Dr. Lucas Liuzzo, Ph.D.

Space Sciences Laboratory
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liuzzo@berkeley.edu | lukeliuzzo.github.io | Google Scholar | lrliuzzo

Positions Held

University of California, Berkeley — *Berkeley, CA*

Assistant Research Scientist, Space Sciences Laboratory — *June 2022 – Present*

- Applying a combination of hybrid plasma modeling and test-particle simulations to study the interaction between outer-planet moons and their local plasma environments.
- Using data analysis techniques to understand particle signatures observed during near-moon encounters from missions including THEMIS-ARTEMIS, Juno, Cassini, Galileo, and Voyager 2.
- Modeling the plasma environments of various solar system objects to forecast conditions during future spacecraft missions to moons throughout the solar system.
- Advising the future generation of planetary and space scientists in modeling and data analysis techniques.

Postdoctoral Scholar, Space Sciences Laboratory — *August 2019 – June 2022*

- Applied various modeling techniques to constrain the electromagnetic environments near the Galilean moons of Jupiter.
- Constrained the high- and low-energy particle environments of select Galilean moons as well as Earth's Moon, based on measurements from multiple spacecraft missions.
- Advised undergraduate and graduate students in applying numerical models to understand moon-plasma interactions.

Georgia Institute of Technology — *Atlanta, GA*

Postdoctoral Scholar, School of Earth and Atmospheric Sciences — *January 2019 – July 2019*

- Applied numerical modeling and data analysis techniques to investigate energetic particle dynamics near Callisto and compared results to magnetic field and energetic particle data from the Galileo mission.
- Used a combination of a hybrid model and test-particle simulation framework to study the influence of plume activity at Europa on energetic particle dynamics near the moon.
- Advised undergraduate and graduate students in studying Europa's interaction with Jupiter's magnetospheric plasma.

Graduate Research Assistant, School of Earth and Atmospheric Sciences — *August 2014 – December 2018*

- Modeled and investigated the plasma interaction of Jupiter's moon Callisto through the use of the established *Adaptive Ion-Kinetic Electron-Fluid* hybrid simulation model and data analysis techniques. Results were compared to data from the Galileo mission, and applied to the future JUICE mission to Jupiter.

University of Michigan — *Ann Arbor, MI*

Undergraduate Research Assistant, Department of Atmospheric, Oceanic and Space Sciences — *January 2013 – August 2014*

- Modeled and analyzed ionospheric disturbances at Earth, studied their effects on atmospheric conditions using the established *Global Ionosphere-Thermosphere Model*, and compared model output with multiple observational data sets of the high-latitude ionosphere.

Education

Georgia Institute of Technology — *Atlanta, GA*

Doctor of Philosophy (Ph.D.), Planetary and Space Physics — *December 2018*

School of Earth and Atmospheric Sciences
Dissertation: *Callisto: Signatures of plasma interaction, induction, and energetic particle dynamics at the Galilean moon*
Advisor: Sven Simon

University of Michigan — *Ann Arbor, MI*

Bachelor of Science in Engineering (B.S.E.), Earth System Science and Engineering, *magna cum laude* — *May 2014*

Department of Atmospheric, Oceanic and Space Sciences
Area of Concentration: Space Weather
Academic Minors: Mathematics, Physics

Peer-reviewed Publications

12 first-authored, peer-reviewed publications (32 in total) | 319 citations | h-index 13

† indicates a co-advised graduate student | ‡ indicates a co-advised undergraduate student

Energetic magnetospheric particle fluxes onto Callisto's atmosphere

Lucas Liuzzo, Andrew R. Poppe, Peter Addison, Sven Simon, Quentin Nénon, and Christopher Paranicas (2022), *Journal of Geophysical Research (Space Physics)*, e2022JA030915, doi:10.1029/2022JA030915.

Influence of Titan's variable electromagnetic environment on the global distribution of energetic neutral atoms

Tyler Tippens, **Lucas Liuzzo**, and Sven Simon (2022), *Journal of Geophysical Research (Space Physics), 127*, e2022JA030722, doi:10.1029/2022JA030722.

