



Scientific and Fundamental Aspects of GNSS

8th International Colloquium

14 – 16 September 2022

**Sofia University St. Kliment Ohridski
Sofia, Bulgaria**

organised by the European Space Agency (ESA) and Sofia University St. Kliment Ohridski

CALENDAR OF EVENTS

Calendar of Events

Abstract Submission Deadline:	08 April 2022
Notification of Acceptance:	06 May 2022
Preliminary Programme:	20 May 2022
Early Registration Deadline:	22 July 2022
Authors Registration Deadline:	22 July 2022
Oral Presenters Biography:	22 July 2022
Colloquium Dates:	14-16 September 2022
Full Paper Submission Deadline:	06 October 2022

For more information visit: <https://atpi.eventsair.com/gnss2022>

Objectives

This colloquium brings together members of the European scientific community and their international partners involved in the use of Galileo and other GNSS in their research. The various possibilities to use Galileo and other GNSS satellites for scientific purposes shall be reviewed. The Colloquium shall contribute to GNSS development in general, based on scientific approaches, in particular to raise awareness of those in charge of Galileo development and operations as well as in development of recent scientific achievements in the field.

The colloquium will address six major areas of research:

1. Scientific applications in meteorology, geodesy, geodynamics, geophysics, space physics, oceanography, land surface and ecosystem studies, using either direct or reflected signals, differential measurements, phase measurements, radio occultation measurements, using receivers placed on the ground, in airplanes or on satellites;
2. Scientific developments in physics with a potential impact on future GNSS, particularly in testing fundamental laws of physics (general relativity, quantum technologies, etc.);
3. Aspects of Metrology such as reference frames, on board and ground clocks, precise orbit determination and time and frequency transfer;
4. Scientific aspects of satellite navigation, positioning and its applications, such as signal propagation, tropospheric and ionospheric corrections, multi-constellation aspects, hybridisation with additional sensors and integrated navigation, precise positioning;
5. Transversal topics of interest to a wide number of scientific fields including collection of GNSS Big Data (baseband data recording), and GNSS scientific data archives, Internet of Things positioning for Science, Scientific Payloads in GNSS satellites, novel disruptive technologies for science, the use of Cubesats, HAPS, UAVs, and in general, autonomous vehicles, for GNSS science, software receivers and low-cost SDR platforms, and the topic of GNSS science and education.
6. Systems and technologies for navigation in space: use of GNSS in terrestrial orbits and beyond terrestrial orbits (e.g. GNSS to the Moon), dedicated systems for exo-navigation (e.g. new systems for PNT on the Moon, Mars, in the solar system, etc.) and their scientific possibilities.

The conference will be organised as a series of plenary talks, parallel half day sessions and poster presentation throughout the duration of the event.

The conference is organised by the European Space Agency (ESA) and the Sofia University St. Kliment Ohridski.

Companies and organisations interested in becoming sponsors, please contact the ESA Conference Bureau at: esaconferencebureau@atpi.com

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