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Volunteering for the future -Geospatial excellence for a better living

Reports from FIG Commissions and Networks









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Report of Commission 1 Professional Standards and Practice



By Prof Sr Winnie SHIU Chair, Commission 1 (2019-2022)







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WG 1.1 International Ethics and Standards **Chair: Timothy Burch**



Revised version **International Ethics Standards 5.2021**

	ETHICS
	STANDARD

International Ethics Standards

An ethical framework for the global property market

Revised May 2021



+ Diversity

Accountability Confidentiality Conflict of Interest **Financial Responsibility** Integrity Lawfulness Reflection Standard of Service Transparency Trust

Next Steps:

- Continue looking into how to implement the Standards in FIG - Review FIG Publication 17: Statement of Ethical Principles and Model Code of **Professional Conduct (1998)** - Final recommendations in 2023

Working Week in Orlando







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WG 1.2 Women in Surveying Chair: Robyn McCutcheon

UN SDG 5 Gender Equality World Bank Stand for Land

Statements for Charter for Women

- FIG promotes diversity and inclusion as a key value
- FIG members must challenge unconscious bias by seeking out diverse views when making decisions or collaborating with colleagues
- FIG commits to equal gender balance on speaking panels

Seeking for a new Chair for the next term







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WG 1.3 International Boundary Settlement and Demarcation **Chair: Haim Srebro** e-Working Week 2021 International Federation of Surveyors

UN SDG 16 Peace, Justice and Strong Institutions

FIG Publication 59 International Boundary Making in 2013







FIG Publication 76 International Boundary on Unstable Ground in 2021





Next Steps: Plan to publish a third publication on Maritime Boundaries







Commission 1 Annual Meeting 2021 in eFIGWW in Amsterdam







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Report of Commission 2: Professional Education



Hon. Assoc. Prof. David MITCHELL Chair, Commission 2 (2019-2022) Assoc Prof. Mohsen Kalantari: Vice Chair of Commission 2 Dr Dimo Todorovski Chair-Elect Commission 2







Commission 2 Highlights

- FAO/FIG Academic Forum at Working Weeks and Congress •
- GLTN/UN-Habitat Responsible Land Administration Teaching Essentials. ۲
- WG 2.1 Developing academic networks for knowledge sharing (Chair: Dimo Todorovski) •
 - Regional academic networks in Africa and Latin America. Knowledge sharing events.
- WG 2.2 Innovative learning and teaching / Curriculum on the Move •
 - Publications on innovation in curriculum and learning and teaching.
- WG 2.3 Joint Commission 1 and 2/YSN working group Learning strategies and approaches ٠ in surveying education
 - Global questionnaire during the pandemic on students learning styles and preferences.
- Commission 2 Chair-Elect Dimo Todorovski for the term 2023-2026. ۲











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Towards the 2022 FIG Commission 2 publication

- Building upon the FIG Publication #46 (2010).
- Commission 2 final publication "Blended Learning for Surveying Education"
 - Workshops on the pandemic response, innovation in education, and blended learning.
 - Questionnaire on student learning and studying preferences
 - Based on FIG Working Week Sessions and papers across the WG's.
- To be published late 2022.



Enhancing Surveying Education

A publication of FIG Commission 2 – Professional Education















Commission 2 Sessions at the FIG 2022 Congress

- Monday 12th September TS01F: Professional Standards, Practice Development and Lifelong Learning (Comm Commission: 1, 2 & 7).
- Monday 12th September TS03A: Blended Learning for Surveying Education (Broadcast session)
- Monday 12th September **TS03B: Coordination of Global Capacity Development** (Comm: 2, 5 & CDN)
- Tuesday 13th September **TS04E: Blended Learning in Practice**
- Wednesday 14th September **TS07F: Innovation in Curriculum**
- Wednesday 14th September TS09A: FIG Academic Forum: VGGT and UNCCD COP 14