Pitch angle distribution of MeV electrons in the magnetosphere of Jupiter

Quentin Nénon, Lucas Miller, Peter Kollmann, **Lucas Liuzzo**, Marco Pinto, and Olivier Witasse (2022), *Journal of Geophysical Research (Space Physics), 127*, e2022JA030627, doi:10.1029/2022JA030627.

Energetic charged particle fluxes relevant to Ganymede's polar region

Christopher Paranicas, Barry H. Mauk, Peter Kollmann, George Clark, …, **Lucas Liuzzo**, …, and Scott Bolton (2022), *Geophysical Research Letters*, e2022GL098077, doi:10.1029/2022GL098077.

Callisto's atmosphere and its space environment: Prospects for the Particle Environment Package on board JUICE

Andre Galli, Audrey Vorburger, Shane R. Carberry Mogan, Elias Roussos, …, and **Lucas Liuzzo** (2022), *Earth and Space Science, 9*, e2021EA002172, doi:10.1029/2021EA002172.

A statistical study of the Moon's magnetotail plasma environment

Lucas Liuzzo, Andrew R. Poppe, and Jasper S. Halekas (2022), *Journal of Geophysical Research (Space Physics), 127*, e2022JA030260, doi:10.1029/2022JA030260.

Effect of the magnetospheric plasma interaction and solar illumination on ion sputtering of Europa's surface ice

Peter Addison†, **Lucas Liuzzo**, and Sven Simon (2022), *Journal of Geophysical Research (Space Physics), 127*, e2021JA030136, doi:10.1029/2021JA030136.

Single- and multi-pass magnetometric subsurface ocean detection and characterization in icy worlds using principal component analysis (PCA): Application to Triton

Corey Cochrane, Russell Persigner, Steven Vance, Everett Midkiff, …, **Lucas Liuzzo**, Carol Paty, Karl Mitchell, and Louise Prockter (2022), *Earth and Space Science, 9*, e2021EA002034, doi:10.1029/2021EA002034.

Formation of a displaced plasma wake at Neptune's moon Triton

Sven Simon, Peter Addison†, and **Lucas Liuzzo** (2022), *Journal of Geophysical Research (Space Physics), 127*, e2021JA029958, doi:10.1029/2021JA029958.

3D Monte-Carlo simulation of Ganymede's water exosphere

Audrey Vorburger, Shahab Fatemi, André Galli, **Lucas Liuzzo**, Andrew R. Poppe, and Peter Wurz (2021), *Icarus*, 114810, doi:10.1016/j.icarus.2021.114810.

Triton's variable interaction with Neptune's magnetospheric plasma

Lucas Liuzzo, Carol Paty, Corey Cochrane, Tom Nordheim, Adrienn Luspay-Kuti, Julie Castillo-Rogez, Kathleen Mandt, Karl L. Mitchell, Mats Holmström, Peter Addison†, Sven Simon, Andrew R. Poppe, Steven D. Vance, and Louise Prockter (2021), *Journal of Geophysical Research (Space Physics), 126*, e2021JA029740, doi:10.1029/2021JA029740.

ARTEMIS observations of lunar nightside surface potentials in the magnetotail lobes: Evidence for micrometeoroid impact charging

Andrew R. Poppe, Shaosui Xu, **Lucas Liuzzo**, Jasper S. Halekas, and Yuki Harada (2021), *Geophysical Research Letters, 48*, e2021GL094585, doi:10.1029/2021GL094585.

Role of the ionospheric conductance profile in sub-Alfvénic moon-magnetosphere interactions: An analytical model

Sven Simon, **Lucas Liuzzo**, and Peter Addison† (2021), *Journal of Geophysical Research (Space Physics), 126*, e2021JA029191, doi:10.1029/2021JA029191.

Investigating the Moon's interaction with the terrestrial magnetotail lobe plasma

Lucas Liuzzo, Andrew R. Poppe, Jasper S. Halekas, Sven Simon, and Xin Cao (2021), *Geophysical Research Letters, 48*, e2021JA029191, doi:10.1029/2021GL093566.

