

Jamie M. Jasinski

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Planetary Science Section (322)
Planetary Interiors & Geophysics (3226)
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EXPERTISE	Planetary atmospheres, exospheres, and magnetospheres, and their interaction with the solar wind. Moon-magnetosphere interactions. Space plasma effects on planetary habitability at exoplanets.	
EDUCATION	PhD Space Plasma Physics 2015 UCL (University College London) Mullard Space Science Laboratory Advisors: Prof. Andrew Coates & Prof. Geraint Jones Thesis title: <i>Cassini Observations of Saturn's Magnetospheric Cusp</i>	
	MSci Astrophysics 2011 UCL Dept. of Physics and Astronomy Advisor: Dr. David Kipping Thesis title: <i>Determining orbital eccentricities of Extrasolar Planets</i>	
EMPLOYMENT	Scientist 2020 - NASA Jet Propulsion Laboratory, CA, USA	
	NASA Postdoctoral Program Fellowship 2017 - 2020 NASA Jet Propulsion Laboratory, CA, USA Astrophysics & Space Sciences Section (326) Advisor: Dr. Neil Murphy	
	Postdoctoral Research Fellow 2015 - 2017 University of Michigan, MI, USA Dept. of Climate and Space Sciences and Engineering Advisor: Prof. James A. Slavin	
AWARDS	2025	NASA JPL North Star Award
	2023	NASA JPL Bonus Award (convener of the first Uranus Flagship Workshop)
	2020	NASA JPL Team Award
	2018	NASA Group Achievement Award, Cassini Plasma Spectrometer Team
	2018	The Sir Arthur Clarke Award, UK Cassini-Huygens Team

- 2018 NASA JPL Bonus Award, “In recognition for outstanding support of Science Red Team pilot studies, providing a new capability to strengthen future mission and instrument proposals”
- 2017 NASA Postdoctoral Program Fellowship

GRANTS AWARDED

Total Awarded: ~\$3.2 million

INVITED TALKS

- 2025 *Uranus’ magnetosphere was observed in an anomalous state by Voyager 2*
APL, John Hopkins University
Seminar
- 2025 *Uranus’ magnetosphere was observed in an anomalous state by Voyager 2*
LASP, University of Colorado, Boulder
Seminar
- 2024 *Uranus’ magnetosphere was observed in an anomalous state by Voyager 2*
AGU Fall Meeting 2024
(Session: Magnetospheres in the Outer Solar System)
- 2024 *Space Plasmas throughout the Solar System*
University of Michigan, USA
Seminar
- 2022 *Planetary Magnetospheres*
UCLA, USA
Seminar
- 2021 Two Invited talks at AGU Fall Meeting 2021
1. *Reconnection at Saturn’s Dayside Magnetopause*
(Session: Magnetospheres in the Outer Solar System)
2. *Photoionization of sodium-group atoms at Mercury’s exosphere*
(Session: Magnetospheres in the Inner Solar System)
- 2021 *Mercury’s Magnetosphere and Exosphere*
University of Colorado, Boulder, LASP.
Seminar
- 2021 *Saturn’s magnetospheric cusp and high-latitude magnetosphere*
IRAP, France
Seminar
- 2020 *A transient enhancement of Mercury’s exosphere at extremely high altitudes inferred from pickup ions*
Hermean Environment Working Group
Presentation
- 2020 Invite-only workshop on *Surface Bounded Exospheres and Interactions in the inner Solar System*

