaders of the world now understand that we cannot measure and monitor sustainability and growth without accurate, evidence-based geospatial data. The geospatial transformation of society supports transportation, property markets and construction, all types of monitoring, access to credit and lending mechanisms, fair taxation, agriculture and water management, city modeling, social security, disaster recovery, humanitarian support. Decision making must be based on real-time, evidence-based information.





Surveying the world of tomorrow – From digitalisation to augmented reality

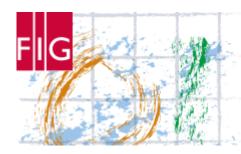
Our role today is no longer limited to "spatially enable" society. It is much broader than providing the necessary, evidence-based geospatial information in a reliable manner to enable decision-making and implementation monitoring. It is even broader than providing "open" or "low-cost" data to society; the availability of good data is not enough. What is urgently needed is to ensure that this data is used!

Today there are multiple data collection sources, such as UAVs, small satellites, high altitude platforms, and even social media. Every human being may become an active or a passive location beacon. The increasing accuracy of GPS, allows the development of many new economically important applications. Current professional challenges include, among others, the need to:

- increase our skills in *combining* authoritative and non-authoritative data and in developing the right infrastructure to handle and *interpret* this big data; in order to be able to *inform once* and *use it several times*;
- increase the "usability" of our data, systems and tools if possible by the majority of people, both professionals and as communities. This may be even more difficult and your role as the surveyor of tomorrow is crucial in the effort;
- develop a strategic approach and mechanisms that will allow a consistent and repeatable update of information that will facilitate comparisons and monitoring of the "geospatial maturity" of our society and of our ability to optimize activities required to achieve the SDGs.

As our colleague and chair of the FIG WW 2017 Local Organizing Committee Pekka Halme says "The theme of this Working Week *Surveying the world of tomorrow - From digitalization to augmented reality* reflects the continuous development around us. Tomorrow is only a short step away -or may be here already, today. It is not so much a question of *making things digital* any more but rather using technology as a tool to add new dimensions to what we see around us".

I wish you all a successful meeting and look forward to meeting each of you in Helsinki.



Surveying the world of tomorrow – From digitalisation to augmented reality



Pekka Halme Co-conference Director, Chair of Local Organising Committee

Dear Young Surveyors

I am very pleased that you are coming to the FIG Working Week 2017 in Helsinki, Finland. I, of course, like that there is as big a number of participants as possible, but that is not the reason why I am pleased. What I like more is that you, the young people, are interested in being here with us, seeing places and each other, working together, and having fun. As I understand it, for you having fun also means challenging

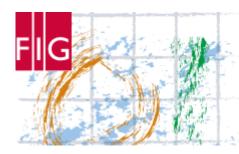


yourself and taking the challenge of life and the world around you seriously. And that, I think, is a solid way enter your professional careers.

Back in 1990 I also did participate in the FIG Congress in Helsinki as a young surveyor trying to sense the winds of the world and learn from my fellow surveyors from all over the globe. There was no young surveyors' sub-event at that time, but the experience was eye-opening nevertheless. Since then I have attended several FIG events and learned to appreciate both the relaxed atmosphere and the deep expertise and variety of disciplines that are combined in the program.

So, my dear colleagues, feel warmly welcome to this event and to Helsinki. I hope that the weather gods will be on our side (they don't always do that) but especially that you will have an event that widens and deepens your knowledge and offers you new experiences and new stories to tell forward.

Tervetuloa!



Surveying the world of tomorrow – From digitalisation to augmented reality



Maurice Barbieri CLGE President

Dear Young Surveyors,

First of all, I would like to apologize for not being able to attend to your meeting. I'm sure that my vice-president, Mairolt Kakko, will do a great job with you!



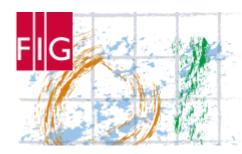


Through the promotion of our Student's Contest and your participation in our Board, as well as General Assemblies, we have already built a good relationship and a functioning communication network, and we are proud to have such a strong collaboration with the European Network. We also try to maintain our active participation in your conferences and activities and the common management of some projects of shared interest.