Influence of Europa's time-varying electromagnetic environment on magnetospheric ion precipitation and surface weathering

Peter Addison[†], **Lucas Liuzzo**, Hannes Arnold[†], and Sven Simon (2021), *Journal of Geophysical Research (Space Physics), 126*, e2020JA029087, doi:10.1029/2020JA029087.

Modeling transmission windows in Titan's lower troposphere: Implications for infrared spectrometers aboard future aerial and surface missions

Paul Corlies, George McDonald, Alexander Hayes, James Wray, …, **Lucas Liuzzo**, Jacob Buffo, Ralph Lorenz, and Elizabeth Turtle (2021), *Icarus, 357*, 114228, doi:10.1016/j.icarus.2020.114228.

Applying ion energy spectrograms to search for plumes at Europa

Hannes Arnold[†], Sven Simon, and **Lucas Liuzzo** (2020), *Journal of Geophysical Research (Space Physics), 125*, e2020JA028376, doi:10.1029/2020JA028376.

Variability in the energetic electron bombardment of Ganymede

Lucas Liuzzo, Andrew R. Poppe, Christopher Paranicas, Quentin Nénon, Shahab Fatemi, and Sven Simon (2020), *Journal of Geophysical Research (Space Physics), 125*, e2020JA028347, doi:10.1029/2020JA028347.

Magnetospheric interactions of Saturn's moon Dione (2005–2015)

Norbert Krupp, Anna Kotova, Elias Roussos, Sven Simon, **Lucas Liuzzo**, Chris Paranicas, Krishan Khurana, and Geraint H. Jones (2020), *Journal of Geophysical Research (Space Physics), 125*, e2019JA027688, doi:10.1029/2019JA027688.

Plasma interaction signatures of plumes at Europa

Hannes Arnold[†], **Lucas Liuzzo**, and Sven Simon (2020), *Journal of Geophysical Research (Space Physics), 125*, e2019JA027346, doi:10.1029/2019JA027346.

Energetic electron dynamics near Callisto

Lucas Liuzzo, Sven Simon, and Leonardo Regoli (2019), *Planetary and Space Science, 179*, 104726, doi:10.1016/j.pss.2019.104726.

Energetic ion dynamics in the perturbed electromagnetic fields near Europa

Benjamin Breer[‡], **Lucas Liuzzo**, Hannes Arnold[†], Peter Andersson[‡], and Sven Simon (2019), *Journal of Geophysical Research (Space Physics), 124*, 7592–7613, doi:10.1029/2019JA027147.

Magnetic signatures of a plume at Europa during the Galileo E26 Flyby

Hannes Arnold[†], **Lucas Liuzzo**, and Sven Simon (2019), *Geophysical Research Letters, 46*, 1149–1157, doi:10.1029/2018GL081544. *Published as a Featured Article*.

Energetic ion dynamics near Callisto

Lucas Liuzzo, Sven Simon, and Leonardo Regoli (2019), *Planetary and Space Science, 166*, 23–53, doi:10.1016/j.pss.2018.07.014.

Observability of Callisto's inductive signature during the JUpiter ICy moons Explorer mission

Lucas Liuzzo, Sven Simon, and Moritz Feyerabend (2018), *Journal of Geophysical Research (Space Physics), 123*, 9045–9054, doi:10.1029/2018JA025951.

Coronal mass ejection hits Mercury: A.I.K.E.F. hybrid-code results compared to MESSENGER data

Willi Exner, Daniel Heyner, **Lucas Liuzzo**, Uwe Motschmann, Daikou Shiota, Kanya Kusano, and Takyua Shibayama (2018), *Planetary and Space Sciences, 153*, 89–99, doi:10.1016/j.pss.2017.12.016.

A three-dimensional model of Pluto's interaction with the solar wind during the New Horizons encounter

Moritz Feyerabend, **Lucas Liuzzo**, Sven Simon, and Uwe Motschmann (2017), *Journal of Geophysical Research (Space Physics), 122*, 10,356–10,368, doi:10.1002/2017JA024456.

