UNA GAYLIN SCHNECK

uschneck@mit.edu | ugschneck@gmail.com | ugschneck.com

LAST UPDATED: JULY 2020

CURRENT AFFILIATION

Department of Earth, Atmospheric, and Planetary Science; MIT

EDUCATION

-Ph.D. Student in Planetary Science [in progress]
Department of Earth, Atmospheric, and Planetary Science; **MIT**

-B.S. Honors in Geophysics (with specialization in Space Physics) [June 2018]
Cumulative GPA/Upper Division GPA: 3.65/3.87 [Valedictorian]
Department of Earth, Planetary, and Space Physics; **UCLA**

-B.S. Honors Thesis: *Stopping a Charging Elephant: The Formation and Fate of Interplanetary Magnetic Field Enhancements* [Advisor: C. T. Russell]

ACADEMIC AWARDS

2020 National Science Foundation (NSF) Graduate Research Fellowship
2020 Dean of Science Fellow at MIT
2018 Earth, Planetary, and Space Sciences UCLA Valedictorian
2018 Eugene B. Waggoner Undergraduate Scholarship

PROFESSIONAL APPOINTMENTS

MIT, Department of Earth, Atmospheric, and Planetary Science, Cambridge, MA
-PhD Student: *Sept. 2020-Present*
-Advisor: J. Taylor Perron

UCLA, Department of Earth, Planetary, and Space Sciences, Los Angeles, CA
-Research Associate I: *Sept. 2018-Present*
-Topic: Nanoscale dust interactions within the interplanetary magnetic field and Jovian magnetosphere
-Advisor: Christopher T. Russell

NASA Johnson Space Center, Jacobs Technology, Houston, TX
-Planetary Geochemistry Intern: June 2017-Sept. 2017
-Topic: Lunar magma ocean evolution through trace elements analysis in urKREEP
-Advisor: Jeremy W. Boyce

UCLA, Department of Earth, Planetary, and Space Sciences, Los Angeles, CA
-Student Researcher: Sept. 2016-Dec.2017
-Topic: Identifying chemical signatures in the classification of the Cape York (IIAB) iron meteorite
-Advisor: John Wasson

UCLA, Department of Earth, Planetary, and Space Sciences, Los Angeles, CA
-Undergraduate Researcher (Sept. 2015-May 2016)

-Topic: Probing for evidence of large-scale magmatism in the lunar volatile evolution recorded in the anomalous chlorine isotope ratios of apatite crystals in HED meteorites
-Advisor: Jeremy W. Boyce

Southwest Research Institute (Solar Physics), Boulder, CO
-Student Researcher: June 2016-Sept. 2016
-Topic: Investigated the disappearance of filament cores in 3-part coronal mass ejection (CME) from a mathematical caustic created by a geometric projection of twisted magnetic flux rope
-Advisor: Timothy A. Howard

Southwest Research Institute (Solar Physics), Boulder, CO
-Undergraduate Researcher (REU): June 2015-Sept 2015
-Topic: Devised a standard method for measuring the mass evolution of eruptive prominences in coronagraphs and heliospheric imagers at large distances from the sun
-Advisor: Timothy A. Howard

University of Colorado, Anshutz Medical, Department of Human Genetics, Denver, CO
-Researcher Assistant (May 2012-Sept.2012)
-Topic: Deciphered a global X-linked mutation in the general population that interrupted the production of cobalamin during early human gestation
-Advisor: Tamim H. Shaikh

OUTREACH

MinSight: A pet model for the Heat Flow and Physical Properties Probe (HP3) instrument on the InSight mission to Mars for classroom demonstrations (Advisor: J. Aurnou)

-Taught in UCLA's EPSS (171) Advanced Computing in Geosciences 2019/2020

PRESENTATIONS

4. "New Insights on Flux Transfer at the Magnetopause", UCLA, Department of Earth, Planetary, and Space Sciences, Los Angeles, CA; *EPSS Space Physics Seminar*, 2020
3. "Something New Under the Sun (or at least in the solar wind): The Effect of Dust on the IMF and Earth", UCLA, Department of Earth, Planetary, and Space Sciences, Los Angeles, CA; *EPSS Space Physics Seminar*, 2019
2. "Testing the urKREEP Hypothess with Eucrites", UCLA, Department of Earth, Planetary, and Space Sciences, Los Angeles, CA; *9th Annual Los Angeles Basin Earth and Planetary Sciences Student Research Symposium*, 2016
1. "Eruptive Prominences Evolution at Great Distances from the Sun", Laboratory for Atmospheric and Space Physics (LASP), Boulder, CO; *LASP REU*, 2015

POSTERS

3. **Schneck, U. G.**, Joy, S., Russell, C. T., "Did Galileo See a Salty Plume at Europa?", American Geophysical Union Conference, 2019.
2. **Schneck, U. G.**, Boyce, J. W., Treiman, A., Eiler, J. M., Guan, Y., Ma, C., "Testing the urKREEP hypothesis with eucrites", 47th Lunar and Planetary Science Conferences, The Woodlands, Texas (also featured in the *The Big Bang Theory* Season 10, Episode 9 ('*The Geology Elevation*'), 2016.

