The 9th Mission Idea Contest: to the Moon

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The 9th Mission Idea Contest : to the Moon (MIC9) briefing

Lunar Mission

Prof Herman Steyn

https://www.spacemic.net/

UNISEC GLOBAL University Space Engineering Consortium

MIC9 Overview

The lunar missions consider the use of one or more CubeSats placed into lunar orbit or one or more rovers deployed on the lunar surface. Designs are encouraged to demonstrate originality, impact, engineering elegance, and feasibility.

Category:

- Lunar Orbit CubeSat Mission (LOCM)
- Lunar Surface Rover Mission (LSRM)

Important dates:

Abstract submission due: **April 15, 2025**

Notification: **June 12, 2025**

Full paper submission(Finalists): **August 25, 2025**

Final presentation: **November 1, 2025** in Japan

(Selected finalists will make a presentation at MIC9.)

25 abstracts were submitted from 14 countries.

10 finalists and 4 semi-finalists were selected.

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Submissions

- 25 Abstracts from 14 countries
- 10 Finalists and 2 Semi-finalists from 7 countries
- Constellations or single satellites of 2U to 12U CubeSats in Lunar 100 km polar orbit
- Swarm of 2.5 kg or single 10 kg Lunar Rovers
- Payloads of Hyperspectral imagers, Multispectral imagers, LiDAR, Dosimeters, Dust particle detectors, Mass Spectrometers, Phase Array antennas, etc.
- Missions to Lunar surface or Lunar orbit

The 9th Mission Idea Contest Final Presentation

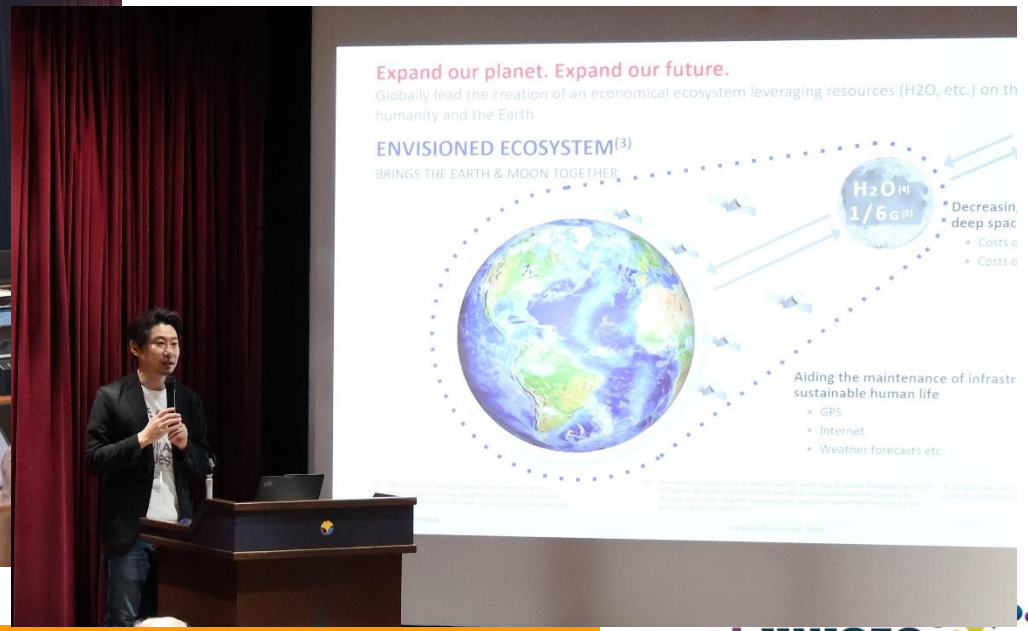
Date: November 1, 2025

Venue: Koshiba Hall, The University of Tokyo, Japan

Recording is availalble: https://www.spacemic.net/

Sponsor Presentation:

Takeshi Hakamada, ispace, inc.



