

# FIG WORKING WEEK 2017

Surveying the world of tomorrow –  
From digitalisation to augmented reality

May 29 - June 2 Helsinki Finland



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## CALL FOR PAPERS TO

### FIG WORKING WEEK 2017

Helsinki, Finland May 29 – June 2 2017

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The overall theme of the Working Week is “**Surveying the world of tomorrow – From digitalization to augmented reality**”

FIG Working Week 2017 is the main event of the year for all ten FIG technical Commissions. Therefore proposals for papers are requested in all topics of interest of the following Commissions:

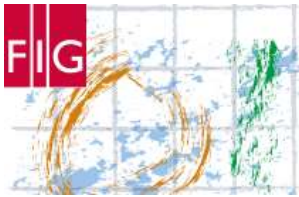
- Professional Standards and Practice – FIG Commission 1
- Professional Education – FIG Commission 2
- Spatial Information Management – FIG Commission 3
- Hydrography – FIG Commission 4
- Positioning and Measurement – FIG Commission 5
- Engineering Surveys – FIG Commission 6
- Cadastre and Land Management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

This Call for Papers is announced both for **peer review** papers and **non-peer review** papers.

We invite you to submit an abstract and full paper for **peer review paper by 1 October 2016** and an abstract for non-peer-review paper by **15 November 2016**.

More information on the FIG Working Week web site:

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



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Surveying the world of tomorrow –  
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## CALL FOR PAPERS TO

**THE FIG WORKING WEEK 2017**  
Helsinki, Finland, May 29 – June 2 2017  
at Messukeskus Expo and Convention Centre

Surveying the world of tomorrow  
- From digitalization to augmented reality

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Dear Friend and Colleague,

It is our privilege and honour to invite you to the **FIG Working Week 2017** to be held from **May 29 – June 2 2017**. The Working Week is hosted by the International Federation of Surveyors (FIG), the Finnish Association of Geodetic and Land Surveyors (MIL) and the Finnish Association of Surveyors (MAKLI), as the local hosts. The FIG Working Week 2017 will be hosted in Helsinki, Finland at Messukeskus Expo and Convention Centre.

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 information we produce is, again, put into a more efficient use.

The FIG Working Week 2017 has wide support within Helsinki and throughout Finland with a commitment already pledged by the Helsinki City Council and National Land Survey of Finland (NLS); Finland’s government department responsible for land titles, geodetic and cadastral survey systems, topographic information, hydrographic information, managing Crown property and a variety of other functions.

The academic community and private practitioners are also committed to the FIG Working Week 2017, which expects to attract between 700-900 local and international delegates.

The FIG Working Week 2017 will appeal not only to the wider surveying profession as represented by the ten FIG Commissions but also the broader spatial sciences industry including cartographers, remote sensing and photogrammetric professionals, those involved with GIS systems and location based services. Instrument manufacturers, including GNSS, and software application specialists will also benefit from being involved with this major international event.

The carefully prepared Technical Programme will focus on aspects of the theme of **Surveying the world of tomorrow – From digitalisation to augmented reality** in a variety of international contexts and will offer both specially invited high profile presentations and papers that are selected through the open call for papers procedure. The Call for Papers is open for both **peer review** and **non-peer review** submissions.

More information on the FIG Congress web site: <http://www.fig.net/fig2017>



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

Papers are also invited on the areas of the three FIG Networks:

1. FIG Standard Network
2. Regional Capacity Development Network
3. FIG Young Surveyors Network would like to see contributions from young surveyors in all 10 Commissions

In addition papers are also invited for the Permanent Institution of FIG: History of Surveying and Measurement.

The deadline for submission of abstracts and full papers for peer review is **1 October 2016** and abstracts for non-peer-review is **15 November 2016**.

To read more about FIG Working Week 2016 and abstract submission, visit

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

## SPECIFIC TOPICS OF FIG WORKING WEEK

In the open call for papers **non-peer review** and **peer review** papers are invited from the following **detailed topics** selected by FIG Commissions:

### COMMISSION 1 – PROFESSIONAL STANDARDS AND PRACTICE

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- Professional ethics
- International boundaries
- Women in Surveying
- Mutual recognition of qualifications or professional status
- Engaging with Private Practice

### COMMISSION 2 – PROFESSIONAL EDUCATION

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- 3-D and BIM in the curriculum
- Teaching the new surveyors: smart surveyors, para surveyors and the crowd
- Innovative learning and teaching
- Demand for and supply of Professional Education
- Accreditation and Quality Assurance