You have also organized a workshop during our General Assembly in Riga on the theme "Navigating the Future". This workshop was based on 3 main themes: The creation of a permanent link of CLGE and FIG YSN, the promotion and exchange of CLGE as well as FIG YSN mission and visions, and the insurance of navigating the future through mentoring between CLGE and FIG YSN. It was much appreciated by the CLGE delegates and we can build on it for the future.

As announced and wished, we have started this year a concrete collaboration on a project. We made a tender with you to complete our DPKB (Dynamic Professional Knowledge Base). We hope that this example will show a path for the future of our collaboration.

I wish you all the best and an excellent meeting.



Surveying the world of tomorrow – From digitalisation to augmented reality



John Hohol FIG Foundation President

Welcome to the 5th FIG Young Surveyors North European Meeting and 2017 FIG Working Week!

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





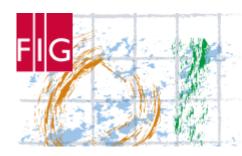
The Foundation was initially established as the FIG Education Foundation

in 1996 as a public company under the Corporation Laws of Australia. In 2000 the administration of the FIG Education Foundation was transferred to the FIG permanent office in Copenhagen. The General Assembly of FIG adopted the new Statutes for the FIG Foundation at its meeting in Seoul 11 May 2001. At the same time the original FIG Education Foundation was closed and the new FIG Foundation officially opened under the FIG umbrella.

The FIG Foundation was established for the purpose of raising funds to finance educational and capacity building projects and scholarships with the goal of helping to build a sustainable future. For the over 100 years of its existence FIG has experienced a shortage of funds to finance education projects, even though education is vital to the surveying profession and is relevant to all the organisational members of FIG.

One of our seven initiatives in our goal is "To support by seed funding conferences, meetings of young surveyors and similar events". The FIG Foundation has supported the FIG Young Surveyors Network since its beginnings as an FIG Commission 1 Working Group in 2006, chaired by Cecilia Lindén (Sweden), awarding over €200 000 in grants to 133 recipients from 63 countries around the world. The Foundation has enthusiastically supported meetings and conferences of young surveyors on six continents (no meetings held yet in Antarctica!).

I wish you all a successful meeting and look forward to meeting each of you in Helsinki.



Surveying the world of tomorrow – From digitalisation to augmented reality



Eva-Maria Unger, Melissa Harrington, Tuomas Jylhae Young Surveyors Network

Dear Colleagues and Friends,

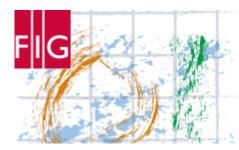
It is our great pleasure to welcome you to the 5th Young Surveyors European Meeting in Helsinki, Finland. Surveyors have always been surveying the world of tomorrow, haven't they? You may see







"Suomi 100" logo somewhere. It means Finland will be 100 years old this year. In that time, Finland has experienced a civil war, World War II, rebuilding era, massive migration from the countryside to the cities, digital development, mapping the whole country and millions of other things. During this time, the surveyors have been in a key role to build the country to the state it looks like today. Today, we are part of this continuum. We are surveying the world of tomorrow and transiting from digitalisation to augmented reality. Let's have a fantastic meeting and keep our eyes and ears open listening to the intriguing presentations, as the world of tomorrow remains unknown! We would like to thank our supporters and sponsors but most important wish you a fruitful and exciting time here in Finland!

