

## **Programme of the 4<sup>th</sup> National Forum on Contemporary Space Research (NaFSKI-IV)**

**19–20 October 2023, Sofia Tech Park, The Venue hall**

----- **19 October (Day 1)** -----

**9:00 Registration**

**9:30 Opening**

- NaFSKI-IV Organising Committee
- Prof. Dr. Georgi Angelov (Deputy Minister of Innovation and Growth)

**10:00 Sponsor session** (moderator: Vladimir Bozhilov)

- ENDUROSAT - 10'
- Space Fluent - 10'
- Sfera Technologies - Downstream as a service - 10'

**10:30 Funding opportunities for space research I** (moderator: Vladimir Bozhilov)

- Presentation by the European Space Agency on the Plan for the European Cooperating States (PECS) (Michele Iapaolo) (*in English*) - 30'

**11:00 Coffee break**

**11:30 Funding opportunities for space research II** (moderator: Vladimir Bozhilov)

- The programmes Pathfinder, Transition and Accelerator of the European Innovation Council (Stela Tkatchova) (*in English*) - 30'
- The European Innovation Council on private efforts on space debris removal (Stela Tkatchova) (*in English*) - 30'
- Ministry of Innovation and Growth of Bulgaria - 10'

**12:40 End of the morning session**

**14:00 Satellites & platforms** (moderator: Hristomir Yordanov)

- Introduction: ENDUROSAT (Victor Danchev) - 30'
- Form and function - Satellite Architecture outside the box (Valentin Stavrev) - 20'

**14:50 Missions & payloads** (moderator: Hristomir Yordanov)

- Introduction: Space Fluent (Simeon Ivanov) - 30'
- The NDeGRA Project (Stefan Lalkovski) - 15'
- Energy resolution study of CeBr scintillators with pixelized SiPM arrays (Galina Bistrev, Veronika Asova, Valentin Buchakchiev) - 15'

**15:50 Coffee break**

**16:20 Exoplanets** (moderator: Stefan Lalkovski)

- Searching for Exoplanets from Bulgaria - the EXO-RESTART Project (Trifon Trifonov, Vladimir Bozhilov, Denitza Stoeva, Evelina Zaharieva, Desislava Antonova, Milen Minev) - 30'

**16:50 Образование & популяризиране на науката** (moderator: Stefan Lalkovski)

- The "Space Education for Bulgaria" (SpaceEdu4BG) Project (Vladimir Bozhilov) - 15'
- The Astronomy Olympiad - a bridge between space and mathematics and physics education in Bulgaria (Alexander Kurtenkov) - 30'
- The Cosmos–Society connection and the importance of popularizing quantum communication technologies (Mariana Filipova, Anton Mladenov, Lachezar Georgiev, Boyan Zhekov) - 20'

----- **End of Day 1** -----

----- **20 October (Day 2)** -----

**9:30 Communications & remote Earth observations** (moderator: Rositsa Miteva)

- Intro & Demo Sfera Technologies (Zdravko Dimitrov) - 30'
- The project Destination Earth and the Earth digital twin - the idea, execution and perspectives (Elisaveta Peneva) - 30'
- Monitoring hot and wet extremes in Bulgaria with GRACE and GNSS (Bilyana Kostashki) - 30'
- ISME-HYDRO: e-Infrastructure for the management of water resources of rivers and dams based on artificial intelligence and satellite data (Mariana Damova) - 15'

**11:15 Coffee break**

**11:45 Radio astronomy & solar physics** (moderator: Zdravko Dimitrov)

- Development of radio astronomy in Bulgaria – the STELLAR project and the LOFAR-BG telescope (Kamen Kozarev) - 45'
- Scientific research in the field of solar physics and space weather at the Institute of Astronomy - BAS (Rositsa Miteva) - 30'

**13:00 End of the morning session**

**14:00 Universe, gravity and particles** (moderator: Yuliya Mutafchieva)

- Dark matter – the PADME experiment (Venelin Kozhuharov) - 30'
- Improved methods for signal reconstruction at the PADME experiment (Georgi Georgiev) - 15'
- Machine learning assisted reconstruction of positron-on-target annihilation events (Kalina Dimitrova) - 15'
- Neutrino physics (Martin Ivanov) - 30'
- Assessing the anomalous magnetic moment of the tau-lepton (Aleksandrina Kirkova) 15'
- Gravity and black holes (Galim Gylchev) - 30'

**16:15 Poster session + Coffee break 30'**

- Poster presentations
  - Analysis of recent earthquakes using SAR satellite data (Lyuba Dimova)
  - Application of nanotechnology in aerospace industry (Adelina Miteva)
  - The most promising alloys for aerospace applications (Adelina Miteva, Margarita Dimitrova)
  - Aluminium in the industry and in household (Anna Petrova, Svetlana Yaneva, Nikolay Stoychev)
  - The climatological Lagrangian Coherent Structures in the Black Sea (Mainara Gouveia, Elisaveta Peneva, Emil Stanev, Irina Gancheva)

**16:45 Cosmic rays & nucleosynthesis** (moderator: Irina Gancheva)

- Galactic cosmic radiation (Marusia Bachvarova, Dimitar Draganov) - 30'
- Beam parameter reconstruction with Timepix arrays at the PADME experiment (Svetoslav Ivanov) 15'
- Influence of beam content composition on testbeam studies of hadron calorimeters (Radoslav Simeonov) 15'
- Nucleosynthesis – fast neutron capture (Stefan Lalkovski) - 30'
- Nuclear astrophysics - magnetars (Yuliya Mutafchieva) - 30'

----- **End of Day 2** -----

----- **In front of the Venue hall (throughout the whole event)** -----

- Career segment and booths
- Boards with the poster presentations