

**ETHICAL CONDUCT TO LUNAR COMMERCIALIZATION.** G. Zhou<sup>1</sup> and A. A. Mardon<sup>2</sup>, <sup>1</sup>University of California, Los Angeles (School of Engineering and Applied Science, Los Angeles, California, USA, gordzhou@ucla.edu) <sup>2</sup>Antarctic Institute of Canada (Suite 103, 11919-82 Street NW, Edmonton, Alberta, Canada, aamardon@yahoo.ca).

**Introduction:** Ever since the launch of the Sputnik, countries from across the world have continually strive to exploring and one day colonizing of space. [1] With the growing demand on natural resources to fuel intercontinentant technological advances, and with reducing terrestrial sources, government and industries are investing in space exploration missions. It is important to develop moral and ethical models for space commercialization, specifically, as it relates to lunar settlements. [2]

**Existing “Moon Treaty”:** The agreement Governing the Activities of States on the Moon and Other Celestial Bodies have been proposed to United Nation members by several member states, however, has not been widely accepted due to its controversial language. Specifically, the provisions requiring spacefaring nations to share the benefits for the “common heritage of mankind” and that no nation should be military bases on the lunar surface creates a conflict between third world countries that argue benefits derived from outer-space commerce be equally distributed to all countries and that of free market private sector ideologies. The ethical issues arise when one has to balance between the necessary business profits and the demand for distribution between all nations.

**Code of Ethics:** The classical environmental concern has always been the question the right to disrupt, and change the character of the lunar surface. The impact of construction, traffic, mining and other human activities related to lunar settlement needs to be analyzed. A balanced approach between the classical environmental concern and corporate and commercial will prove to be a long-term evolutionary process. [3] ‘ It is especially difficult to define moral and ethical standards in relation to lunar commercialization as it is based on subjective values that differ between various cultures and societies. One solution is to create a business code of conduct based on objectivity. Through the lens of stewardship, social scientists have proposed three guidelines to ethical conduct to lunar development that resembles a standard business code of conduct: [4]

1. Space Preservation – value space for its own sake regardless of potential benefits that can be derived from it

2. Space conservation – protect and care for the universe’s resources for the sake of all

3. Space stewardship – holding ourselves accountable for managing space resources.

**Future Research:** A legal framework should be further researched so that governments can begin to think about establishing controls on space businesses. The centerpiece of this system must include moral and ethical codes of behaviour for those living and working on celestial bodies in the future. A possible model that exists on earth is the US Federal Lease Royalty Model whereby a certain percentage of royalty to the federal government or Native American tribal government in exchange for rights to continue rights to its operations. The royalty payment will be used by the organization in charge to advance interests for the betterment of all of humanity and to fund initiatives that given equal opportunities to all nations.

#### References:

[1] Williams, L. (2010). Irrational Dreams of Space Colonization. *Journal of Social Justice, Peace Review*, 1- 4.

[2], [3] Livingston, D.M. (2010). Lunar Ethics and Space Commercialization. *Lunar Development Conference*. Retrieved from <http://www.spacefuture.com/>

[4] McLean, M. (1998). Who Owns the Moon? *Ethical Connection*. Retrieved from <http://www.scu.edu/ethics/publications/iie/v10n1/moon.html>.

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