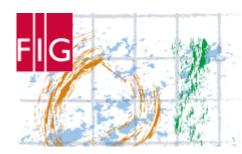


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Programme

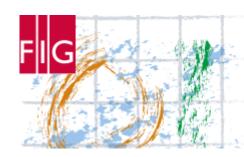
	Registration
08:00 - 09:00	
09:00 - 09:30	Opening Ceremony The 5th FIG Young Surveyors European meeting will be kicked off with welcome remarks by the representatives of each organisation. This is your opportunity to get to know the delegates and representatives. Finnish Association of Surveyors (MAKLI) • Martti Pietikäinen, Finland Finnish Association of Geodetic and Land Surveyors (MIL) • Paavo Häikiö, Finland International Federation of Surveyors (FIG) • Chryssy Potsiou, Greece FIG Foundation • John Hohol, USA Council of European Geodetic Surveyors (CLGE) • Mairolt Kakko, Estonia; • Diana Becirevic, Croatia FIG Young Surveyors • Eva-Maria Unger, The Netherlands; • Melissa Harrington, New Zealand; • Tuomas Jylhae, Finland
09:30 - 10:15	The Evolution: Then, Now and Beyond I "You can't connect the dots looking forward; you can only connect them looking backwards. So you have to trust that the dots will somehow connect in the future" - Steve Jobs. Presentations in this Session will highlight the evolution of surveying and technology. How has our professions dots been connected? We have learnt from the past and innovated for the future. Join us for a series of quick fire presentations from Young Surveyors around the world providing their perspective on the evolution.





Surveying the world of tomorrow – From digitalisation to augmented reality

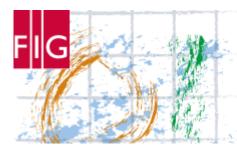
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Helsinki Airport BIM Project • Liisa Kemppainen, Finland
• Liisa kerrippairieri, Firmanu
Surveying the World of Tomorrow (NZIS and 84R Competition Winner from New Zealand)
Robert Mears, New Zealand
SAMBRO - Concept, Features and Uses • Biplov Bhandari, Nepal
Networking Break - Speed Dating
The Evolution: Then, Now and Beyond II A continuation from Session I.
its4land: a socio-technical approach of developing geospatial land tenure tools in East- Africa
Ine Buntinx, Belgium
Land use plan in the project of Building the first Highway in Montenegro • Mladen Femic, Montenegro
Time Management: A Repositioning Tool for the Young Surveyors • Victor Chuks Chibueze, Nigeria
Game Show: The Robots are Rising!
Do you ever have questions during presentations but don't want to ask them? Now you have the opportunity! For the first time the Young Surveyors will be running a Game Show. Two teams made up of the presenters and selected meeting attendees, answering your questions!
We will set up an online system, so all YS from around the world can participate, where you submit your questions for the Game Show.
Lunch
Delivering the Digital Dream
in a digital world. It is an opportunity to learn what is currently happening on the ground and be informed about some of the latest technological developments of our profession. We are offering three workshops which will provide you with the chance to learn about how for example Building Information Modelling (BIM) becomes real or how a dynamic professional knowledge base (DPKB) is built by CLGE or how to make use of your knowledge and experiences to map what is needed in a natural disaster area.





Surveying the world of tomorrow – From digitalisation to augmented reality

	BIM is realFrom IFC into Virtual Reality • Edgar Barreira & Ines Vilas Boas, Portugal CLGE Dynamic Professional Knowledge Base (DPKB) • Diana Becirevic, Croatia Mapping for resilience: crowd-sourced mapping in crises • Franka Grubisic, Croatia
16:00 - 16:30	Networking Break
16:30 - 17:30	Smart stake marker and Japanese earthquake update • Kengo Okada, Japan On the Move • CheeHai Teo, Malaysia
17:30 - 18:00	Award & Closing Ceremony
19:00 -	Social Gathering



Surveying the world of tomorrow-From digitalisation to augmented reality



Presenters

Opening Ceremony



Martti Pietikäinen [Finland] Finnish Association of Surveyors (MAKLI)



Paavo Häikiö [Finland] Finnish Association of Geodetic and Land Surveyors (MIL)



Chryssy Potsiou [Greece] International Federation of Surveyors (FIG)



John Hohol [USA] FIG Foundation



Mairolt Kakko [Estonia] Council of European Geodetic Surveyors (CLGE)



Diana Becirevic [Croatia]



Eva-Maria Unger [The Netherlands]

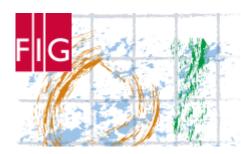


Melissa Harrington [New Zealand]

FIG Young Surveyors



Tuomas Jylhae [Finland]