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Commission 3 – Spatial Information Management Working Weeks, Congress, Special Events

2019 Hanoi 2020 cancelled 2021 eWorking Week 2022 Warsaw





FIG Commission 3 Annual Meeting and Workshop 2019: Advances in Geodata Analytics for Smart Cities and Regions 2019

University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Romania, September 23-26, 2019



Invitation

Workshop Joint FIG Commissions 3 and 8 PRATO, ITALY 20-21 JULY 2021











Commission 3 – Spatial Information Management Our Publications



FIG Publication no 73 on **Crowdsourcing and VGI**, FIG Working Week Hanoi, Vietnam, April 2019

> FIG Publication no 78 Geospatial Data in the 2020s XXVII FIG Congress Warsaw, Poland, Sept 2022



Topics

- \checkmark Spatial planning and geospatial information
- \checkmark The spatial dimension of health
- $\checkmark\,$ Geospatial data and the changing society
- ✓ Participation and spatial empowerment
- \checkmark Land administration data in the real estate sector

16 authors from 9 countries,9 female, 7 male, Commissions 3 & 8;Volunteer Community Surveyor Program of Young Surveyors Network



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Takeaways Commission 3 – Spatial Information Management

Two new joint Working Groups

- WG 3.5 GIS Tools for Spatial Planning Joint with Commission 8 Chair Dr Enrico Rispoli (Italy)
- WG 3.6 Geospatial Next
 Joint with Young Surveyors Network
 Chair Cemal Özgür Kivilcim (Turkey)

Outcomes 2019 - 2022

- Joint Technical Sessions, 2019, 2021, 2022
- Joint workshops, 2019, 2021
- Joint FIG publication no 78, 2022

TS06B: Book Launch -Geospatial Data in the 2020s -Transformative Power and Pathways to Sustainability

> Tuesday, 13 September 14:30–15:30 Ballroom 2





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FIG Commission 4 (Hydrography) : 2019-2022

- WG 4.1 Standards and Guidelines for Hydrography
- WG 4.2 Blue Growth & UN Sustainable Development Goal 14
- WG 4.3 Mapping the Plastic
- WG 4.4 Marine Development and Administration







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Annual Meeting 23 June 2020



Seminar on Hydrography

Omar, A.H. (2020). Marine Administration: Role of Hydrographer on Multi-Criteria Marine Spatial Risk Assessment. Presented at the KL GeoHydro 2020, Johor Bahru, 7-8 December 2020.

Mahmud, M.R. (2020). Realisation of the Challenges in Fulfilling the Hydrographic Prospects due to Covid-19. Presented at the KL GeoHydro 2020, Johor Bahru, 7-8 December 2020.

Hewitt, N. (2019). Hydrographic Surveyors Certification. Presented at the KL GeoHydro 2019, Kuala Lumpur, 18-19 November 2019.

Ironside, S. (2019). Mapping the Plastic – A Surveyor's Response. Presented at the KL GeoHydro 2019, Kuala Lumpur, 18-19 November 2019.

Johnston, G. (2019). Blue Growth, Developing the Blue Economy and the Surveyors' Contribution. Presented at the KL GeoHydro 2019, Kuala Lumpur, 18-19 November 2019. Mahmud, M.R. (2019). Empowering Marine Knowledge through Hydrographic Professional Programmes at Universiti Teknologi Malaysia. Presented at the KL GeoHydro 2019, Kuala Lumpur, 18-19 November 2019.

Omar, A.H. (2019). Roles of Marine Cadastre for Nation Development: Potential, Requirement and Challenges. Presented at the KL GeoHydro 2019, Kuala Lumpur, 18-19 November 2019.

Mahmud, M. R., Hewitt, N., Johnston, G, Ironside, S. and Omar, A. H., (2019). FIG Commission 4 Work Plan (2019-2022), International Federation of Surveyors.





