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## INTRODUCTION

Who owns an asteroid? Who has the right to mine and utilize resources that humans can take from space? The legal complexities of questions like these are fascinating to me, as there are many different legal regimes and views on issues, and this led me to assist my professor, Dr Sara Langston, on her research. The questions we attempted to raise through our research were based on the ethical implications of further space development. It is often asked 'how can we do it?' in a technical sense but it is far less often the question, 'can and should we do it?' legally.

## SUMMARY

Our research project for the International Astronautical Congress was titled, Oumuamua: Applying a Multi-Messenger Approach to Fundamental Legal and Ethical Issues for Developing Governing Frameworks on Space Mining. It attempted to analyze fundamental space mining legal and ethical questions to provide a deeper understanding and inclusive view on space mining issues and governance. It was inspired by the first recorded interstellar object, Oumuamua, entering our solar system in 2017. This was edited down to Legal Considerations For Space Mining as the audience at Embry Riddle is more technical and has less experience with the legal aspects regulating these activities. The purpose of this presentation is to share my research into only the legal aspects regulating space mining as it is a popular topic that people may not realize could be illegal depending on who is interpreting law.

## ACKNOWLEDGEMENTS

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## RESULTS

The base of all international space law is the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

- Outer Space Treaty
  - 1967
  - basic binding framework on the topic of space law
- Article I allows "Outer space...shall be free for exploration and use by all mankind without discrimination".
- Article II prohibits "Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."



The issue arises when the US passed the Commercial Space Launch Competitiveness Act which states:

- "A U.S. citizen engaged in commercial recovery of an asteroid resource or a space resource shall be entitled to any asteroid resource or space resource obtained."

This seems to go against international law which the US is legally bound to. The US argues that this is just another use of space and they are not claiming land in space, only recognizing ownership of the materials when they are brought back to Earth. So far, no company has been able to do this, and it is untested in courts of international law.

## METHODOLOGY

While researching this topic I started broadly and worked down to more specific law.

- general international space law
- soft laws
- national and supranational laws
- case laws and scholar interpretations

By starting broadly and moving inward, a clear picture of space mining views and legality can be created.

## CONCLUSION

There is no consensus on the legality of space mining yet and the current laws are so far untested. There are many parties who have an interest in space mining including:

- states with space capabilities
- states without space capabilities
- private companies
- other intergovernmental groups

Conflict arises when each group wants a different thing from law. Spacefaring nations want to commercialize space and allow their countries private companies to. Non-spacefaring countries desire to make sure that laws are fair and favorable for when they will be able to exploit space. Someday soon, the legal community will have to decide how we allow states and independent companies to have access to regions of outer space while still maintaining the Outer Space Treaty and other relevant international law.

## CITATIONS

"H.R.2262 - 114th Congress (2015-2016): U.S. Commercial Space Launch Competitiveness Act". *congress.gov*. 25 November 2015. Retrieved 17 February 2020.  
*Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, 27 January 1967, 610 UNTS 205