Surveying the world of tomorrow – From digitalisation to augmented reality



The Evolution: Then, Now and Beyond



Liisa Kemppainen [Finland] Helsinki Airport BIM Project



Robert Mears
[New Zealand]
Surveying the World of Tomorrow



Biplov Bhandari [Nepal] SAMBRO - Concept, Features and Uses



Ine Buntinx
[Belgium]
its4land: a socio-technical approach of developing geospatial land tenure tools
in East-Africa



Mladen Femic
[Montenegro]
Land use plan in the project of
Building the first Highway in
Montenegro



Victor Chuks Chibueze
[Nigeria]
Time Management: A Repositioning Tool
for the Young Surveyors

Delivering the Digital Dream



Edgar Barreira

[Portugal]
BIM is real...From IFC into Virtual Reality

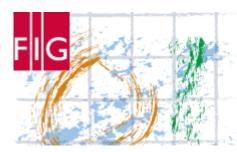


Ines Vilas Boas

Diana Becirevic
[Croatia]
CLGE Dynamic Professional
Knowledge Base (DPKB)



Franka Grubisic
[Croatia]
Mapping for resilience: crowdsourced mapping in crises



Surveying the world of tomorrow – From digitalisation to augmented reality



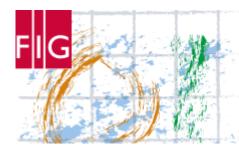
Keynote Speakers



Kengo Okada [Japan] Smart stake marker and Japanese earthquake update



CheeHai Teo [Malaysia] On the Move



Surveying the world of tomorrow – From digitalisation to augmented reality



Location

Helsinki is the capital and largest city of Finland. It is in the region of Uusimaa, in southern Finland, on the shore of the Gulf of Finland. Helsinki is located some 80 kilometres (50 mi) north of Tallinn, Estonia, 400 km (250 mi) east of Stockholm, Sweden, and 388 km (241 mi) west of Saint Petersburg, Russia. Helsinki has close historical connections with these three cities.

By decree of King Gustav Vasa of Sweden in 1550, the city was founded at the mouth of river Vantaa. From there, the city was moved further south to its present location in 1643. Helsinki has been the capital city since 1812, three years after Finland became an autonomous Grand Duchy of the Russian Empire. Helsinki continued as the capital after Finland gained its independence in 1917. Today, Helsinki is the centre of the Helsinki Region,a functional urban region of about 1.4 million inhabitants and 753,800 jobs.

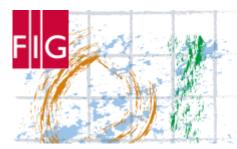
The Helsinki metropolitan area includes the urban core of Helsinki, Espoo, Vantaa, Kauniainen, and surrounding commuter towns. It is the world's northernmost metro area of over one million people, and the city is the northernmost capital of an EU member state. The Helsinki metropolitan area is the third largest metropolitan area in the Nordic countries after Stockholm and Copenhagen, and the City of Helsinki being the third largest after Stockholm and Oslo. Helsinki is Finland's major political, educational, financial, cultural, and research center as well as one of northern Europe's major cities.











Surveying the world of tomorrow – From digitalisation to augmented reality



About

FIG

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



FIG is the premier international organization 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.

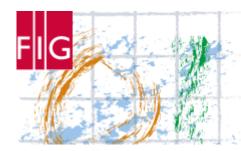
FIG was founded in 1878 in Paris and was known as the Fédération Internationale des Géomètres. This has become anglicized to the International Federation of Surveyors. It is an UN-recognized non-government organization (NGO), representing more than 120 countries throughout the world, and its aim is to ensure that the disciplines of surveying and all who practice them meet the needs of the markets and communities that they serve.

