

# Jared Splinter

## PhD Student

---

### Jared Splinter

Trottier Space Institute  
3550 rue University  
Montréal, QC, H3A 2A7

604-762-6502  
jared.splinter@mail.mcgill.ca

---

## Education

---

**McGill University**, Montréal, QC, Canada

**M.Sc. → Ph.D., Earth & Planetary Sciences** (*September 2021 -*)

- Supervisor: Dr. Nicolas Cowan
- Fast- tracked from MSc to PhD in September 2023
- Cumulative GPA: 4.0/4.0

**University of British Columbia**, Vancouver, BC, Canada

**Master of Data Science, MDS** (2021)

- Capstone Project with Vancouver Whitecaps FC (MLS) that used Machine Learning algorithms to predict player performance.
- 92.4% Cumulative Average

**University of British Columbia**, Vancouver, BC, Canada

**B.Sc., Astronomy** (2019)

- Undergraduate Thesis Title: *The Effects of Outer Giant Planets on a Primordial System of Tightly Packed Inner Planets (STIP)*
  - Supervisor: Dr. Aaron Boley
- Dean's Honour List in Final Year

---

## Experience

---

**McGill University** | Department of Earth & Planetary Sciences

**Teaching Assistant** | *September 2021 - Present*

- Assisted with 6 EPSC courses at McGill (currently acting as Teaching Assistant for 7th course)
- Lead and manage tutorials of 20+ students, helping to teach course material in a focused manner

**University of British Columbia** | Department of Medicine

**Research Assistant/Technician** | *October 2019 - September 2020*

**Part-time Lab Volunteer** | *May 2018 - September 2018*

- Prepared scripts to run mcDESPOT analysis (multicomponent-driven equilibrium single pulse observation of T1 and T2) to estimate myelin water fraction.
- Assist patients/controls as they obtain MRI scans & perform cognitive testing
- Assist with clinical tasks by interacting with patients to obtain consent to participate in studies
  - Coordinate with doctors/neurologists and other researchers

**University of British Columbia** | Department of Physics & Astronomy

**Part-time Lab Volunteer** | September 2018 - September 2019

- Used Rebound & ReboundX software in Python to create simulations investigating planetary dynamics of Systems of Tightly Packed Inner Planets (STIPs) in presence of Outer Planets
  - Continuation of Undergraduate Thesis Topic

**University of British Columbia** | Department of Psychology

**Research Assistant/Technician** | October 2015 - September 2019

**Part-time Lab Volunteer** | August 2012-August 2013, July 2014- April 2015

- Wrote image analysis program to automate cell counting in images with MATLAB
- Worked under the WorkLearn Program; Microscopy, Animal Care, Video Analysis, Data Collection and Entry, Inventory, Basic Histology, Tissue and Chemical Preparation.

---

## Publications

- 
1. **Splinter, J.**, Coulombe, L-P., Frazier, R., Cowan, N.B., ... et al. (Under Review). Precise Constraints on WASP-121 b's Energy Budget from its JWST NIRISS/SOSS Phase Curve.
  2. Krishnamurthy, V., Carteret, Y., Piaulet-Ghorayeb, C., **Splinter, J.**, Doshi, D., Radica, M., ... & Turner, J. D. (2025). Continuous helium absorption from the leading and trailing tails of WASP-107b. *arXiv preprint arXiv:2505.20588*.
  3. Sikora, J. T., Rowe, J. F., **Splinter, J.**, Barat, S., Dang, L., Cowan, N. B., ... & Quintana, E. V. (2024). Seasonal Changes in the Atmosphere of HD 80606b Observed with JWST's NIRSpec/G395H. *arXiv preprint arXiv:2407.12456*.
  4. Darveau-Bernier, A., Albert, L., Talens, G. J., Lafrenière, D., Radica, M., Doyon, R., ..., **Splinter JEJ** & Turner, J. D. (2022). ATOCA: an algorithm to treat order contamination. Application to the NIRISS SOSS mode. *Publications of the Astronomical Society of the Pacific*, 134(1039), 094502.
  5. Yagi S, **Splinter JEJ**, Tai D, Wong S, Wen Y, & Galea LAM. (2020). Sex differences in maturation and attrition of adult neurogenesis in the hippocampus. *Eneuro*, 7(4), ENEURO.0468-19.2020.
  6. Duarte-Guterman, P, Lieblich, SE, Qiu W, **Splinter JEJ**, Go KA, Casanueva-Reimon L, & Galea L (2020). Oxytocin has sex-specific effects on social behaviour and hypothalamic oxytocin immunoreactive cells but not hippocampal neurogenesis in adult rats. *Hormones and behavior*, 122, 104734.