1. **Schneck, U. G.**, Howard, T. A., "Eruptive Prominence at Large Distances from the Sun", *LASP REU*, 2015

PUBLICATIONS

***h*-index: 3 | *i10*-index: 2 | CITATIONS: 111 (GOOGLE SCHOLAR)**

Refereed Publications:

3. Pinchuk, P., Margot, J., Greenberg, A. H., Ayalde, T., Bloxham, C., Boddu, A., Gerardo, L., Cliffe, M., Gallagher, S., Hart, K., Hesford, B., Mizrahi, I., Pike, R., Rodger, D., Sayki, B., **Schneck, U. G**., Tan, A., Xiao, Y., and Lynch, R. S., **2019**. "A Search for Technosignatures from TRAPPIST-1, LHS 1140, and 10 Planetary Systems in the Kepler Field with the Green Bank Telescope at 1.15–1.73 GHz" *The Astronomical Journal*. 157 (122).

2. Howard, T. A., DeForest, C. E., **Schneck, U. G**., and Alden, C. R., **2017**. "Challenging Some Contemporary Views of Coronal Mass Ejections. II: The Case for Absent Filaments" *The Astrophysical Journal*. 834 (86)

1. Yu, H. C., Sloan, J.L., Scharer, G., Brebner, A., Quintana, A.M., Achilly, N.P., Manoli, I., Coughlin, C.R., Geiger, E.A., **Schneck, U. G.**, Watkins, D., Suormala, T., Van Hove, J.L., Fowler, B., Baumgartnerk, M.R., Rosenblatt, D.S., Venditti, C.P., and Shaikh, T.H., **2013**. An X-Linked Cobalamin Disorder Caused by Mutations in Transcriptional Coregulator HCFC1. *The American Journal of Human Genetics*. 93 (3): 506-514

Conference Abstracts:

9. **Schneck, U. G.,** Joy, S., Russell, C. T. (2019) "Did Galileo See a Salty Plume at Europa?" (American Geophysical Union 2019)

8. Lai, H., Russell, C. T., **Schneck, U**., Jia, Y. D. (2019) "Neutral Matter Collisions in Interstellar Space: Dust Production and Pick-up on the Smallest Scale" (EPSC-DPS Joint Meeting 2019)

7. Lai, H., Zhao, C., Jia, Y., **Schneck, U.**, Russell, C. T. (2018) "The Coherent Interaction of the Solar Wind and Collisionally Produced Nano-scale Dust" (European Geosciences Union General Assembly 2018)

6. Russell, C.T., Zhao, C., Strangeway, R.J., Lai, H.R., **Schneck, U.G.**, Paterson, W.R., Giles, B.L., Burch, J.L. (2018) "Magnetosheath Field Enhancements: Decelerating Charged Dust Clouds in the Magnetosheath" (European Geosciences Union General Assembly 2018)

5. Russell, C. T., Qi, Y. Zhao, C., **Schneck, U.,** Lai, H. (2018) "Faux Magnetopause Crossings and How to Recognize Them" (2018) (Triennial Earth-Sun Summit)

4. Russell, C. T., Lai, H**., Schneck, U. G.** (2018) "Collisions in Space: Nanoscale Dust Production and its Detection in Space" (The 50th Lunar and Planetary Science Conference)

3. Kanee, S. A., **Schneck, U. G**., Ross, D. K., Boyce, J. W. (2018) "Non-Destructive Analysis of Potassium in Apollo 11 High-Titanium Basalts" (Women in Planetary Science and Exploration Conference 2018)

2. **Schneck, U. G.**, Boyce, J. W., Treiman, A., Eiler, J. M., Guan, Y., Ma, C., (2016) "Testing the urKREEP- δ^{37}Cl Hypothesis with eucrites." (The 47th Lunar and Planetary Science Conference)

1. **Schneck, U. G**., Howard, T. A. (2015) "The Evolution of Eruptive Filaments at Great Distances." (Laboratory of Atmospheric and Space Physics, REU)

COMPUTER SKILLS AND SYSTEMS EXPERIENCE

Tools and Software

Git, Vim, Photoshop, After Effects, Illustrator, LaTex, Linux

Languages

Proficient: Python, MATLAB, C++, Perl/PDL, R

Exposure: Mathematica, C#, Bash

PROFESSIONAL MEMBERSHIP

-American Geophysical Union (AGU)

-American Association for the Advancement of Science (AAAS)

LETTERS OF RECCOMENDATION AVAILABLE UPON REQUEST