		International Space Science Institute, Switzerland Presentation & book chapters.
	2019	<i>Mercury's magnetosphere and exosphere: recent results from MESSENGER data</i> UCLA, USA Seminar
	2018	<i>Mercury's magnetosphere: recent results from MESSENGER</i> UCL, UK Seminar
	2014	<i>Solar wind interaction with the Outer Planets</i> Lancaster University, UK Seminar
PROFESSIONAL SERVICE	Convener: Uranus Flagship Workshop 2023: Pasadena, CA, USA, July 2023. Including acquiring \$55K in travel support from NASA ROSES TWSC for 20 early career scientists. Journal Reviewer: Nature Astronomy, Nature Communications, Journal of Geophysical Research (JGR – Space Physics), Icarus, Geophysical Research Letters (GRL), Planetary Science Journal and Annales Geophysicae. Proposal Reviewer: NASA NSPIRES Solicitations (external and internal voting panelist); UK STFC Consolidated Grants. Coordinated and directed a weekly Space Physics journal club at both the University of Michigan and NASA JPL. Local Organizing Committee for The 6th Alfven Conference (2014). Member of the American Geophysical Union (AGU).	
POSTDOCS	2024 –	Dr. Sophia Zomerdijs-Russell (PhD Imperial College London)
TEACHING	2021	Stephanie Colón-Rodriguez, JPL Student Intern, 3rd-year Undergraduate student.
	2021	Laura Ocampo Alzate, JPL Student Intern, Masters student.
	2017	Yeimy Rivera, Austin Glass - University of Michigan Mentorship Program
	2014	MSSL Summer School, UK Gave lectures, designed workshops and developed the aims of the Summer School. Taught a <i>Cassini Plasma Spectrometer Data Analysis</i> workshop. Voted as “Most Engaging” workshop by students.

SELECTED TALKS

- 2025 Outer Planet's Assessment Group Meeting, Arizona, USA (Oral).
- 2024 Magnetospheres of the Outer Planets (MOP), Minnesota, USA (Oral).
- 2023 Uranus Flagship 2023, Pasadena (Oral).
- 2022 Magnetospheres of the Outer Planets (MOP), Belgium (Oral).
- 2022 MExAG Annual Meeting, USA (Oral).
- 2021 AGU Fall Meeting, New Orleans, LA, USA (Oral).
(Session: The Uranus and Neptune Systems and Their Relation to Other Planets)
- 2020 AGU Fall Meeting, Virtual, USA (Oral).
- 2019 AGU Fall Meeting, San Francisco, CA, USA (Poster).
- 2019 Magnetospheres of the Outer Planets (MOP), Japan (Poster).
- 2018 AGU Fall Meeting, Washington D.C, USA (Poster)
- 2018 Magnetospheres of the Outer Planets (MOP), Boulder, CO, USA (2 Posters)
- 2018 ESLAB 52 Conference, ESTEC Noordwijk, Netherlands (Poster).
- 2018 Mercury 2018 Meeting, Columbia, MA, USA (Oral)
- 2017 Magnetospheres of the Outer Planets (MOP), Uppsala, Sweden (Oral).
- 2016 AGU Fall Meeting, San Francisco, USA (Poster).
- 2016 Outer Planet's Assessment Group Meeting, Arizona, USA (Poster).
- 2016 Cassini MAPS Meeting, Ann Arbor, MI, USA (Oral).
- 2016 EGU Meeting, Vienna, Austria (Poster).
- 2015 AGU Fall Meeting, San Francisco, USA (Poster).
- 2014 AGU Fall Meeting, San Francisco, USA (Oral).
- 2014 The 6th Alfven Conference, London, UK (Oral).
- 2014 Cassini Plasma Spectrometer (CAPS) Team Meeting, MSSL, UK (Oral).
- 2013 Magnetospheres of the Outer Planets (MOP), Athens, Greece (Oral & Poster).
- 2013 Cassini Magnetospheric and Particle Science (MAPS) Workshop, SwRI, San Antonio, USA (Oral).
- 2012 MIST (Magnetosphere Ionosphere Solar Terrestrial) Meeting, London, UK (Oral).
- 2012 Cassini Plasma Spectrometer (CAPS) Team Meeting, MSSL, UK (Oral).

PUBLIC OUTREACH

- 2017 The London Oratory School, "Exploring Saturn" Seminar (15-18 year olds), UK.
- 2013 Royal Society Summer Science Exhibition, "Ice Worlds" Exhibitor (all ages), UK.
- 2012 Westminster Under School, rocket building workshop and overview of the solar system (10-year olds), UK.

CONSULTING 2016 Science consultant for Urban Myth Films and Canal+ production of *War of the Worlds* TV Series.

PUBLICATIONS **Peer-Reviewed Journals:**
30 published in 8 journals (12 first-authored).