Magnetic signatures of plasma interaction and induction at Callisto: The Galileo C21, C22, C23, and C30 flybys

Lucas Liuzzo, Sven Simon, Moritz Feyerabend, and Uwe Motschmann (2017), *Journal of Geophysical Research (Space Physics), 122*, 7364–7386, doi:10.1002/2017JA024303.

Disentangling plasma interaction and induction at Callisto: The Galileo C10 flyby

Lucas Liuzzo, Sven Simon, Moritz Feyerabend, and Uwe Motschmann (2016), *Journal of Geophysical Research (Space Physics), 121*, 8677–8694, doi:10.1002/2016JA023236.

The impact of Callisto's atmosphere on its plasma interaction with the Jovian magnetosphere

Lucas Liuzzo, Moritz Feyerabend, Sven Simon, and Uwe Motschmann (2015), *Journal of Geophysical Research (Space Physics), 120*, 9401–9427, doi:10.1002/2015JA021792.

Filamented ion tail structures at Titan: A hybrid simulation study

Moritz Feyerabend, Sven Simon, Uwe Motschmann, and Lucas Liuzzo (2015), *Planetary and Space Science, 117*, 362–376, doi:10.1016/j.pss.2015.07.008.

High-latitude ionospheric drivers and their effects on wind patterns in the thermosphere

Lucas Liuzzo, Aaron Ridley, Nicholas Perlongo, Elizabeth Mitchell, Mark Conde, Donald Hampton, William Bristow, and Michael Nicolls (2015), *Journal of Geophysical Research (Space Physics), 120*, 715–735, doi:10.1002/2014JA020553.

Funded Proposals

Emission of Energetic Neutral Atoms at Callisto and Europa — *PI: Sven Simon (Georgia Tech)*

Co-Investigator — *2020 NASA Solar System Workings*

Budgeted for 12 months over 3 years from the total of $499,674.

Anisotropy of the radiation belts of Jupiter in the Europa-Ganymede region — *Science PI: Quentin Nénon (SSL)*

Funded Science Team Member — *2020 NASA NFDAP*

Budgeted for 4 months over 3 years from the total of $352,055.

Energetic Particle Bombardment of Callisto — ***Science PI: Lucas Liuzzo (SSL)***

Science Principal Investigator — *2019 NASA Solar System Workings*

Budgeted for 24 months over 3 years from the total of $349,981.

Energetic Ion Dynamics at Europa — *PI: Sven Simon (Georgia Tech)*

Funded Science Team Member — *2018 NASA Solar System Workings*

Budgeted for 3 months over 3 years from the total of $328,469.

First-Authored Presentations

Invited Talks

On the Moon's interaction with the terrestrial magnetosphere. Taiwan Space Union, Mini-Moon-Seminar Series, 01/2022.

Triton's variable interaction with Neptune's magnetosphere. Trident/Neptune-Odyssey Workshop, 07/2021.

Studying the plasma interactions of the icy outer planet moons. NASA Jet Propulsion Laboratory, 01/2021.

Modeling the plasma environments of Jupiter's icy moons: A gateway to understanding their atmospheres, surfaces, and interiors. Illinois State University, Department of Physics, 02/2020.

Callisto: Signatures of plasma interaction, induction, and energetic particle dynamics. University of California, Berkeley, Space Sciences Laboratory, 03/2019.

Callisto: Signatures of plasma interaction, induction, and energetic particle dynamics. Johns Hopkins University, Applied Physics Laboratory, 01/2019.

A comprehensive picture of Callisto's magnetic and cold plasma environment during the Galileo era: Implications for JUICE. American Geophysical Union Fall Meeting, New Orleans, LA, USA, 12/2017.

Callisto's magnetic environment during the Galileo era. University of Braunschweig Institute for Theoretical Physics, Braunschweig, Germany, 06/2017.

Callisto's interaction with Jupiter's magnetospheric plasma. German Aerospace Center, Berlin, Germany, 05/2016.

Modeling Callisto's interaction with the Jovian magnetosphere (workshop). University of Braunschweig, Institute of Geophysics and Extraterrestrial Physics, Braunschweig, Germany, 04/2016.

The interaction of Callisto's atmosphere with the Jovian magnetosphere. International School/Symposium for Space Simulations, Prague, Czech Republic, 07/2015.

