

Jared Splinter

PhD Student

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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
- Cumulative GPA: 4.0/4.0

University of British Columbia, Vancouver, BC, Canada

Master of Data Science, MDS (*September 2020 - July 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 (*September 2014 - May 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 4 EPSC courses at McGill (currently acting as Teaching Assistant for 5th course)
- Graded assignments, exams and essays and provide tailored feedback based on course expectations
- 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.
- Write/edit papers, perform data analysis using Ubuntu/Python
- 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. 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.
2. Swain M, **Splinter JEJ**, Estrela R, Fortney J, Roudier G, Cowan N, Zellem R, Bryden G, Ciardi D, Latham D, Green R, Vasisht G, Wright E, Yung YA. (Submitted). Mass-Metallicity Trend from a Uniform Analysis of 62 Transiting Exoplanets. *AAS Journals*, submitted, 2022.
3. 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.
4. Duarte-Guterman, P, Lieblisch, 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.

Conference Abstracts

1. **Splinter JEJ**, Cowan N, Doshi D. *Performance of Longitudinally Resolved Spectral Retrieval for Future Exoplanet Observations*. Exoclines VI. Exeter, UK. June 2023. Poster.
2. **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.
3. **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.
4. 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

5. 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.
6. 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.

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

Extra-curricular Volunteering

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. Series continues to this day.

Adams Club | McGill University

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

Awards

- **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

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.