Evaluation Criteria

Originality	**Novel concept not yet realized or proposed, or a new implementation of an existing capability or service (25).**
Impact	**Impact on society / Potential to expand scientific knowledge / Strengthen deep space mission motivation (25).**
Engineering	**Technical description and solutions (20).**
	Operational (protocol, communication and interaction during experiment) (15).
Feasibility	**Programmatic (realistic- cost, development schedule, infrastructure requirements) (15).**

Awards/Prize

- 1st Place 300,000JPY(about 2,000USD)
- 2nd Place 100,000JPY(about 667USD)
- Student Prize 50,000JPY(about 333USD)
- IAA Award

※1USD=150JPY

Finalist Presentation (1/2)

Title	Presenter
Exploring Lunar Ionosphere Characterization through Multi-CubeSat Occultation with Ranging Technology and Radiation Environment Analysis	**YiYu Chang**, **Yuhsiu Tien**, and **Chieh Lung**, National Central University, Taiwan
SELENE (Spectral Evaluator and Lunar Energetic-radiation Notification Experiment): A Lunar CubeSat constellation for evolving characterization of Lunar regolith and exosphere, with an experimental radiation forecasting system.	**Izaak Cerneaz, Charles Ward, Sam Magarey, Quenton Yeo**, The University of Sydney, Australia **Will Vallis**, Spiral Blue and The University of Sydney, Australia
Rover for In-Situ Umzi eNyangeni – No 1 (RISUN-1)	**Dirk Slabber**, isiLimela Space Systems, South Africa
Sat-GPT: Investigating Adaptive AI Performance in a Radiation-Intense Lunar Environment	**Grace Bruce, Mark Buddee, Alec Cook, Rishi Deshpande, Ashley Hanna , Cameron Mitchell, Isabella Tooher** and **Sophia Wood**, The University of Sydney, Australia
Taiwan-India Lunar Dust Analysis (TILDA) Mission	**Ying Liao**, National Taipei University of Technology, Taiwan

Finalist Presentation (2/2)

Title	Presenter
SLINQI – Stellenbosch Lunar Interferometric Network for Quasi-static Imaging	**Jandré Frey, Russouw Grobbelaar** and **Nortier Geyer**, Stellenbosch University (SLINQI), South Africa
LUNar ATmospheric Investigations with Cube-Sats (LUNATICS)	**Kelly Chen, Ellie Deveson, Joshua Dickford, James Hocking, Jasmine Khuu,** and **Aum Mehta**, The University of Sydney, Australia
Lunar Multi-Rover Lava Tube Exploration (LuMEX)	**Yunus Emre ÖZDEMİR** and **Elif Irmak KAYNAR**, Middle East Technical University, Turkiye
CubeSat Mission Concept for TREED (The REceiver Exploring Darkages)	**Takato Hatae** and **Yojiro Yamashiro**, The University of Tokyo, Japan
VISTA-PIPR Virtual Immersive Sensing and Terrain Analysis for Polar Ice Prospecting Rover Mission	**Abdulla Hil Kafi, Yuzuki Fukata, Taichi Nakamura** and **Kosuke Iwatsu** , Kyushu Institute of Technology, Japan

MIC9 Awards/Prize

1st Place

CubeSat Mission Concept for TREED (The REceiver Exploring Darkages)

Presenter: Takato Hatae and **Yojiro Yamashiro**, The University of Tokyo, Japan

2nd Place

VISTA-PIPR Virtual Immersive Sensing and Terrain Analysis for Polar Ice Prospecting Rover Mission

Presenter: Abdulla Hil Kafi, Yuzuki Fukata, Taichi Nakamura and **Kosuke Iwatsu** , Kyushu Institute of Technology, Japan

MIC9 Awards/Prize

IAA Award

Taiwan-India Lunar Dust Analysis (TILDA) Mission

Presenter: Ying Liao, National Taipei University of Technology, Taiwan

Students Prize

SLINQI – Stellenbosch Lunar Interferometric Network for Quasi-static Imaging

Presenter: Jandré Frey, Russouw Grobbelaar, Nortier Geyer, Stellenbosch University, South Africa

The 62nd Virtual UNISEC-Global Meeting

Semi-finalists presentation(1)

LUMOS: Lunar Underground Monitoring via Optical Sensing

Dohyeon Park, Yonsei University

Semi-finalists presentation(2)

Lunar Pole Link for Rover Self-Observation (LPLRSO): 2.4Ux5 Lunar CubeSat Constellation for Assisting Moon's Pole Rover Observation by self-navigation in harsh conditions

Tonklar Khaimuk, Tanis Phongphisantham, Yodsaphat Chomphuphong and Pakawat Nutthanithipat, Tohoku University

Second Place Winner Presentation

Abdulla Hil Kafi,

Kyushu Institute of Technology

See you on PreMIC10 !!

UNISEC GLOBAL
University Space Engineering Consortium

https://www.spacemic.net/

MIC Office info@spacemic.net

c/o UNISEC Office

2-3-2 Yayoi, Bunkyo-ku, Tokyo, 113-0032, Japan

Tel: +81-3-5800-6645