

CURRICULUM VITAE

of
Marshall John Styczinski

PERSONAL

Information: US Citizen, born 1988 in Dublin, California.

Position: Doctoral Candidate at University of Washington.

Interests: Space physics and astrobiology research; science communication and public outreach

Website: <http://students.washington.edu/mjstycz/>

EDUCATION

09/2012 – present University of Washington

In progress: Doctor of Philosophy, Physics

Complete: Graduate Certificate, Astrobiology

Degree conferred: Master of Science, Physics

09/2006 – 06/2010 University of California, Davis

Degree conferred: Bachelor of Science with Highest Honors, Physics

Significant works: “On the Return of HP West: The Revival and Restoration of a Hewlett-Packard 5950A Photoelectron Spectrometer” ([Undergraduate Honors Thesis](#), May 2010)

HONORS AND AWARDS

09/2018 – 08/2021 [NASA Earth and Space Science Fellowship](#) recipient

05/2020 – 08/2020 [JPL Planetary Science Summer School](#) participant

04/2019 – 09/2019 Visiting Scholar, University of Oregon Planetary Science Group

08/2018 – 09/2018 Visiting Scholar, University of Melbourne Astrophysics Group

06/2018 – 08/2018 [JPL Space Grant Summer Internship](#) participant

03/2017 – present Science Communication Fellow, [Pacific Science Center](#)

06/2010 Bachelor of Science with Highest Honors from UC Davis

SCIENTIFIC PUBLICATIONS

1. **M. J. Styczinski** and E. M. Harnett. Induced magnetic moments from a nearly spherical ocean. *Icarus*, page 114020, 2020. DOI: [10.1016/j.icarus.2020.114020](https://doi.org/10.1016/j.icarus.2020.114020)
2. **M. J. Styczinski** and E. M. Harnett. Magnetic fields induced from stratified, asymmetric oceans. *In prep*, 2020.
3. **M. J. Styczinski** and E. M. Harnett. Constraints on the asymmetric shape of Europa’s subsurface ocean. *In prep*, 2020.
4. S. D. Vance, B. G. Bills, C. J. Cochrane, K. M. Soderlund, N. Gómez-Pérez, **M. J. Styczinski**, and C. S. Paty. Magnetic induction in convecting galilean oceans. *Earth and Space Science Open Archive; in revision with Journal of Geophysical Research: Planets*, 2020. DOI: [10.1002/essoar.10502420.1](https://doi.org/10.1002/essoar.10502420.1)
5. G. T. Seidler, D. R. Mortensen, A. J. Remesnik, J. I. Pacold, N. A. Ball, N. Barry, **M. Styczinski**, and O. R. Hoidn. A laboratory-based hard x-ray monochromator for high-resolution x-ray emission spectroscopy and x-ray absorption near edge structure measurements. *Review of Scientific Instruments*, 85(11):113906, 2014. DOI: [10.1063/1.4901599](https://doi.org/10.1063/1.4901599)

PROFESSIONAL AFFILIATIONS

Affiliate, [Europa Clipper Science Team](#)
Board of Directors, “Engage” science communication program
[University of Washington Astrobiology](#)
[American Physical Society](#)
[American Geophysical Union](#)

PROFESSIONAL QUALIFICATIONS

Extensive experience with a wide variety of programming languages and systems, especially:
[SPICE ephemeris software](#), [NASA PDS](#), UNIX & bash, Fortran, Python, C++, IDL, Matlab, and L^AT_EX
6 years formal experience teaching university physics, including TA training and exam writing

SELECTED PRESENTATIONS

08/2018 [University of Melbourne Astrophysics Colloquium](#)
12/2017 [Pacific Science Center’s “Science in the City”](#)
05/2016 [Town Hall Theater’s “UW Science Now” speaker series](#)

RESEARCH POSITIONS

05/2018 – present *Doctoral Candidate*, University of Washington
Research focus: Magnetic sounding of Jupiter’s moon Europa
Magnetospheric plasma modeling
Advisor: Affiliate Professor Erika Harnett

09/2012 – 05/2018 *Graduate Student*, University of Washington
Past research: Improving the efficiency of conceptual instruction in- and out-of-class
Student understanding of Gauss’s law
Interdisciplinary learning in science courses
Advisor: Professors Paula R. L. Heron and Peter S. Shaffer

04/2011 – 07/2012 *Junior Specialist*, University of California, Davis
Duties: Design, build, test, and analyze cryogenic bubble detection experiment (Tripathi);
Develop and implement software for analyzing irradiated magnets,
assess radiation damage of magnets used in Linear Collider R&D (Pellett);
Supervisor(s): Professor S. Mani Tripathi, Professor Emeritus David Pellett

07/2010 – 04/2011 *Development Technician*, University of California, Davis
Duties: Restore, repair, and improve indium evaporative deposition system (Tripathi);
Construct sensitive Double Chooz neutrino detector in international team (Svoboda);
Train and mentor undergraduate laboratory assistants
with x-ray photoemission spectrometer (Fadley)
Supervisor(s): Professor S. Mani Tripathi, Professor Robert Svoboda, Distinguished Professor
Charles S. Fadley

05/2008 – 06/2010 *Undergraduate Research Assistant*, University of California, Davis
Duties: Restore and optimize X-ray photoemission spectrometer system, analyze Si/Mo
multilayer crystal native oxide properties
Supervisor(s): Distinguished Professor Charles S. Fadley

TEACHING EXPERIENCE

- 09/2012 – 06/2018** *Graduate Teaching Assistant*, University of Washington
Courses: Introductory physics tutorials and laboratories, advanced electromagnetism tutorials, and introductory courses in astrobiology, planetary science, and space science
Structure: Sole or co-instructor leading discussions in 24–32 student classrooms
Note: Most terms as head TA, leading training sessions for other TAs, writing exams, and course administration (including curriculum writing and revisions)
- 09/2012 – 06/2018** *Physics Study Center Staff*, University of Washington
Courses: Introductory and advanced physics
Structure: Individual homework and conceptual guidance
- 10/2007 – 06/2012** *Physics Club Volunteer Tutor*, University of California, Davis
Courses: Introductory physics and calculus
Structure: Individual homework and conceptual guidance