### COMMISSION 3 – SPATIAL INFORMATION MANAGEMENT (SIM)

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- SDI at all levels – local, regional, national and global
- SIM challenges – natural and environmental risk prevention and disaster management, mitigation, waste management, etc.
- VGI collection, dissemination, analysis, applications, maintenance and visualization
- e-Governance and SDI in supporting decision making – theory, applications and best practice
- Integration of SDIs – cadastre, land use, utilities, environment, socio-economic
- SDI interoperability – standards, technical tools, metadata, portals
- 3D/4D Cadastre
- Utilization of VGI and Crowdsourcing with SDI, SIM and environmental information
- 2D/3D/4D geospatial models, algorithms, visualization, standards and applications
- Web and mobile GIS – challenges, services and real-time capabilities
- Business models and SDI, public-private partnerships and economic aspect

### COMMISSION 4 - HYDROGRAPHY

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- Hydrographic surveying and mapping
- Hydrographic standards and guidelines
- Hydrographic education, training, and professional development
- New and emerging science and technologies for hydrography (e.g. sensors, systems, AUVs, electromagnetic wave propagation etc.)

- Maritime and marine spatial information management (including data processing and management of hydrographic data, data structures, marine spatial data infrastructures, marine information systems)
- Hydrography and society (Offshore surveying in support of energy, environment, submarine telecommunications, ports and harbours, economies, national and international political objectives)

## COMMISSION 5 – POSITIONING AND MEASUREMENT

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- Standards, best practice guidelines, quality assurance and calibration for survey (including geodetic) measuring instruments
- National or geospatial reference systems and associated infrastructure
- Vertical reference frames, geoid and gravity
- GNSS (GPS, GLONASS, Beidou, Galileo, Multi-GNSS), including CORS networks
- Terrestrial and airborne laser scanning
- Cost-effective surveying (GNSS and other survey methods)
- Multi-Sensor-Systems (INS-GNSS, Mobile Mapping, etc.)
- Ubiquitous positioning techniques and applications -such as RFID, WiFi, AGPS, mobile phones, MEMS inertial sensors, Locata
- Positioning and metrology – technique, methodology, adjustment and analysis

## COMMISSION 6 – ENGINEERING SURVEYS

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- Deformation measurement
- Engineering surveys in managing natural disasters
- Precise height measurements for engineering
- Recent industrial surveying and sensing technologies and applications
- Laser scanning applications
- Machine control and guidance with surveying technologies

## COMMISSION 7 – CADASTRE AND LAND MANAGEMENT

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- Integrating new technologies in land administration and cadastre
- Modern communication in land administration systems
- Land policy and reform to support sustainable use of land
- Pro poor land management and its role in public administration
- Land management for state and public land
- Multi-dimensional cadastre
- Land rights reflecting societies' needs
- Land administration in pre- and post-conflict and post disaster areas

## COMMISSION 8 – SPATIAL PLANNING AND DEVELOPMENT

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- Environmental challenges in megacities
- Disaster and environmental management
- Urban and rural land use planning
- Planning policies and environmental improvement
- Informal settlement issues in spatial development, planning and governance
- Planning and managing urbanisation
- Public-private partnerships in planning and land development
- Contributing to Global water management utilization – Action and planning

## COMMISSION 9 – VALUATION AND THE MANAGEMENT OF REAL ESTATE

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- Tax Bases for Real Estate Taxation
- Mass Appraisal Techniques
- Large Scale Acquisitions of Land (“Land Grab”)
- Trends of real estate valuation
- Valuation methods for properties where no markets exist for them
- Valuation profession and valuation standards
- Real estate finances and investments
- Compulsory purchase and compensations in land acquisition and takings
- Real property practises and sustainable cities

## COMMISSION 10 – CONSTRUCTION ECONOMICS AND MANAGEMENT

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- Quantity Surveying and Cost Management
- Project Procurement and Tendering (Bidding)
- BIM - Building Information Modelling - the hottest one,
- Construction standards and regulations including proposed International Construction Measurement Standards (ICMS)
- Construction economics and global construction trend
- Innovative house building and affordable housing
- Sustainable construction and development

## SUBMISSION OF PROPOSALS

This **Call for Papers** is announced both for **peer review papers** and **non-peer review papers**. The submission of abstracts will be in English.

### PLEASE NOTE

- When submitting your abstract the number of abstracts is limited to a **maximum of one per author**. Further, an author can only once be a co-author in another abstract. It means an author can only be involved in two abstracts, once as first author and once as co-author.
- Further, an author can only make one presentation.
- One abstract can be linked to a maximum of three Commissions and that the Commissions involved has to be prioritized.