KL GeoHydro 7-8 December 2020



KL GeoHydro 18-19 November 2019



Keynote paper from WG 4.4 chair at International Virtual Course: Land and Marine Administration Toward Better Disaster Risk Managment organised by Bandung Institute of Technology, Indonesia on 1 August 2022.

> Annual Meeting 18 November 2019



KL GeoHydro 2023 meeting with PEJUTA, Associate Member of FIG (to be held on 28 February – 1 March 2023



UTM, Academic Member of FIG with the Department of Survey and Mapping Malaysia



Keynote presentation from Commission 4 chair









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WORKING GROUPS





Review of IHO S-44.

Atlantic Mapping Roadmap or vision statement.



Commission 4 SME's on the Marine Geospatial.

Established close relationships with the Faculty of Technical Science at the University of Novi Sad, Serbia and the Faculty of Architecture, Civil Engineering and Geodesy at the University of Banja Luka, Bosnia and Hezegovina.



Joint Commission 4 and Young Surveyors.

Relationships with GreenHub, a dynamic environmental Vietnamese NGO, and Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) were formed at the 2019 FIG Working Week in Hanoi. WG 4.4 has presented a paper at the regional Surveyors Congress 2022 in Sarawak, Malaysia on 22 March 2022 on Cadastre Modernization in 21st Century. This paper highlighted the new vision, modern cadastre and the way forward.



Pre-collaboration between ASEAN educational institution (Malaysia and Indonesia) and non-government organisation such as World Wide Fund for Nature (WWF) on marine administration and marine space management is a promising opportunity towards the development and implementation of marine cadastre and marine administration framework to all other members in FIG.







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Commission 5 Activities in 2021-2022

Dr. Daniel Roman, Chair (2019-2022)







Lines of Work

- Commission 5 has been very active even during COVID restrictions in coordination with a number of other organizations thereby ensuring FIG's continued leadership in the surveying community and related fields.
- six WG's
 - Working Group 5.1 Standards, Quality Assurance and Calibration Working Group 5.4 GNSS
 - Working Group 5.2 3D Reference Frames
 - Working Group 5.3 Vertical Reference Frames

- Working Group 5.5 Multi-Sensor-Systems
- Working Group 5.6 Cost Effective Positioning







Engagement and Activities

- Engagement
 - International Standardization Organization (ISO)/
 Open Geospatial Consortium (OGC)
 - International Association of Geodesy (IAG)/ International GNSS Service (IGS)
 - United Nations committee of Experts on Global Geospatial Information Management (UN-GGIM)
 - UN-GGIM regional committees for Europe, Asia/Pacific and the Americas
 - UN Subcommittee on Geodesy/WG ETCB
 - UN International Committee on GNSS (UN-ICG)/ UN Office of Outer Space Affairs (UN-OOSA)

- Activities
 - 2021 RFIP virtual for the Americas with SIRGAS
 - Input to FIG SDG Task Force
 - Virtual WW 2021 with several joint sessions
 - 2022 Congress in Warsaw
 - 2022 RFIP
 - ETCB-centric sessions
- Future activities include
 - 2022 RFIP in Santiago de Chile with SIRGAS
 - Planning for FIG 2023 WW & RFIP 2023 in Orlando







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Commission 6 – Engineering Surveys

Eng. Maria Henriques, Chair 2019-2022







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The structure includes three Working Groups:

1. Deformation Monitoring and Analysis; 2. Landslides monitoring; 3. UAV in surveying



- The activity in 2021-2022 (highlights)
 - Participation in the FIG Working Week 2021:
 - Two joined Tecnical Sessions:
 - Geohazards, Environment and Geo-resources Surveying Techniques for Risk Mitigation and Sustainable Exploration (C6 & C3 & C5)
 - Geospatial technologies in structural monitoring (C6 & C3)
 - One wokshop: Augmented Reality in the Construction World









