2021 digital edition - XXIVth ISPRS Congress Programme (June 28, 2021)

All hours provided in this document are Central European Summer Time (CEST / GMT + 2).

<div align="center">

Thursday 8 July
Thematic Sessions
Live

</div>

08:00 - 08:50: Digital Twins
Chairpersons: Arzu Çoltekin (FHNW), Sidonie Christophe (LASTIG)
- TH.1.1: #658 Image-Based Reality-Capturing and 3d Modelling for The Creation of VR Cycling Simulations. **Wissam Wahbeh**, Manuela Ammann, Stephan Nebiker, Michael Van Eggermond, Alexander Erath.
- TH.1.2: #382 *Creating 3D indoor first responder situation awareness in real-time through a head-mounted AR device*. **Bart-Peter Smit**, Robert Voûte, Edward Verbree.
- TH.1.3: #671 *Embodied digital twins for environmental applications*. Pejman Sajjadi, Jiayan Zhao, Jan Oliver Wallgrun, Jiawei Huang, Mahda Bagher, **Alexander Klippel**.
- TH.1.4: #578 *Hybrid GIS-BIM approach for the Torino Digital-Twin: the implementation of a 3D city geodatabase for floor-level urban analysis*. **Giulia Sammartano**, Marco Avena, Marco Cappellazzo, Antonia Spanò.

09:00 - 09:50: Unconventional applications for geospatial deep learning
Chairpersons: Matthieu Molinier (VTT), Devis Tuia (EPFL)
- TH.2.1: #306 *Deep learning for vessel detection and identification from spaceborne optical imagery*. **Giona Matasci,** Jonathan Plante, Kevin Kasa, Payam Mousavi, Andrew Stewart, Andrew Macdonald, Anne Webster, Jennifer Busler.
- TH.2.2: #512 *Deep no learning approach for unsupervised change detection in hyperspectral images*. **Sudipan Saha**; Lukas Kondmann; Xiao Xiang Zhu.
- TH.2.3: #649 *JUngle-Net: using explainable machine learning to gain new insights into the appearance of wilderness in satellite imagery*. **Timo Tjaden Stomberg**, Immanuel Weber, Michael Schmitt, Ribana Roscher.
- TH.2.4: #708 *End-to-end physics-informed representation learning from and for satellite ocean remote sensing data*. **Ronan Fablet**, Mohamed-Mahmoud Amar, Quentin Febvre, Maxime Beauchamp, Bertrand Chapron.

10:00 - 10:50: AI for Knowledge Discovery in Geosciences
Chairpersons: Anca Anghelea (ESA), Diego Fernandez-Prieto (ESA)

- TH.3.1: #252 *AI4EO: Reasoning, Uncertainty, Ethics and Beyond*. **XiaoXiang Zhu.**
- TH.3.2: #258 *Causal inference in Earth system sciences*. **Jakob Runge.**
- TH.3.3: #316 *Explainable Deep Learning: Paradigms for Earth Observation*. **Mihai Datcu.**
- TH.3.4: #317 *Asking questions to Sentinel images: a deep learning perspective*. **Devis Tuia**, Sylvain Lobry.
- TH.3.5: #730 *Remote sensing, AI and innovative prediction methods for adapting cities to the impacts of the climate change*. **Beril Sirmacek.**
- TH.3.6: #253 *Earth system data cubes: towards a multivariate understanding of regional to global land surface dynamics*. **Miguel Mahecha,** Fabian Gans, Gunnar Brandt, Markus Reichstein, Carsten Bruckmann.

11:00 - 11:50: Towards resilient & ubiquitous navigation
Chairperson: Charles Toth (OSU)

- TH.4.1: #775 *Cubesat onboard algorithm for space debris motion determination by processing stereo images*. **Sergei Petrovich Simakov,** Igor Vitalevich Belokonov.
- TH.4.2: #417 *Image-based orientation determination of mobile sensor platforms*. **Oliver Hasler**, Stephan Nebiker.
- TH.4.3: #479 *Analysis of positioning deviation between Beidou and GPS based on National Reference Stations in China*. **Ming Chen**, Qinglan Zhang.
- TH.4.4: #513 *Feasibility Verification of Virtual Reference Station Technology in Geological Hazard Monitoring*. **Qinglan Zhang**, Ming Chen, Junli Wu, Chaoqian Xu, Fan Wang.
- TH.4.5: #745 *Assessment of car collaborative positioning with UWB and vision*. **Andrea Masiero**, Charles Toth, Jelena Gabela, Guenther Retscher.
- TH.4.6: #146 *Dynamic routing for navigation in changing unknown maps using deep reinforcement learning*. **Yuci Han**, Alper Yimaz.