First-author: Nature Astronomy, Nature Communications, Planetary Science Journal, Geophysical Research Letters, Astrophysical Journal Letters, Journal of Geophysical Research: Space Physics.

2025

[30] Dewey, Raines, **Jasinski** and Slavin (2025) *Interpreting energy-latitude dispersions in Mercury's northern magnetospheric cusp with MESSENGER*, **JGR: Space Physics**, e2025JA034278.
<https://doi.org/10.1029/2025JA034278>

[29] Zomerdijk-Russell, **Jasinski** and Masters (2025) *Variation of model-predicted reconnection voltages applied to Uranus' dayside magnetosphere*, **JGR: Space Physics**, 130, e2025JA033834.
<https://doi.org/10.1029/2025JA033834>

2024

[28] **Jasinski J. M.**, et al., (2024) *The anomalous state of Uranus's magnetosphere during the Voyager 2 flyby*, **Nature Astronomy**, 9, 66–74.
<https://doi.org/10.1038/s41550-024-02389-3>

[27]. Reville, V., **J. M. Jasinski** et al., (2024), *Magnetized Winds of M-type Stars and Star–Planet Magnetic Interactions*, **Astrophysical Journal**, Vol. 976, 65, <https://doi.org/10.3847/1538-4357/ad8132>

2022

[26]. Raines et al., including **J. M. Jasinski** (2022), *Proton precipitation in Mercury's northern magnetospheric cusp*, **JGR: Space Physics**, 127, e2022JA030397. <https://doi.org/10.1029/2022JA030397>

[25]. Sun et al., including **J. M. Jasinski** (2022), *MESSENGER observations of Na⁺ enhancement at Mercury's northern magnetospheric cusp during Flux Transfer Event Showers*, **JGR: Space Physics**, 127, e2022JA030280, <https://doi.org/10.1029/2022JA030280>

[24] **Jasinski J. M.**, et al., (2022) *Neptune's pole-on magnetosphere: dayside reconnection observations by Voyager 2*, **Plan. Sci. J.**, 3, 76, <https://iopscience.iop.org/article/10.3847/PSJ/ac5967>

[23]. Wurz et al., including **J. M. Jasinski** (2022), *Particles and Photons as Drivers for Particle Release from the Surfaces of the Moon and Mercury*, **Space Sci Rev**, 218, 10, <https://doi.org/10.1007/s11214-022-00875-6>

[22]. Leblanc, F., et al., including **J. M. Jasinski** (2022), *Comparative Na and K Mercury and Moon exospheres*, **Space Sci Rev** 218, 2. <https://doi.org/10.1007/s11214-022-00871-w>

2021

[21]. Cassidy et al., including **J. M. Jasinski** (2021), *Detection of Large Exospheric Enhancements at Mercury due to Meteoroid Impacts*, **Plan. Sci. J.**, 2:175, <https://doi.org/10.3847/PSJ/ac1a19>

[20]. Janches, D., et al., including **J. M. Jasinski**, (2021) *Meteoroids as one of the sources for exosphere formation on airless bodies in the inner solar system*, **Space Sci. Rev.** 217, 50. <https://doi.org/10.1007/s11214-021-00827-6>

[19]. **Jasinski, J. M.**, et al., (2021) *Photoionization Loss of Mercury's Sodium Exosphere seasonal observations by MESSENGER and the THEMIS telescope*, **Geophys. Res. Lett.**, 48, e2021GL092980. <https://doi.org/10.1029/2021GL092980>

[18]. **Jasinski, J. M.**, et al., (2021) *Flux Transfer Events at a reconnection-suppressed magnetopause: Cassini observations at Saturn*, **J. Geophys. Res. Space Phys.**, 126, e2020JA028786. doi.org/10.1029/2020JA028786

2020

[17]. **Jasinski, J. M.**, et al., (2020) *A transient enhancement of Mercury's exosphere at extremely high altitudes inferred from pickup ions*, **Nature Communications**, doi:10.1038/s41467-020-18220-2.