- Participation the (web-)meeting "2nd National Workshop of Teachers of Special Measurements" (Argentina) with one presentation
- **Organization of the 5th Joint International Symposium on Deformation Monitoring** (JISDM2022) in Valentia, Spain



- FIG Congress 2022:
 - Organization of 5 technical sessions
 - Two workshops







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FIG Commission 7

Cadastre

- Cadastral surveying
- Land information systems
- New technologies
- Laws and regulations
 Land Management
 - Registry
 - land taxes, rates and municipal finances
 - Global challenges such as poverty alleviation and climate crisis





XXVII FIG CONGP 11–15 SEPTEMBER 2022 Wars?

Commission 7 working groups

- Participation of the private sector in land administration
 - Cooperation with WPLA
 - Development of new principles
- Digital twin and smart 3D cadastre information:
 - build capacity among FIG members, continue collaboration with Commission 3
 - Annual meeting in cooperation with LX
- Fit-for-purpose:
 - FELA
 - Implementation acceleration
- Urban challenges
 - GLTN principles for Urban Rural land linkage project
 - COVID-19 book









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Commission 8 – Spatial Planning and Development

Marije Louwsma







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Commission 8 – Activities

- Land Governance for Equivalent Living and Working Conditions in Urban and Rural Areas; Qingzhou, China, 16-17 May 2019
- LANDNET Workshop 'territorial development challenges and opportunities'; Santiago de Compostela, Spain, 5-9 November 2019
- Two webinars with FAO about about respectively a legal framework for land consolidation (18 June 2020) and land banking (December 2020)
- Joint C3 and C8 workshop on "Spatial information management to optimize Spatial planning and Sustainable development" Prato, Italy, on July 20-21, 2021

More info: C8 annual reports









A world in which everyone enjoys secure tenure rights

UN®HABITA

Commission 8 – Delivered 3 FIG reports and contributed to others











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Commission 9 Activities in 2021-2022







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A world first for cost and carbon

management in construction.

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Highlights of Commission 10 work

International Cost Management Standard (ICMS), 2nd Edition

A collaborative, coalition standard: FIG are members of the coalition.

Published in 2017 to extend the standard into life cycle cost reporting across markets and across sectors within markets. A consistent, comparable way to report capital and life cycle costs and a first for the profession.

ICMS, 3rd Edition

STANDARDS

ICMS 3

International Cost Management Standard. Third Edition (2021), and the incorporation of carbon metrics (now published at www.icms-coalition.org). This extends the standard into carbon reporting (the built environment accounts for approximately 40% of global carbon emissions per annuum) and so that trade-offs between capital cost, life cycle cost and carbon can be analysed on a project-by-project basis.









PLATINUM SPONSOR

ICMS



Work on the digitalization of construction

Digital twins from design to handover of constructed assets, March 2022

The concept of digital twins as a means of understanding, delivering, and managing constructed assets has gained significant momentum in recent years, primarily for asset and facility management purposes. The paper extends the idea of digital twins upstream from the currently popular view of using digital twins for asset and facility management to the development, deployment and use of digital twins in the earlystage planning, detailed design, entire construction phase and asset handover.

digital-twins-from-design-to-handover-of-constructed-assets.pdf (rics.org)

From documents to structured data: Can cost and performance data transform construction?

In this webinar in partnership with ASITE, the panel discuss that unstructured documentation acts as a drag on productivity and efficiency. New ways of processing data, such as the higher dimensions of BIM, provide numerous advantages to a documentation-heavy construction industry. Improvements in cost benchmarking, completion time, and ESG performance are some of the benefits that digitalisation will bring.

https://youtu.be/zFBGTXIDROE









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Standards Network D. Martin







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Standards Network Responsibilities and Activities

Promote Standards Ensuring lead contacts to Technical Committees Proposing priorities on FIG's standardisation activities Advising and providing information on standards to FIG members







Main Standards

- In principle, the Standards Network has members from all of the FIG Commissions → some commissions are more active than others. Key items presently linked to the Standards Network are:
 - ISO/TC 172 SC6 Survey Instrument Standards
 - ISO/TC 211 Geographic Information/Geomatics
- Non-ISO type Standards initiated by and/or which FIG is deeply involved:
 - International Property Measurement Standards Coalition
 - International Land Measurement Standards Coalition
 - International Construction Measurement Standards
- OGC, IHO ...







