A LOOK AHEAD TO THE XXIV ISPRS CONGRESS IN JUNE 2022

How Disruptive Technologies Shape Policy and the Social Landscape

Powerhouses of photogrammetry and remote sensing science and industry are set to gather in Nice, France, for the XXIV Congress of the International Society for Photogrammetry and Remote Sensing (ISPRS) from 6-11 June 2022. The ISPRS Congress is the premier event for researchers and practitioners in the fields of photogrammetry, remote sensing and geospatial information.

Participants will enjoy a week of immersion, this time with a special focus on how photogrammetry, remote sensing and spatial information contribute to science and society, including public policies and main aspects of life and work today. A central theme is how disruptive technologies (sensors and methods) shape and improve the current technology, policy and social landscape, and how they create new fields of application and opportunities for the public and private sectors, as well as interactions between them.

A gathering with a history

The ISPRS Congress has been held every four years for almost a century. The XXIV edition, originally planned for 2020, was postponed twice due to COVID-19 travel restrictions and impacts. In the meantime, digital events were held in 2020 and 2021 to enable authors to publish and present their work to a large audience of digital imaging system designers, photogrammetrists, remote sensing specialists and spatial information scientists. For the physical event in 2022, the organizers are putting an array of health and hygiene measures in place to ensure they can safely welcome a very large number of experts in Nice and allow for meetings, networking and cross-fertilization among colleagues in the same and related fields. For those unable to attend in person, hybrid participation formats will be made available.

isprs Nice 2022 logo

Interdisciplinary and ubiquitous

The ISPRS Congress exhibits the interdisciplinarity of the science today and the ubiquity of the application of sensing, whatever the platform (from satellite to citizen). The conference programme will feature ten thought-provoking keynotes and some 1,500 scientific presentations, as well as thematic sessions, technology deep dives, fora with roundtables, an industry exhibition, pre-conference tutorials and events for young professionals. The conference days are carefully programmed to give all attendees the opportunity to either delve into a single main topic or get a glimpse of major achievements and future trends in multiple domains.

The ten programmed keynotes are:

- The Pléiades Neo Constellation and its 3D mapping capacities (Michael Tonon, Airbus)
- The European Earth Observation Programme (Simonetta Cheli, ESA)
- Global remote sensing for sustainable development goals (Chen Jun, Chinese Academy of Engineering)
- Digitizing endangered cultural heritage (Yves Ubelman, ICONEM)
- Autonomous, agile and vision-controlled drones (Davide Scaramuzza, ETH-Zurich)
- AI for self-driving cars (Raquel Urtasun, Waabi and University of Toronto)
- Geometry processing and learning for 3D modelling of complex scenes (Pierre Alliez, INRIA)
- Education and serious games, the Netherlands in 3D Minecraft (Willemijn van Leuven, Geofort)

- Geoinformation and geoprocessing for smart cities and smart mobilities (Sisi Zlatanova, University of New South Wales, Sydney)
- Geospatial for pandemic monitoring, mitigation and prevention (Fazlay Faruque, University of Mississippi).

Pre-recorded video presentations of the papers will be available to registered participants via a digital platform before and during the event. These will help attendees choose sessions and presentations and build their own programme during the week. The digital platform will allow on-site and remote participants to also access the live streams and replays of all live sessions during and after the event. Live remote presentations of authors unable to join the congress on-site will be seamlessly integrated into the live sessions in the congress rooms and will be streamed on the digital platform. Remotely presenting authors will be able to interact with on-site chairs and participants in the session rooms as if they were present.