[16]. **Jasinski, J. M.**, et al., (2020) *The importance of local interstellar conditions on the galactic cosmic ray spectrum at Exoplanets*, **Ap. J. Lett.**, 899, L18, doi.org/10.3847/2041-8213/aba7c8

[15]. Nordheim T., et al., including **J. M. Jasinski**, (2020), *Detection of negative pickup ions at Saturn's moon Dione*, **Geophys. Res. Lett.**, 47, e2020GL087543, doi.org/10.1029/2020GL087543

[14]. Sun et al., including **J. M. Jasinski**, (2020), *MESSENGER observations of Mercury's nightside magnetosphere under extreme solar wind*

conditions: reconnection-generated structures and steady convection, **J. Geophys. Res. Space Phys.**, 125, e2019JA027490, <https://doi.org/10.1029/2019JA027490>

2019

[13]. **Jasinski J. M.**, et al., (2019), *Saturn's open-closed field line boundary: a Cassini electron survey at Saturn's magnetosphere*, **J. Geophys. Res. Space Phys.**, 124. <https://doi.org/10.1029/2019JA027090>

[12]. Nordheim T. A, **J. M. Jasinski** & K. Hand, (2019), *Galactic cosmic ray bombardment of Europa's surface*, **Ap. J. Letters**, 881, L29, <https://doi.org/10.3847/2041-8213/ab3661>

[11]. Slavin et al., including **J. M. Jasinski**, (2019), *Mercury's magnetospheric Disappearing dayside events as observed by MESSENGER*, **J. Geophys. Res. Space Phys.**, 124. <https://doi.org/10.1029/2019JA026892>

2017

[10]. **Jasinski J. M.**, J. A. Slavin, J. M. Raines and G. DiBraccio (2017), *Mercury's solar wind interaction as characterized by magnetospheric plasma mantle observations with MESSENGER*, **J. Geophys. Res. Space Phys.**, 122, 12153–12169, doi:10.1002/2017JA024594

[9]. **Jasinski J.M.**, et al., (2017), *Diamagnetic depression observations at Saturn's magnetospheric cusp*, **J. Geophys. Res. Space Phys.**, 122, 6283–6303, doi:10.1002/2016JA023738.

[8]. Smith, A. W., et al., including **J. M. Jasinski** (2017), *Automated force free flux rope identification*, **J. Geophys. Res. Space Phys.**, 122, 780–791, doi:10.1002/2016JA022994

2016

[7]. **Jasinski J. M.**, et al., (2016) *Cassini Plasma Observations of Saturn's Magnetospheric Cusp*, **J. Geophys. Res. Space Phys.**, 121, 12047-12067, doi:10.1002/2016JA023310.

[6]. **Jasinski, J. M.**, et al., (2016) *Flux transfer event observation at Saturn's dayside magnetopause by the Cassini spacecraft*, **Geophys. Res. Lett.**, 43, 6713–6723, doi:10.1002/2016GL069260.

[5]. Arridge, C. S., **J. M. Jasinski**, et al. (2016), *Cassini observations of Saturn's southern polar cusp*, **J. Geophys. Res. Space Phys.**, 121, 3006–3030, doi:10.1002/2015JA021957.

[4]. Dunn, W. R., et al., including **J. M. Jasinski** (2016), *The impact of an ICME on the Jovian X-ray aurora*, **J. Geophys. Res. Space Phys.**, 121, 2274–2307, doi:10.1002/2015JA021888.

2014

[3]. **Jasinski, J. M.**, et al., (2014), *Cusp observation at Saturn's high latitude magnetosphere by the Cassini spacecraft*, **Geophys. Res. Lett.**, 41, 1382–1388. doi: 10.1002/2014GL059319

2013

[2]. Radioti, A., et al., including **J. M. Jasinski** (2013), *Auroral signatures of multiple magnetopause reconnection at Saturn*, **Geophys. Res. Lett.**, 40, 4498–4502, doi:10.1002/grl.50889.

2012

[1]. Kipping, D. M., Dunn, W. R., **Jasinski, J. M.** and Manthri, V. P. (2012), *A novel method to photometrically constrain orbital eccentricities: Multibody Asterodensity Profiling*, **Monthly Notices of the Royal Astro. Soc.**, 421: 1166–1188. doi:10.1111/j.1365-2966.2011.20376.x