## NON-PEER REVIEW – SUBMISSION OF ABSTRACTS

We invite you to submit an abstract for the FIG Working Week by **15 November 2016**. The abstract shall not exceed 250 to 500 words in length describing the objectives, results, conclusions and significance of your work. The abstract shall include the names and affiliations of all authors. Please feel free to submit an abstract on any topic related to the specific topics of FIG 2016. You can submit your abstract for “regular” or “short” oral presentation. A regular presentation is a 10-15 minutes presentation whereas a short means a 5 minute presentation of your topic.

**All abstracts** shall be submitted **online** to FIG on the following web site:

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

Please note the deadline **15 February 2016** for submitting the full paper. For other important deadlines see **important dates**.

## PEER REVIEW – SUBMISSION OF FULL PAPERS

If you want to present a peer review paper at the FIG Working Week 2016 you shall submit your **full paper** by **1 October 2015**. When preparing the paper, please follow the guidelines prepared for papers (**paper guidelines** and the specific **paper template** for FIG Working Week 2016 that are available on the conference web site, [www.fig.net/fig2017](http://www.fig.net/fig2017)). Please feel free to submit a paper on any topic related to the specific topics of FIG 2016.

Before sending the abstract and full paper, please read the **FIG guidelines for peer review papers** [http://fig.net/fig2017/presenter\\_practicalities.htm](http://fig.net/fig2017/presenter_practicalities.htm). The peer review process is double blind and deadlines for different steps can be seen below under **important dates**.



**Important:** In addition to submitting the full paper, you shall also submit an abstract of your paper **online** to FIG database no later than **1 October 2016** on the following web site: [www.fig.net/fig2017/submission.htm](http://www.fig.net/fig2017/submission.htm). Please mark “*This abstract is submitted for peer review*”.

Receipt of your abstract and paper will be acknowledged electronically according to the time schedules.

Full papers shall be submitted in **electronic format** to International Federation of Surveyors by email to [fig@fig.net](mailto:fig@fig.net).

If you have problems emailing the paper you can contact FIG for assistance at [fig@fig.net](mailto:fig@fig.net).

Please include at the end of your paper all your contact details, including your name, address, phone and fax numbers and email address. In the conference programme a paper that has been accepted by the peer review process will be marked “*This is a peer reviewed paper*”. Papers that are not accepted by the peer review process can be offered to the conference as non peer reviewed papers.

When submitting a paper the author(s) agree that FIG has the right to publish the paper in the conference proceedings (at the conference and on the FIG web site); in the FIG Surveyors Reference Library; and in the FIG online journal (if selected for this purpose) without any further agreement or compensation. The copyright of the paper remains by the author(s).

The number of papers for peer review is limited to a **maximum of one paper** per author.

## FURTHER INFORMATION

For any information see the conference web site: [www.fig.net/fig2017](http://www.fig.net/fig2017).

All abstracts and papers have to be submitted in English. Please note that if you have submitted a paper that is accepted for oral presentation you must register for the conference before 8 February 2016, or your presentation will otherwise not be included in the technical programme.

Any inquiries on call for papers, abstracts, peer review process and technical programme, please contact the FIG Office (Email: [fig@fig.net](mailto:fig@fig.net), tel +45 3886 1081).

We look forward to meeting you in Helsinki in May/June 2017.

Yours sincerely,

**Pekka Halme, Chair,**  
Co-Conference Director/  
National Land Survey of Finland

**Louise Friis-Hansen**  
Co-Conference Director/  
International Federation of Surveyors

## IMPORTANT DATES

Deadlines for submitting abstracts, papers and registration are:

### Non Peer Reviewed Papers

### Peer Reviewed Papers

**15 November 2016**

Deadline for authors to submit non peer reviewed **abstracts**.

**1 October 2016**

Deadline for authors to submit **full papers** for peer review.

**30 January 2017**

Confirmation to authors of acceptance of non peer reviewed **abstracts**.

**10 December 2016**

First notification to authors of acceptance of peer reviewed papers.  
For accepted papers, authors will also be notified of any modifications required by the reviewers.  
Authors of papers not accepted for peer review will be offered to convert the paper to the non peer review process.

**4 January 2017**

Deadline for authors to submit revised **full paper** for 2nd round of peer review (depending on proposed corrections from reviewers).

**1 February 2017**

Second notification to authors of acceptance of peer reviewed papers with the possibility of further modifications from the 2<sup>nd</sup> round of peer review.

### All Papers (peer reviewed and non peer reviewed)

**20 February 2017**

Early bird registration closes  
Deadline for all authors to register.

**20 February 2017**

Deadline for all authors to submit **Full Papers**.

**10 March 2017**

First draft of the technical programme will be published on the web.

**25 April 2017**

Deadline for normal registration.

**29 May – 2 June 2017**

**FIG WORKING WEEK 2017 – HELSINKI, FINLAND**