Contributed Presentations

[T] indicates a contributed talk | [P] indicates a contributed poster

A statistical study of the Moon's magnetotail plasma environment.[P] Europlanet Science Congress, Granada, Spain, 09/2022.

Energetic particle fluxes onto Callisto's atmosphere.[T] Europlanet Science Congress, Granada, Spain, 09/2022.

Energetic particle fluxes onto Callisto's atmosphere.[T] Magnetospheres of the Outer Planets Meeting, Liège, Belgium, 07/2022.

Formation of a tilted plasma wake at Neptune's moon, Triton.[P] Magnetospheres of the Outer Planets Meeting, Liège, Belgium, 07/2022.

Energetic particle deposition onto Callisto's atmosphere.[P] American Geophysical Fall Meeting, Virtual, 12/2021.

Investigating the Moon's interaction with the terrestrial magnetotail lobe plasma.[P] American Geophysical Fall Meeting, Virtual, 12/2021.

Triton's variable interaction with Neptune's magnetosphere.[P] American Geophysical Union Fall Meeting, Virtual, 12/2021.

Investigating the Moon's interaction with the terrestrial magnetotail lobe plasma.[P] NASA Exploration Science Forum, Virtual, 07/2021.

Triton's variable interaction with Neptune's magnetosphere.[P] Magnetospheres of the Outer Planets Meeting, Virtual, 07/2021.

Variability in the energetic electron bombardment of Ganymede.[P] American Geophysical Union Fall Meeting, Virtual, 12/2020.

Variability in the energetic electron bombardment of Ganymede.[P] Outer Planet Moon-Magnetosphere Interactions Workshop, Virtual, 11/2020.

Variability in the energetic electron bombardment of Ganymede.[P] Europlanet Science Congress, Virtual, 09/2020.

The dynamics of energetic ions and electrons while embedded in Callisto's perturbed electromagnetic environment.[T] American Geophysical Union Fall Meeting, San Francisco, CA, USA, 12/2019.

Energetic electron dynamics near Callisto.[P] American Geophysical Union Fall Meeting, San Francisco, CA, USA, 12/2019.

Energetic ion dynamics near Callisto.[P] American Geophysical Union Fall Meeting, Washington, D.C., USA, 12/2018.

Understanding Callisto's interaction with the Jovian magnetosphere: A case study of the Galileo C10 flyby.[T] Committee on Space Research Proceedings, Pasadena, CA, USA, 07/2018.

The impact of Callisto's atmosphere on its plasma interaction with the Jovian magnetosphere.[P] Committee on Space Research Proceedings, Pasadena, CA, USA, 07/2018.

A comprehensive picture of Callisto's magnetic environment during the Galileo era: Implications for JUICE.[P] Committee on Space Research Proceedings, Pasadena, CA, USA, 07/2018.

Energetic ion dynamics near Callisto.[P] Committee on Space Research Proceedings, Pasadena, CA, USA, 07/2018.

Energetic ion dynamics near Callisto.[T] Magnetospheres of the Outer Planets Meeting, Boulder, CO, USA, 07/2018.

Energetic ion dynamics near Callisto.[P] Magnetospheres of the Outer Planets Meeting, Boulder, CO, USA, 07/2018.

A comprehensive picture of Callisto's magnetic environment during the Galileo era: Implications for JUICE.[P] Magnetospheres of the Outer Planets Meeting, Boulder, CO, USA, 07/2018.

Energetic ion dynamics near Callisto.[T] Asia Oceania Geosciences Society Meeting, Honolulu, HI, USA, 06/2018.

A comprehensive picture of Callisto's magnetic environment during the Galileo era.[P] Asia Oceania Geosciences Society Meeting, Honolulu, HI, USA, 06/2018.

Plasma interaction and energetic particle dynamics near Callisto.[P] American Geophysical Union Fall Meeting, New Orleans, LA, USA, 12/2017.

A comprehensive picture of Callisto's magnetic environment during the Galileo era: Implications for JUICE[T], JUpiter ICy moons Explorer Radio and Plasma Wave Instrument Team Meeting, Virtual, 09/2017.

