

# Joint Working Group Session (WG B, D & S) on Lunar PNT

VIC, Vienna, Austria & On-line  
25 - 26 June 2024

## AGENDA

**Day 1 June 25 1400-17:30 CEST**

### 1. Lunar PNT system updates (3 hours)

- CONOPS, capabilities, status, schedule/phasing, overall design
- GNSS in lunar vicinity
- Spectrum plans
- Approach to interoperability, compatibility, availability

#### Presentations:

- **LNIS PNT WG:** LunaNet: Interoperability for Lunar PNT, Cheryl Gramling (NASA)
- **USA:** Lunar PNT System Update, Cheryl Gramling (NASA)
- **USA:** Lunar GNSS Receiver Experiment (LuGRE), Joel Parker (NASA)
- **Europe:** Moonlight LCNS and Lunar Pathfinder: European contribution to lunar Communication and Navigation Services, Dr Javier Ventura-Traveset, Moonlight Programme Navigation Manager (ESA)
- **Japan:** Japan Lunar Navigation Satellite System (LNSS) and Its Contribution Towards Lunar Augmented Navigation Service, Masaya Murata (JAXA)
- **China:** The Envision of the Earth-Moon and Deep Space Communication-Navigation-Remote Sensing Integrated Constellation System, He Xiongwen (CAST)
- **China:** Verification of BDS SSV and Analysis of BDS/GNSS Application in Lunar Vicinity, Wang Yanguang (CAST Xi'an)
- **India:** Lunar Pseudolite system, Ashish Shukla (virtual)

### 2. Interoperability and compatibility lessons learned from ICG community (30 minutes)

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### Day 2 June 26 09:00-12:30 CEST

#### 1. Lunar spectrum (30 minutes)

- Lunar PNT Spectrum Overview and World Radio Conference update, Cathy Sham (NASA), Chair, Lunar Martian Spectrum Group, Space Frequency Coordination Group (SFCG) (virtual)

#### 2. Lunar reference frames & timing (1 hour)

Topics: Approach, development status, challenges, cross-region collaboration/integration, approach to interoperability and compatibility

#### Presentations:

- Lunar Foundational Reference Systems and Time: LunaNet Perspective, Masaya Murata (JAXA), for the LNIS PNT WG
- USA Timing Policy Document Overview, Cheryl Gramling (NASA)
- Lunar Reference Frame and Time Reference, Werner Enderle (ESA)

#### 3. Lunar PNT within ICG organization construct (30 minutes)

#### Discussion:

- Plans for Lunar PNT Joint working group meetings
- Formal actions to support ICG-18

#### 4. Joint ICG-IOAG multilateral cislunar PNT workshop announcement; Joel Parker, Masaya Murata (30 minutes)

- Workshop topics solicited from ICG Working Groups S, B, & D
- JWG support in Organizing Committee