TS05F: FIG Standards Meeting - Tuesday, 13 September 11:30–13:00

General presentation of the status of activities in the Standards Network covering:

- ISO/TC 211 Geographic Information/Geomatics,
 - ISO 19152 LADM Edition II,
- ISO/TC 172 SC6 Survey Instrument Standards
- International Property Measurement Standards IPMS
 - The "Harmonized IPMS" standard



. . .





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Asia Pacific Capacity Development Network General Assembly Report for 2021 / 22 Limited opportunities for NETWORK face to face engagement Contributions to the ETCB 2021 Geodesy Competency Survey

Various levels of participation in related activities by NETWORK members !







Plenary, Meeting and Workshops on IGIF

United Nations/Mongolia Workshop on the Applications of Global Navigation Satellite Systems (in Virtual Format)





Engagement, Communication, Collaboration and Sharing







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Jennifer WHITTAL, South Africa







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11–15 SEPTEMBER 2022 Warsaw, Poland

HIGHLIGHTS

Strong partnership with YS Africa Network

-

Linking with non-member countries in Africa



Identified needs

Logos developed; social media active

Bridging language divides

Pilot Mentoring Programme





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Join us to hear more about the

FIG Mentoring Programme Pilot in Africa

Tuesday 14:30 Ballroom 1







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The Team





Melissa Harrington Kwabena Asiama Chair Chair (2021 – 2022) (2019 – 2020) Vice-Chair (2019 – 2020)

ORGANISED BY

Ferah Köksal 2) Vice-Chair 20) (2021 – 2022)

Development Initiative



Developed jointly with FIG ARN, and the kind support and IP of the SSSI



FIG Young Surveyors Network

Summary of Key Milestones (2019-2020; 2021-2022 Terms)

Partnerships Initiative

- Working Group 2.3 Learning Styles in Surveying Education
- Working Group 3.6 Geo-Next
- Working Group 4.3 Mapping the Plastic



- 5th Young Surveyors Conference
- 6th Young Surveyors Conference
- Regional Meetings and Workshops

Outreach Initiative



Communications Initiative Social Media Presence:

- Facebook Page 6,729 followers (6,285 likes) Facebook Group – 11,254 Members
- Sollowers 2,996 Average of 1000 profile visits a month









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Two Online Young Survyors Conferences, With Several Other Regional Meetings...



5th FIG Young Surveyors Conference Social Distancing Edition Reclaim the Future by Mapping the New World



ORGANISED BY



YOUNG

FIG **Challenges in our New Reality** Reimagining a Sustainable Future 15 & 16 May 2021 6th FIG Young Surveyors Conference











VCSP Wisdom Workshop

2-day Workshop 125 participants (44 countries) 1 MOOC

1400 +



Map the world a better place

in-Country Deployments

6 Countries 2 Opportunity Partners 7 GLTN Partners 20 VCSs 7 VCS Mentors

VCSP e-Volunteering

2 Mapathons 2 Countries 140 + Mappers (45+ countries) 2 Opportunity Partners 37,000+ Features Mapped

01 Tangible Outcomes

A Dedicated Team of Young Surveyors giving back in times of crisis...



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From all Commission and Network chairs to interested;

- Thanks for all the involvement so far. Please keep up the good work.
- There is always room for more individuals to join! We are looking forward hearing and seeing you!
- Together we can develop our profession! Together we can ensure that FIG is relevant!

Thank You!





