

## Laser Interferometer Lunar Antenna – a New Frontier in Multi-Messenger Astrophysics

*Prof. Karan Jani (Asst. Professor, Physics & Astronomy, Vanderbilt University, USA)*

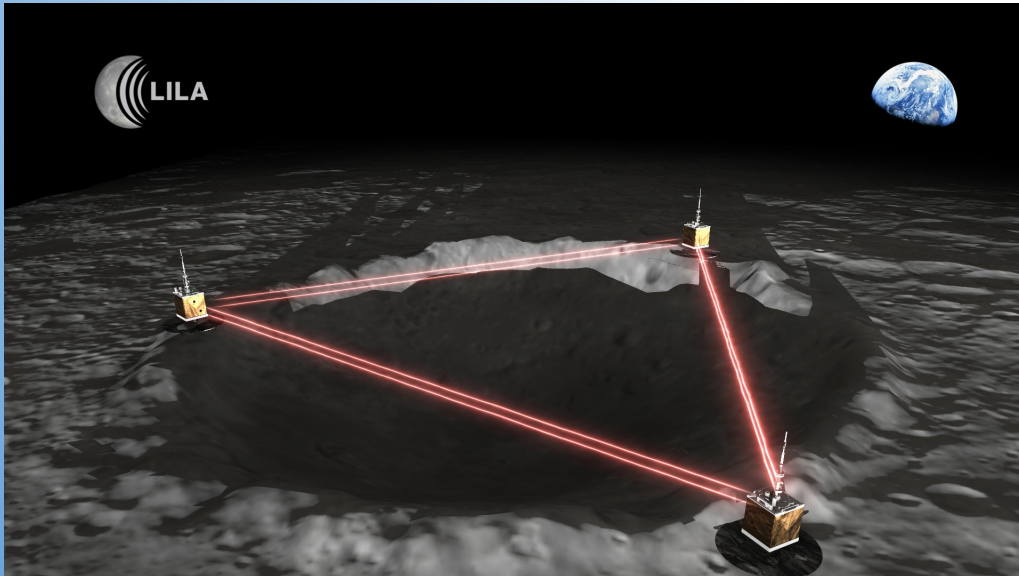


Image courtesy LILA | Lunar Labs Vanderbilt University

In this talk, the speaker will review LILA (Laser Interferometer Lunar Antenna) - a recent initiative within the multi-messenger astrophysics community, geoscientists, in collaboration with space industries, to develop a gravitational-wave detector on the surface of the Moon. The Moon's unique environment and location opens a new window in the gravitational-wave spectrum which is otherwise inaccessible from earth or space for next several decades. He will highlight Moon's unique role in multi-messenger astrophysics landscape and its synergy with detectors from earth and space, and will discuss LILA's timeline in the context of NASA Artemis, the commercial lunar exploration programs in the US, and lunar missions from India and Europe. In doing so, the broader community is invited to engage in the efforts for building an inclusive lunar multi-messenger collaboration.



*Prof. Jani joined Pennsylvania State University as an international student, where he earned Bachelor of Science degrees in Astronomy-Astrophysics and in Physics, with a minor in Mathematics, then to Georgia Institute of Technology, where he earned his Ph.D. in Physics. Along the way, he held research positions at the Max Planck Institute for Gravitational Physics, Perimeter Institute for Theoretical Physics, Caltech-LIGO, and Yale Astronomy. Now, he is at Vanderbilt University, where he holds the endowed position of Cornelius Vanderbilt Dean's Faculty Fellow in Astrophysics, serves as the founding Director of Vanderbilt Lunar Labs Initiative, and holds professor appointments in Physics & Astronomy, Data Science and Communication of Science & Technology.*

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## Wednesday, June 26 2024 at 02.30 p.m.

(Hybrid) Lecture Theatre AG 66, TIFR

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**Please note that the talk is on Wednesday at 14:30 hrs**