

**CHRIST**(DEEMED TO BE UNIVERSITY)
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Notice for the PhD Viva Voce Examination

Mr Ravi Kumar Yadav, Registration Number: 2270109, PhD Scholar at the School of Law, CHRIST (Deemed to be University) will defend his PhD thesis at the public viva-voce examination on Tuesday, 18 August 2026 at 11.15 am in Room No. 2208, Seminar Hall, Management Block, CHRIST (Deemed to be University), Pune Lavasa Off-Campus, Pune - 412112, Maharashtra, India.

Title of the Thesis : **A Critical Study of Commercial Mining of Outer Space from the Perspective of International Law and Policy**

Discipline : **Law**

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The members of the Research Advisory Committee of the Scholar, the faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva-voce examination.

Registrar (Academics)

Place: Bengaluru
Date: 11 August 2026

ABSTRACT

The commercial exploitation of outer space resources, once confined to science fiction, is rapidly becoming a tangible reality due to advances in space technology and the growing scarcity of essential resources on Earth. Celestial bodies such as the Moon and asteroids contain abundant water ice, Helium-3, and rare metals, which are of immense strategic and economic value. However, the international legal framework governing such activities remains inadequate and fragmented. The Outer Space Treaty (1967) prohibits national appropriation but is silent on the ownership and exploitation of extracted resources, while the Moon Agreement (1979) introduced the principle of the “common heritage of mankind” but suffers from limited ratification. In response, several states have enacted unilateral national laws permitting private ownership of extraterrestrial resources, raising concerns about equity, sustainability, and compliance with international norms. This study critically examines the gaps and ambiguities in the existing international space law framework, with particular attention to the principles of non-appropriation, equitable benefit sharing, environmental protection, and intergenerational justice. It evaluates the impact of national legislations, voluntary instruments such as the Artemis Accords, and comparative models from analogous regimes like UNCLOS and the Antarctic Treaty System. India, as an emerging space power and a signatory to the Outer Space Treaty but not to the Moon Agreement, has yet to develop a comprehensive legal framework for commercial space mining, making its role crucial in shaping future international governance.

The study follows a doctrinal and comparative legal research method, relying on treaties, national legislations, UN documents, and scholarly works to identify gaps and propose a multilateral governance framework. Ultimately, the study seeks to provide legal and policy recommendations for constructing a sustainable and inclusive international governance framework for space mining, balancing technological advancement with fairness, environmental stewardship, and long-term global interests.

Keywords: Commercial Exploitation of Outer Space, International Legal Framework, Common Heritage of Mankind, Equity and Sustainability

Publications:

1. **Yadav, R. K., & Somu, C. S. (2024).** Ethical and societal implications of artificial intelligence in space mining. In 2024 TQCEBT—2nd IEEE International Conference on Trends in Quantum Computing and Emerging Business Technologies. IEEE. <https://doi.org/10.1109/TQCEBT59414.2024.10545295>
2. **Yadav, R. K., & Somu, C. S. (2024).** Exploring the frontier: Space mining, legal implications, and the role of artificial intelligence. In 2024 TQCEBT—2nd IEEE International Conference on Trends in Quantum Computing and Emerging Business Technologies. IEEE. <https://doi.org/10.1109/TQCEBT59414.2024.10545181>