

# PHYSICS

UNIVERSITY OF MICHIGAN

PRESENTS

## Today's Saturday Morning Physics Speaker



### **Ariana Bueno**

Graduate Student  
(U-M Climate and Space  
Sciences and Engineering  
and Applied Physics)

### **Instruments to Study Rocket Plume Surface Interactions (PSI) on the Lunar Surface**

#### **Abstract**

In space exploration, the rocket plume-surface interaction (PSI) can lead to the ejection of large amounts of energetic particles, potentially damaging the spacecraft, its instruments, and associated hardware. Thus, understanding PSI processes is paramount to the safety of the lunar exploration program and beyond. In this presentation, Ariana will highlight how her research has led to a better understanding of PSI by developing in-flight instrumentation and conducting ground tests to simulate PSI.

#### **Biography**

Ariana Bueno was born in Ecuador to Peruvian and Bolivian parents. She grew up in Miami and attended Florida International University where she completed her bachelor's degree in Mechanical Engineering and Physics. Ariana is currently obtaining her Ph.D. in Applied Physics at the University of Michigan and conducts her research in the Climate and Space Sciences and Engineering Department. Ariana is also completing a graduate certificate in Latino/a studies focusing on latinx intersectionality in the STEM community.

She was awarded a NASA OSTEM fellowship for her Ph.D. and is also a Science Communications fellow. Ariana was awarded AIAA's diversity scholarship for the past two years. Ariana has leadership roles in multiple organizations around campus including SHPE (Society of Hispanic Professional Engineers) and Puentes (latinx graduate community org) where she is involved with outreach, mentorship and building community in STEM. She also works on NASA's MSL Operations Environmental team, BLiSS team, and Mars 2020 team as a technical staff collaborator.

Ariana is also an artist and loves to paint in her free time when she is not hanging out with her two rescue pit bulls.

**YouTube Link to Saturday's Talk:** <https://www.youtube.com/watch?v=oBmpwVeulpq>

**Discover more about Saturday Morning Physics:** <http://www.saturdaymorningphysics.org>

**View past lectures on YouTube:** <http://tinyurl.com/nwb8ydu>