---

## Awards

- 
- **Canadian Space Agency - Canadian Student Participation in Space Conferences and Training Events Grant - \$1600** 2025  
Grant awarded to Canadian students to attend a conference or workshop in space science
  - **Alexander A. McGregor Fellowship - \$14,000** 2024-2025  
Awarded to an outstanding student based on academic record in the department of Earth and Planetary Sciences.
  - **J.B. Lynch Fellowship - \$15,000** 2023-2024  
Awarded to an outstanding student in the department of Earth and Planetary Sciences.
  - **John F. Prochnau Fellowship - \$500** 2022-2023  
Awarded to one or more outstanding graduate students on basis of academic merit by the department of Earth and Planetary Sciences

---

**Successful  
Observing  
Proposals**

---

**Conference  
Abstracts &  
Workshops**

---

**JWST Cycle 2 - Panchromatic Phase Curve of the Highest-S/N Hot Neptune.**  
24.98 hours, PI: Ian Crossfield, Co-I includes J Splinter

---

**First-Author Presentations**

1. **Splinter JEJ**, Coumbe L-P, Frazier R, Cowan N, & the NEAT GTO Atmospheric Heat Transport in WASP-121b using a NIRISS/SOSS Phase Curve. ExoClimes VII. Montreal, Canada. July 2025. Poster.
2. **Splinter JEJ**, Cowan N, *Constraining the Energy Budget of the Ultra-hot Jupiter WASP-121b using a NIRISS/SOSS Phase Curve*. Centre de recherche en astrophysique du Québec Annual Meeting. St-Alexis-des-Monts, Canada. May 2025. Presentation.
3. **Splinter JEJ**, Cowan N, *A First Look at the JWST Phase Curve of WASP-121b with NIRISS/SOSS*. Centre de recherche en astrophysique du Québec Annual Meeting. St-Alexis-des-Monts, Canada. May 2024. Presentation.
4. **Splinter JEJ**, Cowan N, Doshi D. *Performance of Longitudinally Resolved Spectral Retrieval for Future Exoplanet Observations*. Exoclimates VI. Exeter, UK. June 2023. Poster.
5. **Splinter JEJ**, Cowan N, *Using Longitudinally Resolved Spectra on Exoplanet Phase Curves*. Centre de recherche en astrophysique du Québec Annual Meeting. St-Alexis-des-Monts, Canada. May 2023. Presentation.
6. **Splinter JEJ**, Yagi S, Puri T, Galea LAM. *Creating automated cell counting programs to uncover sex differences in the neural stem cell population in the dentate gyrus of adult Sprague-Dawley rats*. International Behavioral Neuroscience Society. Cairns, Australia. June 2019. Poster.

**Contributed Abstracts**

1. Vavasour I.M, Johnson P, Abel S, Ristow S, **Splinter JEJ**, Laule C, Tam R, Li D.K, Ackermans N, Schabas A.J., Chan, J., *Myelin Water Imaging Demonstrates Myelin Loss in Multiple Sclerosis Normal Appearing White Matter over Two Years*. International Society for Magnetic Resonance in Medicine Annual Meeting. May 2021
2. Qiu, W, Minielly N, Go K, Black, N, **Splinter JEJ**, Duarte-Guterman P, Galea LAM. *Pre-adolescent Oxytocin Treatment increases social investigation dependent on Sex and Maternal Fluoxetine Exposure*. Parental Brain Conference, Toronto, Canada. 2018.
3. Duarte-Guterman P, Qiu W, Go K, Casanueva L, **Splinter JEJ**, Perez E, Galea LAM. *Oxytocin increases social behaviour despite sex-dependent effects on adult hippocampal neurogenesis*. International Congress of Neuroendocrinology. Toronto, Canada. 2018.

