



## Commission report to the ICA Executive Committee

Commission: **Sensor-driven Mapping**

Date of Report: **26/08/2022**

Period of Report: **08/2019 - 08/2023**

Presented by: **Ján Feranec, Vice Chair**

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### Conferences

(underlined are Commission members)



- Participation in the Canadian Team (Canadian National Member – Canadian Institute of Geomatics) and submission of a Bid to host ICC 2025 in Vancouver, Canada in June 2022 (Jonathan Li, Ruisheng Wang), waiting for the approval of the ICA.
- Participation in IGARSS 2022 (virtual), July 17-22, 2022 in Kuala Lumpur, Malaysia, by oral presentations and chairing sessions (Jonathan Li, Yifang Ban, and other commission members).
- Participation in ISPRS Nice Congress 2022 (in-person), June 6-11, 2022 in Nice, France by oral presentations and chairing sessions (Jonathan Li, Ruisheng Wang, Yi Lin, Yifang Ban - virtual).
- Participation in the ESA Living Planet Symposium, May 23-27, Bonn, Germany by serving on program committee, presentations and chairing sessions (Yifang Ban).
- 7th Edition of the Earth Observation for Environmental Changes (EOEC), 3 – 5 December 2021, in Kuala Lumpur, Malaysia, Conference Chair: Jonathan Li and Yifang Ban, Ján Feranec, Hongchao Fan, Julian Smit et al. serving on the SC).
- Participation in ICC 2021 (in person) by oral presentations, Dec 14-18, 2021, Florence, Italy (Yifang Ban and Xiaojun Yang, et al.) and by oral presentation virtually (Jonathan Li).
- Participation in ICC 2021, Dec 14-18, 2021, Florence, Italy (Daniel Szatmari, Monika Kopecká, Ján Feranec, Tomáš Goga), oral presentation by Daniel Szatmári.
- Participation in IGARSS 2021 (virtual), by oral presentations and chairing sessions (Jonathan Li, Yifang Ban, José Marcato Jr, Haiyan Guan, Yiping Chen, and other commission members).
- Participation in ISPRS Nice Congress 2020 (virtual), by oral presentations and chairing sessions (Jonathan Li, Ruisheng Wang, Haiyan Guan, Yiping Chen and other commission members).
- Participation in IGARSS 2020 (virtual), by oral presentations and chairing sessions (Jonathan Li, Yifang Ban, José Marcato Jr, Haiyan Guan, Yiping Chen and other commission members).
- Participation in EuroCarto 2022, September 19-21, Vienna, Austria by serving on the scientific committee, poster presentation (Daniel Szatmári, Ján Feranec, Monika Kopecká, Róbert Fencik, Tomáš Soukup).

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## Publications

(underlined are Commission members)

- Geomatica, Special Issue on “**Advances in Geospatial Mapping and Modeling**”, guest editors: Jonathan Li, Shabnam Jabari, Ruisheng Wang, published in 2022.
- Canadian Journal of Remote Sensing, Special Issue on “Large-Scale Deep Learning for Sensor-Driven Mapping”, guest editors: Jonathan Li, Ruisheng Wang & Roger Wheate, published in vol. 47, no. 3, 2021.
- Remote Sensing, Special Issue “Deep Learning in Remote Sensing: Sample Datasets, Algorithms and Applications”, guest editors: Guoqing Li, Bing Zhang, Thomas Blaschke, Junshi Xia, Chuang Liu, Carol Song, Philippe De Maeyer, Yifang Ban, Xiaochuang Yao & Amani J. Uisso, published in vol. 13, no. 11, 2021.
- Remote Sensing, Special Issue on “3D Reconstruction Based on Remote Sensing Imagery and LiDAR Point Clouds”, guest editors: Linli Zhu, Jonathan Li, & Sylvie Daniel, published in vol. 13, 2021.
- IEEE Transactions on Intelligent Transportation Systems, Special Issue on “3D Sensing in Intelligent Transportation”, guest editors: Chenglu Wen, Ayman F. Habib, Jonathan Li, Charles K. Toth, Cheng Wang, Hongchao Fan, published in vol. 22, no. 4, 2021.
- Remote Sensing, Special Issue “Global Geospatial Information and Hazards Management for Smart Environments”, guest editors: Guoxiang Liu, Saeid Pirasteh & Jonathan Li, published in vol. 11, 2019.

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## Notable cross-disciplinary events

(e.g. with other ICA Commissions/WGs, regional and international communities)

- Organized the joint event of the 7th International Conference on Earth Observation for Environmental Changes (EOEC 2021) and the 9th International Conference on Geo-information Technologies for Natural Disaster Management (GiT4NDM 2021), 3 – 5 December 2021, Conference Chair: Jonathan Li, and others Yifang Ban, Jan Feranec, Hongchao Fan, Julian Smit and other commission members serving on the SC), jointly with ISPRS, FIG, IAG.

## Notable public events

(e.g. invited public speech, Mapathon, TED talks, hackathon, etc.)

- Geo for Good Summit 2022 (in person), Oct. 4-6, Google Campus, oral presentation, Yifang Ban.
- Participation in the 11th World Urban Forum, invited panelist and training sessions on EO4SDG Toolkit, June 28-30, 2022 in Katowice, Poland, oral presentation, panel discussion and training, Yifang Ban.
- Geo for Good Lighting Talk Series #10 (virtual): Climate Action & Science, oral presentation, Yifang Ban.
- The 28<sup>th</sup> International Conference on Geoinformatics 2021 (virtual), Keynote, Yifang Ban.
- UN COP26 (2021, virtual) Side Event ‘Earth Observations to build sustainable and climate resilient cities and communities’, oral presentation, Yifang Ban.
- GEO Week 2021 (virtual), Side Events ‘GEO GEE Program’ & ‘Using the EO Toolkit for Sustainable Cities and Human Settlements to Support Equitable Development and Climate Resilience’, oral presentations, Yifang Ban.
- Geo for Good Summit 2021 (virtual), Crisis Response, oral presentation, Yifang Ban.
- Geo for Good Summit 2020 (virtual), Lightning Talks, oral presentation, Yifang Ban.
- UN World Urban Forum 10 (2020), oral presentation and panel discussion, Yifang Ban.