A comprehensive picture of Callisto's magnetic environment during the Galileo era.[T] Magnetospheres of the Outer Planets Meeting, Uppsala, Sweden, 06/2017.

Plasma interaction and energetic particle dynamics near Callisto: A case study of the Galileo C10, C21, and C23 flybys.[P] Magnetospheres of the Outer Planets Meeting, Uppsala, Sweden, 06/2017.

Plasma interaction and induction at Callisto: Hybrid simulation study of the Galileo C10 flyby.[T] American Geophysical Union Fall Meeting, San Francisco, CA, USA, 12/2016.

Plasma interaction and induction at Callisto: Case studies of Galileo magnetic field data.[P] American Geophysical Union Fall Meeting, San Francisco, CA, USA, 12/2016.

Plasma interaction and induction signatures at Callisto: Preparations for JUICE.[T] European Geophysical Union General Assembly, Vienna, Austria, 04/2016.

Modeling Callisto's interaction with the Jovian magnetospheric environment.[P] American Geophysical Union Fall Meeting, San Francisco, CA, USA, 12/2015.

Studying the effect of atmospheric configuration on plasma interaction at Callisto.[P] International School/Symposium for Space Simulations, Prague, Czech Republic, 07/2015.

Studying moon-magnetosphere interactions at Callisto and Titan.[P] International School/Symposium for Space Simulations, Prague, Czech Republic, 07/2015.

Studying the effect of atmospheric configuration on plasma interaction at Callisto.[P] Magnetospheres of Outer Planets Meeting, Atlanta, GA, USA, 06/2015.

A statistical comparison of coupled thermosphere-ionosphere models.[T] American Geophysical Union Fall Meeting, San Francisco, CA, USA, 12/2014.

High-latitude ionospheric drivers and their effects on wind patterns in the thermosphere.[P] Coupling, Energetics and Dynamics of Atmospheric Regions Annual Conference, Seattle, WA, USA, 06/2014.

A statistical comparison of thermosphere-ionosphere models.[P] Coupling, Energetics and Dynamics of Atmospheric Regions Annual Conference, Seattle, WA, USA, 06/2014.

High-latitude ionospheric drivers and their effects on wind patterns in the thermosphere.[P] American Geophysical Union Fall Meeting, San Francisco, CA, USA, 12/2013.

High-latitude ionospheric drivers and their effects on wind patterns in the thermosphere.[T] Joint Geospace Environment Modeling and Coupling, Energetics, and Dynamics of Atmospheric Regions (GEM-CEDAR) Workshop, San Francisco, CA, USA, 12/2013.

Awards, Honors, and Recognition

Jun. 2018	**Asia Oceania Geosciences Society Annual Conference,** Best Poster Contest, 1st prize	*Honolulu, HI*
May. 2018	**Georgia Institute of Technology School of Earth and Atmospheric Sciences,** Best Paper Award	*Atlanta, GA*
May. 2017	**Georgia Institute of Technology School of Earth and Atmospheric Sciences,** Research Excellence Award	*Atlanta, GA*
Dec. 2015	**Georgia Institute of Technology School of Earth and Atmospheric Sciences,** Student of the Month	*Atlanta, GA*
Jul. 2015	**International School/Symposium for Space Simulations,** Best Poster Contest, 1st prize	*Prague, CZ*
Jun. 2014	**Community Coordinated Modeling Center,** Student Research Contest, 1st prize ionospheric category	*Seattle, WA*
2010–2014	**University of Michigan College of Engineering,** Paul B. and Ruth A. Hayes Scholarship Recipient	*Ann Arbor, MI*

Teaching Experience

Advanced Space Plasma Physics (Co-Instructor)

Georgia Institute of Technology

Spring 2018

Throughout the semester, I lectured students, held office hours, and designed and graded the two exams as well as the weekly homework sets.

Earth System Modeling (Teaching Assistant)

Georgia Institute of Technology

Fall 2018, Fall 2017, Spring 2017

A course focused on solving ordinary and partial differential equations through numerical techniques.

