

H-SPACE 2024, April 25-26 - PRELIMINARY PROGRAM, as of March 7, 2024

<https://space.bme.hu>

Day 1, April 25 (hybrid: presenters in person in Budapest, participants in person and online)

13:00 Onsite registration is open

14:00 Opening *Session chair: László Bacsárdi*

Hassan Charaf, dean, BME Faculty of Electrical Engineering and Informatics

Orsolya Ferencz, Ministerial Commissioner for Space Research, Ministry of Foreign Affairs and Trade

Kálmán Kovács, President, Hungarian Astronautical Society

14:15 Keynote 1 *tbc*

14:40 Keynote 2 Small satellite Jaan Praks, Aalto University, Finland

15:05 Keynote 3 PocketQube Caius Reza, Alba Orbital, Glasgow, United Kingdom

15:30 Poster highlight talks

16:00 Coffee break and poster session

16:45 Session Science and Technology 1 12 min talk + 3 min Q&A

Talk 1 53 The future of satellite frequency usage satellite agenda items for WRC-23 and WRC-27

Talk 2 3 Hungarian participation in the Comet Interceptor mission

Talk 3 4 Radio interferometric observations of the JUICE spacecraft en route to Jupiter

Talk 4 10 SPECTRE, a self-deploying bi-stable composite tape-spring mechanism for future nanosatellite missions

Talk 5 32 FOTEC's Testing and Qualification Capabilities for Small Satellites

Talk 6 43 Thermal performance characterization of battery insulation on ATL-1 picosatellite mission

Talk 7 44 Fast and flexible developments of digital logics: applications in the first Hungarian astrophysical satellite, GRBAAlpha

Talk 8 30 Testing remote clock synchronization with GPSDO-s and a free space laser communication system

18:45 Wrap up of the first day - by László Bacsárdi

Day 2, April 26 (online)

9:00 Welcome of the second day

9:05 Invited talk *tbc*

9:30 Session Science and Technology 2 12 min talk + 3 min Q&A

Talk 1 28 Hungarian participation in the European Space Agency's JUICE (Jupiter Icy Moons Explorer) mission

Talk 2 57 The Space Weather Monitoring and Data Service at HUN-REN Institute of Earth Physics and Space Science (EPSS)

Talk 3 54 Reproduction of the Lunar Radar experiment failure and success during implementation

Talk 4 31 Simulating Solar Particle Events: New advances in Proton irradiation techniques for biological samples at ATOMKI

Talk 5 15 Review of Lagrangian Points and Scope of Stationary Satellites

Talk 6 29 Space Debris: Overview and Mitigation Strategies

Talk 7 37 The Expected Impact of SysML v2 to Cooperation in the Space Sector

Talk 8 47 EON: The first year of the re-started optical tracking of artificial satellites at Baja

Talk 9 48 Study of Microwave Electrothermal Propulsion System

Talk 10 8 Aether S, a Student-Developed Supersonic Sounding Rocket as a Carrier for Scientific Payloads

Talk 11 2 Assessing Natural and Anthropogenic Ground Deformation Using Sentinel-1 PSI in the Region of Cluj-Napoca, Romania

12:15 Break

13:15 Opening of the afternoon session

13:20 Invited talk *tbc*

13:40 Session Education and Outreach 12 min talk + 3 min Q&A

Talk 1	27 Assessment of Cooperation in the Space Sector
Talk 2	14 Engineering and Management of Space Systems (EMSS) - an International Joint Master's Double-Degree Programme
Talk 3	42 Space Science in the Classroom
Talk 4	41 The educational and awareness-raising activities of BME Suborbitals
Talk 5	55 Introduction of space science in higher education: space science in BSc engineering

15:00 Closing of the conference

Poster presentations

Poster 1	6 Probing Low Mass Neutrinos in Gravitational Wave Environments: A Novel Approach with Feynman Diagrams & Applications In Space Science
Poster 2	7 Fast Routing in Entanglement-based Satellite Networks
Poster 3	9 Circular food production in space environment – Insect protein production by supplementing green biomass in feed
Poster 4	11 Thermal properties of heterogeneous materials using extended heat equations
Poster 5	12 Spectral instrument optimization for asteroid missions by space weathering simulation
Poster 6	13 RTK GNSS monitoring under high ionospheric activity
Poster 7	16 High-redshift radio quasars from ground and space
Poster 8	17 Investigation of Glass-foam systems as Insulation materials for Space applications
Poster 9	18 MAUVE – UV-Vis Spectroscopy of Stars by a 16U CubeSat
Poster 10	19 Comprehensive analysis of the ionospheric response to the largest geomagnetic storms from solar cycle 24 over Europe
Poster 11	20 Proposal Of A Hybrid CSNN-PSO Algorithm For Improving Space Debris Identification And Classification
Poster 12	21 Transparent Planetary Polished Thin Section Rock Sample Maker for Hungarian Hunveyor Educational Space Probe
Poster 13	22 Remote sensing of hydrological parameters by GNSS reflectometry
Poster 14	23 Development of GIS software based spatial ejecta estimation algorithm to support the NASA-ESA Artemis program
Poster 15	24 Distributed Intelligence and Sensor Network in the Power Systems of MRC-100 Satellite
Poster 16	25 The Hungarian contribution to the T-FORS Horizon Europe project
Poster 17	26 Application of Rain Sensor Device in Reliable Attenuation Statistics Calculations on Satellite and Terrestrial Radio Connections
Poster 18	33 Radiation characteristics measurement on a sounding rocket near the Kármán line
Poster 19	34 CubeSim - A Simulation Framework for small Satellites
Poster 20	36 An event-based hydrological model for arid/hyper-arid and Martian environment
Poster 21	38 The role of entanglement in the development of satellite-based quantum internet
Poster 22	39 Preliminary design of payload for sounding rockets
Poster 23	40 Fuel consumption optimization for suborbital solid fuelled rocket engines
Poster 24	45 Numerical investigation of the spanwise mean velocity gradient method for transition delay
Poster 25	49 Class-Space: From the classroom to space!
Poster 26	50 The perspective of launch capacity and strategic sovereignty of European space activity
Poster 27	51 Space Awareness: latest fireball events and the independent allsky7/8 network of Hungary
Poster 28	56 The first module in space by SZESAT
Poster 29	46 Radiocommunications with the International Space Station (ISS)
Poster 30	58 Daytime Optical Background Radiation