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## Educational highlights

(e.g. degree programs, MOOCs, lifelong learning courses)

- N/A.

## Any other sharable experiences

(e.g. invited public speech, Mapathon, TED talks, hackathon, etc.)

- Participated in the Canadian Team and submitted a Bid to host ICC 2025 in Vancouver, Canada in June 2022 (Jonathan Li, Ruisheng Wang), by the Canadian Institute of Geomatics, jointly with Canadian Cartographic Association, and ICA Commission on Art and Cartography. **Vancouver has been selected for hosting ICC 2025 by ICA.**
- Submitted the proposed joint event of the 8th International Conference on Earth Observation for Environmental Changes (EOEC 2023) the 10th International Conference on Geo-information Technologies for Natural Disaster Management (GiT4NDM 2023) to be hosted by the Norwegian University of Science and Technology (NTNU), Trondheim, Norway in June 26-28, 2023, which has been approved by the ICA Executive Committee in August 2022 (Hongchao Fan, Jonathan Li and other commission members). **To be relocated to Doha, Qatar, Nov 2023 (Rana Jawarneh, Saied Pirasteh, Rifaat Abdalla Jonathan Li and other Commission members).**
- Commission Chair (Jonathan Li) has recruited more **new national representatives or members** for the Commission, including **Finland, India, Mexico, Oman, Qatar.**

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## Upcoming events and planned actions

### 1. Co-organizing/co-sponsorship of international conferences:

- Co-organizing the joint event of the 8th International Conference on Earth Observation for Environmental Changes (EOEC 2023) the 10th International Conference on Geo-information Technologies for Natural Disaster Management (GiT4NDM 2023) Trondheim, Norway in June 26-28, 2023 (Conference Chair: Hongchao Fan, Jonathan Li, Yifang Ban, Jan Feranec, Ruisheng Wang and other commission members serving on the SC).
- Co-organizing the 12th International Conference on Mobile Mapping Technology (MMT 2023, in person), (Jonathan Li, serving on PC).
- 2 Virtual Workshops on Sensor-driven Mapping, 2022/2023 (Jonathan Li, Yifang Ban, Jan Feranec, Ruisheng Wang and some other commission members).

### 2. Organizing of special issues for journals:

- JAG Special Issue on Advances in Remote Sensing for Intelligent Transportation Systems, edited by Yongtao Yu, Haiyan Guan, Pedro Arias-Sánchez, Rade Hajdin, Srinivas Pulugurtha, 2022-2023.
- JAG Special Issue on Advances in Mobile Mapping Systems for Urban Digital Twins (Guest Editors: Heidar Rastiveis, Michel J. Olsen, Lingli Zhu, Lingfei Ma, Andrea Masiero), 2021-2022.
- JAG Special Issue on Point Cloud Understanding in LiDAR Remote Sensing, edited by Haiyan Guan, Yongtao Yu, Ayman Habib, Sander Oude Elberink, Michael Chapman.
- JAG Special Issue on Deep Learning for Environmental Remote Sensing, edited by José Marcato Junior, Linlin Xu, Raquel Oliveira, Farid Melgani, Feng Xu, 2021-2022.

### 3. Making open access label benchmarks:

- Waterloo Building dataset for urban mapping 2022/2023 (Jonathan Li).
- iMLS indoor dataset for indoor mapping (Jonathan Li).
- Building Façade dataset for street-view mapping 2022/2023 (Jonathan Li).

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## Succession Planning for 2023-2027 Term

- **Prof. Yifang Ban** (KTH Royal Institute of Technology, Sweden) is willing to serve as **Commission Chair** during **2023-2027**.
  - having served as the Vice Chair (2013-2015, 2015-2019, 2019-2023)
  - was Swedish Representative to the Commission during 2008-2013
- **Prof. Ruisheng Wang** (University of Calgary, Canada) is willing to serve as **Commission Vice Chair** during **2023-2027**.
  - having served as the Vice Chair (2019-2023)
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- **Prof. Jonathan Li** (University of Waterloo, Canada) will stepdown from the **Commission Chair** position during ICC 2023 in Cape Town.
  - having served as the Vice Chair (2008-2011, 2011-2015)
  - having served as the Chair (2015-2019 and 2019-2023)
  - Will remain as Commission Member.
- **Dr. Ján Feranec** (Institute of Geography, Slovak Republic) will stepdown from **Vice Chair** position during ICC 2023 in Cape Town.
  - having served as the Vice Chair (**Jan: please add your terms**)
  - will remain as Commission Member



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## Planned activities during 2023-2027

- 2023: Co-organizing the joint event on EOEC 2023 & GiT4NDM 2023 in Doha, Qatar, Nov-Dec 2023.
- 2024: Organizing a special issue in JAG with the selected papers submitted to the joint event on EOEC 2023 & GiT4NDM 2023.
- 2025: Organizing sessions in ICC 2025 in Vancouver, Canada
- 2025: Co-organizing the joint event on EOEC 2025 & GiT4NDM 2025 in Zhuhai, China, Jan-Feb 2025
- 2026: Organizing a special issue in JAG with the selected papers submitted to the joint event on EOEC 2025 & GiT4NDM 2025.
- 2027: Organizing sessions in ICC 2027, TBD

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