For more information about FIG, its vision, role and its members have a look at the homepage: www.fig.net

Ten commissions lead FIG's technical work:

- Commission 1 Professional Standards and Practice
- Commission 2 Professional Education
- Commission 3 Spatial Information Management
- Commission 4 Hydrography
- Commission 5 Positioning and Measurement
- Commission 6 Engineering Surveys
- Commission 7 Cadastre and Land Management
- Commission 8 Spatial Planning and Development
- Commission 9 Valuation and the Management of Real Estate
- Commission 10 Construction Economics and Management

Each member association appoints a delegate to each of the commissions. Detailed information on the work of the commissions, their work plans, working groups, seminars, newsletters and publications can be found at www.fig.net/organisation/comm/index.asp

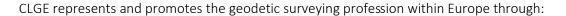


Surveying the world of tomorrow – From digitalisation to augmented reality



CLGE

The Comité de Liaison des Géomètres Européens (CLGE) had its Jubilee in 2012. It was founded in the cradle of the Fédération Internationale des Géomètres (FIG, www.fig.net) in 1962 and thus exists over 50 years. During the FIG Congress in Wiesbaden in 1972, CLGE got its current name. Its original objective the implementation of the Treaty of Rome in relation to the geodetic surveying profession.



- A permanent forum for Geodetic Surveyors working in Europe;
- A commitment to cooperation and partnership within the profession in Europe;
- Exchange of knowledge and expertise between professionals across national and international borders;
- Provision of consultation and advice to member countries, national associations and the European Union;
- Maintenance and enhancement of professional qualifications and standards of service throughout member countries;
- Representation of the profession to European authorities and governments;
- Participation in other relevant organizations within Europe and worldwide.

For more information have a look at CLGE's Homepage: www.clge.eu/home

FIG YOUNG SURVEYORS

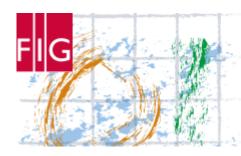
The FIG Young Surveyors Network (YSN) has come quite a long way since the establishment at the FIG Congress in Munich in 2006. The contribution to the work of FIG and its 10 Commissions is the core of the Network. Ensuring that Young Surveyors are well represented and active in the FIG Commissions is imperative.



The YSN organise various events like meetings, workshops, conferences and trainings all over the world. Some of these events are recognized by and some are also organised in co-operation with leading associations like UN-Habitat, World Bank, FAO, CLGE etc. Those co-operations and partnerships are the key in showing that it is our generation who are the ambassadors and agents of change. Co-operating with world-leading businesses and sponsors enables us to inform and show future and up to date technology. The presence in media through publishing various articles, statements and comments in magazines, social media and forums leads to a worldwide recognition.

Based on the theme of Chryssy Potsiou, FIG president 2015 - 2018, the FIG YSN ensures that 'the Rapid Response to Change will be done by the Surveyor of Tomorrow'.

For more information about the Network and the current workplan have a look at the homepage: www.fig.net/ys



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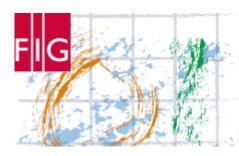


FIG FOUNDATION

The purpose of the Foundation is the funding of educational and capacity building projects and scholarships.

The foundation gives grants and scholarships to projects, for instance to develop curricula for surveying education, training and capacity building, especially in developing countries. And it supports by seed funding conferences, meetings of young surveyors and similar events in cooperation with international agencies such as the United Nations.

For more information about the FIG Foundation and their grants have a look here: www.fig.net/figfoundation



Surveying the world of tomorrow – From digitalisation to augmented reality



Past Events

1st FIG Young Surveyors European Meeting Lisbon, Portugal

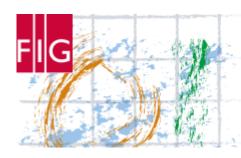
Report: 1YSEM-Report



2nd FIG Young Surveyors European Meeting Berlin, Germany

Report: 2YSEM-Report





Surveying the world of tomorrow – From digitalisation to augmented reality



3rd FIG Young Surveyors European Meeting Sofia, Bulgaria

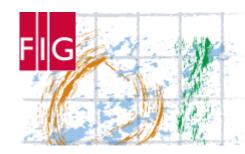
Report: 3YSEM-Report



4th FIG Young Surveyors European Meeting Amsterdam, The Netherlands

Report: 4YSEM-Report





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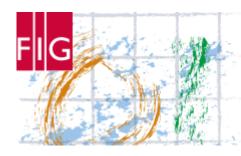
FIG Working Week 2017



FIG Working Week, 29 May - 2 June 2017, Helsinki, Finland, is an exciting week-long conference that brings the international community of surveying and spatial professionals together to experience a mix of interesting plenary and technical sessions and workshops, a trade exhibition and a variety of side events and social functions. The week gives a unique opportunity to discuss key challenges of our time within the surveying profession with fellow peers.

