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CURRICULUM VITAE
of
Marshall John Styczinski

PERSONAL

Information: US Citizen, born 1988 in Dublin, California.
Position: NASA Postdoctoral Fellow at the Jet Propulsion Laboratory, California Institute of Technology.
Interests: Magnetic sounding; astrobiology; space exploration; science communication and public outreach
Website: https://moosh.run

EDUCATION

09/2012 – 08/2021 University of Washington
Degree conferred: Doctor of Philosophy, Physics
Significant works: "Analytical forward models for magnetic induction of asymmetric, icy ocean worlds with implications for spacecraft investigations" (Doctoral dissertation, July 2021)
Degree conferred: 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

09/2021 – present NASA Postdoctoral Program recipient
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 – 08/2021 Science Communication Fellow, Pacific Science Center
06/2010 Bachelor of Science with Highest Honors from UC Davis

SCIENTIFIC PUBLICATIONS

1. **M. J. Styczinski**, S. D. Vance, E. M. Harnett, and C. J. Cochrane. A perturbation method for evaluating the magnetic field induced from an arbitrary, asymmetric ocean world analytically. *Icarus*, 376:114840, 2022. DOI: 10.1016/j.icarus.2021.114840
2. **M. J. Styczinski**, Z. S. Cooper, D. M. Glaser, O. Lehmer, V. Mierzejewski, and J. Tarnas. Chapter 7: Assessing habitability beyond earth. In M. J. Schaible, N. Szeinbaum, and G. Tan, editors, *Astrobiology Primer 3.0 special issue*. In press, *Astrobiology*, 2022.
3. **M. J. Styczinski**, D. M. Glaser, M. Hooks, T. Z. Jia, K. Johnson-Finn, G. A. Schaible, and M. J. Schaible. Chapter 11: Astrobiology education, engagement, and resources. In M. J. Schaible, N. Szeinbaum, and G. Tan, editors, *Astrobiology Primer 3.0 special issue*. In press, *Astrobiology*, 2022.
4. C. J. Cochrane, S. D. Vance, T. A. Nordheim, **M. J. Styczinski**, A. Masters, and L. H. Regoli. In search of sub-

surface oceans within the uranian moons. *Journal of Geophysical Research: Planets*, 126(12):e2021JE006956, 2021. DOI: 10.1029/2021JE006956

5. S. D. Vance, **M. J. Styczinski**, B. G. Bills, C. J. Cochrane, K. M. Soderlund, N. Gómez-Pérez, and C. S. Paty. Magnetic induction responses of jupiter's ocean moons including effects from adiabatic convection. *Journal of Geophysical Research: Planets*, 126(2):e2020JE006418, 2020. DOI: 10.1029/2020JE006418
6. **M. J. Styczinski** and E. M. Harnett. Induced magnetic moments from a nearly spherical ocean. *Icarus*, 354:114020, 2021. DOI: 10.1016/j.icarus.2020.114020
7. 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

PROFESSIONAL AFFILIATIONS

Affiliate, Europa Clipper Science Team
University of Washington Astrobiology Program

PROFESSIONAL QUALIFICATIONS

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

SELECTED PRESENTATIONS

07/2021 University of Washington PhD defense presentation
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 (link to recording)

RESEARCH POSITIONS

09/2021 – present *NASA Postdoctoral Fellow*, JPL-Caltech
Research focus: Magnetic sounding of icy ocean worlds
Magnetic induction modeling and data analysis
Advisor: NASA Research Scientist Steven D. Vance

05/2018 – 08/2021 *Doctoral Candidate*, University of Washington
Research focus: Magnetic sounding of icy moons, especially 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