<div style="border:1px solid green;padding:8px">

13:00 - 15:00: Forum #1

Towards Transformational Change: Potential Contributions of ISPRS and the Role of the Youth in Sustainable Development
(organized by UNEP and ISPRS Student Consortium)
Coordination :

- *ISPRS Student Consortium: Sheryl Rose Reyes, Nicolas Pucino and Laxmi Thapa.*
- *UNEP: Adele Roccato and Pierre Boileau.*

</div>

<div style="border:1px solid magenta;padding:8px">

15:15 - 16:15: Keynote Speaker #7
Chairperson: Songnian Li

- **The Samuel Gamble Award.** Marlene McKinnon, Songnian Li.
  Recipients: Jonathan Li & Jan Skaloud.
- **Sarah Gallagher (Univ. of Western Ontario and Canadian Space Agency, Canada).** *Space-based Earth observations. Challenges and new opportunities.*

</div>

16:30 - 17:20: ISPRS Scientific Initiatives & Education and Capacity Building Initiatives (I)
Chairperson: Songnian Li (Ryerson University)
- TH.5.1: *The ISPRS Benchmark Test on Indoor Modelling*. **Kourosh Khoshelham**, Ha Tran, Debaditya Acharya, Lucia Díaz Vilariño, Zhizhong Kang, Sagi Dalyot.
- TH.5.2: *GeoBIM benchmark: reference study on software support for open standards of city and building models*. **Francesca Noardo**, Ken Arroyo Ohori, Filip Biljecki, Claire Ellul, Lars Harrie, Thomas Krijnen, Margarita Kokla, Jantien Stoter.
- TH.5.3: *International Benchmarking of terrestrial Image-based Point Clouds for Forestry*. Markus Hollaus, **Martin Mokroš**, Yunsheng Wang.
- TH.5.4: *LightCam: Enlightening the camera obscura - Where photogrammetry, computer and robotic vision meet*. **Erica Nocerino**, Fabio Menna, Ronny Hänsch.

17:30 - 18:20: ISPRS Scientific Initiatives & Education and Capacity Building Initiatives (II)
Chairperson: Songnian Li (Ryerson University)
- TH.6.1: *Development of an Online Spectral Library for Pigments of Paintings*. **Shuqiang Lyu**, **Miaole Hou**, Ahmed Shaker Abdelrahman, Jeffrey Lee.
- TH.6.2: #411 *UP4DREAM capacity building project: UAS based mapping in developing countries.* Alessio Calantropio, **Filiberto Chiabrando**, Jessica Comino, Andrea Lingua, Paolo Maschio, Tautvydas Juskauskas.
- TH.6.3: *Development of educational content for the "D3MOBILE Metrology World League*. **Juan Pedro Ortiz-Sanz**, Mariluz Gil-Docampo, Teresa Rego-Sanmartín, Marcos Arza-García, Grazia Tucci, Erica Isabella Parisi, Valentina Bonora, Francesco Mugnai.
- TH.6.4: *ISAC assessment of past SI and ECBI projects*. **Ian Dowman**.

18:30 - 19:20: Cultural Heritage
Chairpersons: Michael Younan (GSEC), Fulvio Rinaudo (Politecnico di Torino)
- TH.7.1: #264 *Modelling the evolution of the archeological works developed in Qubbet El Hawa (Aswan, Egypt)*. **Jose Luis Pérez-García**, Antonio T. Mozas-Calvache, Jose Miguel Gómez-López, Alejandro Jiménez-Serrano.
- TH.7.2: #707 *Integrating topographic, photogrammetric and laser scanning techniques for a Scan-to-BIM process.* **Mauro Lo Brutto**, Emanuele Iuculano, Paolo Lo Giudice.
- TH.7.3: #732 *HBIM modelling for an historical urban centre*. **Antonia Spanò**, Marco Avena, Giulia Sammartano, Elisabetta Colucci.
- TH.7.4: #302 *The reliability assessment of the TLS registration methods - the case study of the Royal Castle in Warsaw*. **Jakub Markiewicz**, Sławomir Łapiński, Agnieszka Bocheńska, Patryk Kot.