**Workshops Attended**

1. **ExoSLAM Summer School (2023)** - fundamentals of atmospheres and climates on exoplanets for early career researchers (before ExoClimes VI conference)
2. **Ariel Fréjus school (2025)** - Transits, eclipses, and phase curves for probing the atmospheres of hot gaseous planets. Part of the Ariel summer school series <https://www.ariel-mission.fr/program-frejus-2025/>.
3. **ExoSLAM II Summer School (2025)** - 'From Light to Knowledge' Observational techniques in exoplanet science from low-to-high resolution and machine learning. (also an organizer/lecturer) <https://exoclimates.org/exoslam/index.html>

---

## Services & Committees

---

### ExoClimes VII - Local Organizing Committee | Conference Series

VP Communications | *October 2023 - July 2025*

- Communication team with wider community, leading conference Social Media accounts

VP ExoSLAM II Summer School | *October 2023 - July 2025*

- Organizing Committee for 2nd ExoSLAM summer school series

VP Food and Dining | *June 2024 - July 2025*

VP Volunteer Coordinator | *June 2025-July 2025*

- 1 of 2 coordinators for ~20 volunteers for conference.

### Astronomy on Tap

Speaker Hunter | *September 2024 - Present*

- Organizing team to bring monthly astronomy presentations to the public at a local bar, acting to invite potential speakers. See more here: <https://astronomyontap.org/locations/montreal-qc-canada/>

Adams Club | McGill - Earth & Planetary Sciences Graduate Student Society

Graduate Research Day Chair | *April 2025*

- Chaired session during department Research Day

Department Rep | *September 2024 - Present*

- Graduate student representative to the department of Earth and Planetary Sciences

Sustainability Committee | *September 2023- June 2024*

- On committee to find ways to make department more sustainable

Grad Trip Organizer | *September 2023*

- Organized camping and canoeing trip for 19 graduate students in the department for 2 nights.

Social Rep | *September 2022- June 2023*

- Organized and ran 15+ social events for graduate students in the department of Earth & Planetary Sciences

UBC Astronomy Club | University of British Columbia

Social Media Coordinator | *September 2017- September 2018*

- Managed social media of one of largest clubs at UBC
- Assisted with organizing various events
- Started a series called "Space Sundays" to share astronomy facts on Sunday. The series continues to this day.

---

## Teaching Roles

---

ExoSLAM II Summer School Lecture | *July 2025*

Teaching Assistant | McGill University | *September 2021 - Present*

---

## Public Outreach

---

Public AstroNight - "Planets Near and Far" MSI/AstroMcGill Public Talk, 28-Sep-2022 Public Talk and Q&A. Panelists: Prof. Eve Lee (MSI/McGill Physics), Dr. Thomas Navarro (MSI/McGill EPS), Jared Splinter (MSI/McGill EPS)

[https://www.youtube.com/watch?v=NRLgQ3Tev8A&ab\\_channel=TrottierSpaceInstituteatMcGill](https://www.youtube.com/watch?v=NRLgQ3Tev8A&ab_channel=TrottierSpaceInstituteatMcGill)

McGill Media Quote - [Experts: Canadian astronomers set to join Ariel space mission - McGill University](#)

**Wandering Astronomer at McGill Eclipse Fair** - see news report for the total eclipse on April 8th, 2024!

<https://reporter.mcgill.ca/thousands-throng-to-mcgill-to-take-in-solar-eclipse/>

**McGill Space Explorers** - Expert Volunteer that send Physics students to local elementary schools to teach modules in Physics

**Astronomy on Tap** - Volunteer at events interacting with the public

**24 Hours of Science 2025** - Volunteer at 24 hours of Science at McGill presenting physics modules to kids

---

## **Skills**

---

Proficient in Python, R, and MATLAB. Possess extensive expertise in Data Science, encompassing but not limited to Machine Learning, Data Structures, Workflow, Statistics, and Data Visualization.