Advanced Space Plasma Physics (Teaching Assistant)

Georgia Institute of Technology

Fall 2016

A course studying non-linear processes in plasma physics, such as plasma waves, instabilities, shocks, and discontinuities.

Introduction to Space Plasma Physics (Teaching Assistant)

Georgia Institute of Technology

Fall 2015

A course focused on introducing students to concepts in space plasmas including particle dynamics in electromagnetic fields, planetary magnetospheres, and solar physics.

Habitable Planets (Teaching Assistant)

Georgia Institute of Technology

Spring 2015

A course introducing students to the concept of habitability in the solar system and beyond.

Advising Experience

Shane Carberry Mogan — *Space Sciences Laboratory*

Postdoctoral Scholar (Co-Advised) — *Fall 2022 – Present*

Charles Michael Haynes — *Georgia Institute of Technology*

Ph.D. Student (Co-Advised) — *Fall 2022 – Present*

Peter Addison — *Georgia Institute of Technology*

Undergraduate Student; Ph.D. Candidate (Co-Advised) — *Spring 2019 – Present*

Hannes Arnold — *Georgia Institute of Technology*

Ph.D. Candidate (Co-Advised), Successfully defended in Fall 2020 — *Fall 2017 – Fall 2020*

Benjamin Breer — *Georgia Institute of Technology*

Undergraduate Student — *Fall 2018 – Spring 2020*

Peter Andersson — *Georgia Institute of Technology*

Undergraduate Student — *Fall 2018 – Spring 2020*

Professional and Community Involvement

NASA Panel and Proposal Reviewer

Helping review the next generation of proposals from students and researchers in Planetary and Space Sciences. — *2018 – Present*

Convener: Moon-Plasma Interactions Throughout the Solar System

Session at the annual Fall Meeting of the American Geophysical Union. — *2017 – Present*

Member: American Geophysical Union

2013 – Present

Science Team Member: NASA Trident Mission to Neptune's moon Triton

Provided modeling support to facilitate detection of Triton's subsurface ocean during Phase A. — *2020 – 2021*

Reviewer: President's Undergraduate Research Award Proposals

Georgia Institute of Technology. — *2018 – 2019*

Student Member: The Planetary Society

Georgia Institute of Technology Chapter. — *2014 – 2018*

Student Member: Geophysics Faculty Search Committee

School of Earth and Atmospheric Sciences, Georgia Institute of Technology. — *Spring 2017*

Graduates in Earth and Atmospheric Sciences (GEAS)

School of Earth and Atmospheric Sciences, Georgia Institute of Technology.

- Social Committee Chair (2016 – 2017)
- President (2015 – 2016)
- Treasurer (2014 – 2015)
- Planetary Science Representative (2014 – 2015)

Local Organizing Committee: Magnetospheres of the Outer Planets Meeting

Hosted in Atlanta, GA on the campus of the Georgia Institute of Technology. — *Jun. 2015*

Student Representative: Undergraduate Curriculum Committee

Department of Atmospheric, Oceanic and Space Sciences, University of Michigan. — *2013 – 2014*

Professional References

Andrew Poppe, Associate Research Scientist — *Postdoctoral Advisor*

Space Sciences Laboratory, University of California at Berkeley

Email: poppe@berkeley.edu
Phone: (510) 643-4903
Website: research.ssl.berkeley.edu/~poppe/

Sven Simon, Associate Professor — *Ph.D. Advisor*

School of Earth and Atmospheric Sciences, Georgia Institute of Technology

Email: sven.simon@eas.gatech.edu
Phone: (404) 385-1509
Website: svensimon.gatech.edu

Carol Paty, Associate Professor — *Collaborator*

Department of Earth Sciences, University of Oregon

Email: cpaty@uoregon.edu
Phone: (541) 346-4786
Website: earthsciences.uoregon.edu/profile/cpaty

Chris Paranicas, Supervisor, Outer Planets Section — *Collaborator*

Applied Physics Laboratory, Johns Hopkins University

Email: Chris.Paranicas@jhuapl.edu
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Elias Roussos, Research Scientist — *Collaborator*

Max Planck Institute for Solar System Research, Germany

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