Four programme tracks

In addition to the plenary events, the ISPRS Congress is being organized around four programme tracks:

- **Scientific track** sessions provide the core of the scientific programme, emphasizing advances in the various branches of the science. These are being organized in line with the five ISPRS Technical Commissions: (1) Sensor Systems, (2) Photogrammetry, (3) Remote Sensing, (4) Spatial Information Science, and (5) Education and Outreach.
- **Forum track** sessions will focus on the interface between science and society. Rather than presenting innovations per se, participants from public organizations and industry, alongside influential decision-makers on current topics, will discuss and explore how innovations might impact society and potential roles the geospatial community could play in this changing context, such as by providing collective visions and roadmaps towards a better future. Topics considered range from global mapping to resource and climate change monitoring, smart cities and mobilities, autonomous navigation, digital globes and geoplatforms, spatial data infrastructures, open science/sources/data and scientific reproducibility, and cultural heritage.
- **Technology track** sessions will showcase the very latest in technologies, products and services. To supplement oral presentations, an **industry exhibition** will provide space for developers to demonstrate their latest innovations. The exhibition hall will be open from the afternoon of the first conference day (Monday 6 June) up to and including the fourth conference day (Thursday 9 June).
- **Youth track** sessions organized by the ISPRS Student Consortium will spotlight and inspire up-and-coming talent and young professionals. The main purpose will be to link students, young researchers and professionals in different countries and continents and provide a platform for information exchange, student-centred events and other actions to integrate young people more effectively into ISPRS. For example, there will be ‘speed dating’ with industry and academia, a summer school and a focus on activities of bachelor’s, master’s and PhD students.

Bridging with Industry programme

The XXIV edition will be the first ISPRS Congress to offer the ‘Bridging with Industry’ programme, aimed at consolidating and developing tighter links within ISPRS between science and industry. Mimicking the setup of the conference as a whole, the ‘Bridging with Industry’ programme offers two parallel tracks, specifically fora track and technology track sessions, as well as an industry exhibition. These are being designed with companies in mind, while also seeking to expand conference attendance by decision-makers, local authorities, developers, end-users and others.

The **fora track** will offer roundtables covering current topics from a variety of perspectives, such as societal needs, policymaking and decision-making, business models and science and technology. These will provide opportunities for insightful exchanges between decision-makers, market leaders, start-ups, leading scientists and technologists. **Technology track** events will offer companies a platform to present their innovations and products without the need to submit a scientific paper. These will target sales, marketing and technical staff, as well as customers and end-users.

Call for papers now open

Conference organizers opened the call for papers on 1 November and will be accepting submissions until 10 January 2022. To be successful, submissions must showcase new achievements (in terms of methods, experiments and fields of application) that help shift understanding and advance the knowledge frontier. Submissions should fall within the scope of the five ISPRS Technical Commissions:

- Sensor Systems
- Photogrammetry
- Remote Sensing
- Spatial Information Science
- Education and Outreach

Alternatively, submissions may concern application-driven or method-driven contributions on topics that do not exactly fall into the above areas. Examples include, but are not limited to:

- Geospatial information for climate change
- GIS, health and pandemic
- Perception and georeferencing for autonomous navigation
- Automated forest inventory from remote sensing sensors
- Pattern analysis and machine learning methods for scene understanding
- Deep learning and learned representations of spatial data

- Parallel and distributed computing for upscaling processing methods
- BIM, semantic modelling, development and linking of ontologies
- Quality and uncertainty modelling
- The Internet of Things, sensor web, SDI and linked data
- Digital globes, geospatial platforms, geospatial data infrastructures and Earth data cubes
- In-person and distance educational framework and training
- Open-source and reproducible science
- Geospatial data economics

Lastly, authors can submit their work to one of the following thematic sessions:

- Web-based sharing of resources for mass awareness programmes
- AI for knowledge discovery in geosciences
- CIPA (Comité International de la Photogrammétrie Architecturale)
- Cultural heritage
- Deep learning for satellite image time series analysis
- Digital twins vision papers
- News approaches in radio sciences for disaster management and remote sensing
- EuroSDR/national mapping and cadastral agencies
- Polarization remote sensing and photogrammetry
- Unsupervised and weakly supervised deep learning for Earth observation
- Simulation and visualization
- Processing of multi-satellite and bi-static synthetic-aperture radar (SAR) constellation data
- Open Geospatial Consortium (OGC) standards, driving reproducibility of scientific workflows
- Towards resilient and ubiquitous navigation
- ISPRS scientific and educational and capacity building initiatives
- Preliminary assessment of Airbus Pleiades Neo geoimagery for photogrammetric and radiometric workflows.

More information

For more information on the ISPRS conference, to register or to submit an abstract: https://www.isprs2022-nice.com/
