

66th International Astronautical Congress 2015

SPACE LIFE SCIENCES SYMPOSIUM (A1)
Interactive Presentations (IP)Author: Mr. Misael Chagas
International Space University (ISU), Brazil, misael.chagas@hotmail.com

AUGMENTED REALITY APPLIED TO STUDY THE EFFECTS OF MICROGRAVITY ON VEINS.

Abstract

Augmented Reality is a new interaction technology and has aimed to make easier to connect with computer systems. It has been identified as the next generation of user interactivity. Among the many scientific experiments that are currently under development using Augmented Reality, an area that is emerging is the medical applications. Most astronauts experience symptoms such as lightheadedness, nausea, fatigue, and fainting upon standing or sitting upright when they return from a spaceflight. This condition is known as orthostatic intolerance. If spaceflight causes the veins in the lower legs to be more compliant, it would allow more blood to pool in the lower legs upon return to Earth, venous compliance could play a role in why astronauts experience this symptom. In the field of vein treatment, the AR is used to increase the diagnostic accuracy and mapping. Veins are not easily identified in many cases. Augmented reality will allow visualization of veins that are too shallow for the ultrasound and very deep to the naked eye. The purpose of the work is to demonstrate how augmented reality could help to determine whether spaceflight affects the stretch of veins in the lower legs.