The overall theme of the Working Week is "Surveying the world of tomorrow – From digitalisation to augmented reality". We have been witnessing the first beginning of a development leading towards services which not only describe the visible world around us but also simultaneously bring up other information connected to our place of interest. One step is to become digitalized and to use the digital information; the next step is to combine information and be able to collect the data intelligently and to take further steps into the intelligent use of digital information. The theme was chosen to highlight the opportunities and open a view into a future where the large amount of information we produce is, again, put into a more efficient use.

See the programme in here: https://www.fig.net/fig2017/programme.htm



Surveying the world of tomorrow – From digitalisation to augmented reality



FIG Working Week 2017 - Young Surveyors Session















WEDNESDAY 31 MAY 2017

14:00 - 15:30

Room 216

Messukeskus

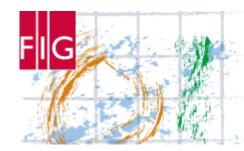
:: Social Tenure Domain Model Innovations

FIG YSN, FIG & UN Habitat-GLTN Joint Technical Session

Chair: Mr. CheeHai Teo, FIG Honorary President, Malaysia Rapporteur: Mr. Danilo Antonio, UN-Habitat GLTN, Kenya

The session will expose participants to improvements in STDM including ease of customisation, web-based approach, and readiness for release of QGIS 3. The session will be in partner-ship with members of STDM Advisory Committee, STDM Technical Working Group, OGC, etc. The session will be in partner-ship with FIG YSN, OSGeo, FIG Foundation, Kadaster & UN-Habitat/GLTN.

In this session we have big news to share - so dont miss it!



Surveying the world of tomorrow – From digitalisation to augmented reality





WEDNESDAY 31 MAY 2017

11:00 - 12:30

Room 207, TRIMBLE Messukeskus

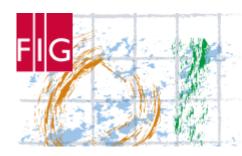
:: FIG YSN - Who mentors you?

Chair: Ms. Eva-Maria Unger, Chair of YSN, Austria Rapporteur: Ms. Melissa Harrington, New Zealand

"The greatest good you can do for another is not just to share your riches but to reveal to him his own." — Benjamin Disraeli

There are a number of challeneges being presented to the surveying and spatial science community; global trends, technology changes and a declining number of surveyors world wide. To ensure the successful future of our profession we need to establish a well connected global community. The Young Surveyors Network and mentoring is key to this.

This session will highlight the benefits of mentoring to the mentee, mentor and organisation. From here we will build upon previous workshops to launch our strategy to move mentoring within FIG and the FIG Young Surveyors forward



Surveying the world of tomorrow – From digitalisation to augmented reality



FIG Charity Run / Walk





FIG YOUNG SURVEYORS NETWORK CHARITY WALK/RUN

01 June 2017 Töölönlahti, Helsinki FINLAND

General Information

Meeting Time: 17.30

Start Time: 17.45

Meeting Point:

Karamzininranta 4*

Helsinki, Finland

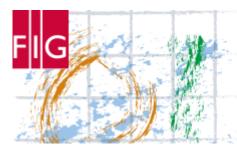
Course options:

Walk: 2 km (one loop)Run: 4 km (two loops)

The course is set around Töölönlahti Bay, located centrally within the city. Starting point and finish is located at the corner of Finlandia Hall.

Registration:

https://www.fig.net/registrations/regform.asp?eventid=180



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Organisers & Team

YSN - FIG



Eva-Maria Unger [The Netherlands]

Preparation of the program



Tuomas Jylhae [Finland]



Melissa Harrington
[New Zealand]



Carline Amsing
[The Netherlands]

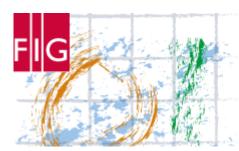


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