

## Joe Caggiano

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100 Cascade Hall, 1272 University of Oregon  
Eugene, OR 97403  
jcaggian@uoregon.edu  
(678) 710-1817

## Research Fields of Interest:

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Planetary Science, Space Physics, Geophysics

## Education

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University of Oregon  
Pursuing a Doctor of Philosophy in Earth Sciences  
GPA 3.77  
Exp. Jun 2023

Georgia Institute of Technology  
Bachelor of Science in Earth and Atmospheric Sciences  
Minor in Physics  
GPA 3.26 – Cum Laude  
May 2018

Georgia Perimeter College  
Associates of Science in Physics  
GPA 3.58  
May 2016

## Work Experience:

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University of Oregon  
Graduate Research Assistant – Dr. Carol Paty  
*Planetary Science & Space Physics Research Projects*  
2018 - Present

Georgia Institute of Technology  
Undergraduate Research Assistant - Dr. Carol Paty  
*Modeling Earth's Magnetosphere during a Pole Reversal*  
2017 - 2018

The Container Store  
Part-Time Sales  
*Recipient of 2 Merchandise Processing MVP Awards.  
Top 3 in SE Market for Elfa sales. Nov. 2017*  
2010 - 2018

## Affiliations:

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American Geophysical Union - Student Member  
Sigma Gamma Epsilon – Founding President of Theta Chi (Georgia Tech) Chapter

## Relevant Skills and Experiences:

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Fortran 90/95  
MATLAB  
Python  
Julia  
Parallel/Cluster Computing  
CUDA Computing  
CRISM Image Analysis  
Machine Learning Applications (TensorFlow/Keras & Sklearn)  
Laboratory Techniques

## Publications and Presentations:

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- Caggiano, J. A., A. M. Sessa, J. J. Wray, C. S. Paty (2019), Application of machine learning to identify surface minerals in CRISM imagery (Poster), 50th Lunar and Planetary Science Conference, Abstract #2564, The Woodlands, TX.
- Caggiano, J. A., and C. S. Paty (2019), Analysis of  $E \times B$  drifts in Earth's magnetosphere during geomagnetic reversals: potential consequences for plasmasphere behavior and stability (Oral), AGU Fall Meeting, San Francisco, CA. SM42A-08. December 12<sup>th</sup>, 2019
- Paty, C. S., J. A. Caggiano and X. Cao (2019), Similarities and Differences: Comparing the Magnetospheric Interactions at Europa, Callisto, and Triton (Poster), AGU Fall Meeting, San Francisco, CA. P13B-3500. December 9<sup>th</sup>, 2019.
- Caggiano, J. A., A. M. Sessa, J. J. Wray, C. S. Paty (2020), Identification of Martian surface minerals in CRISM imagery using a deep neural network (Poster), 51st Lunar and Planetary Science Conference, Abstract #1637. Online.
- Caggiano, J. A., and C. S. Paty (2020), Investigating magnetospheric dynamics of quadrupole magnetic fields throughout the heliosphere (ePoster), AGU Fall Meeting, Online. P066-0009. December 15<sup>th</sup>, 2020.
- Caggiano, J. A., and C. S. Paty (2021), Analysis of  $E \times B$  drifts in Earth's magnetosphere during geomagnetic reversals: potential consequences for plasmasphere behavior and stability, *JGR: Space Physics*. (In Review).