Will Steinhardt

(609) 462-9970 | wisteinh@gmal.com | Google Scholar: http://bit.ly/wmsscholar | willsteinhardt.com

Appointments

UC Santa Cruz | Postdoctoral Scholar — **Current**

Education

Harvard University | Ph.D. in Earth & Planetary Sciences — **Feb 2020**
Caltech | B.A. in Geophysics — **2011**

Honors and Awards

Outstanding Student Presentation Award | AGU — **2018**
Shaler Teaching Award | Harvard Earth & Planetary Sciences — **2016**
Certificate of Distinction in Teaching | Harvard Bok Center — **Spring 2015, Spring 2016**
NASA Earth and Space Science Fellowship | NASA (declined) — **2013**
Fritz Burns Prize, Caltech Division of Geologic & Planetary Sciences — **2011**
Student Life and Masters Award, Caltech — **2011**

Publications

1. **Steinhardt, W.,** Dillavou S., Rubinstein, S.M., Brodsky E. "Controls on Stress Drop Scaling for Slow Slip Events as Directly Measured on Novel Laboratory Fault" (*in prep*)
2. **Steinhardt, W.,** Rubinstein, S.M. "The Rules of Roughness" *(in prep).*
3. **Steinhardt, W.,** Rubinstein, S.M. "How Material Heterogeneity Creates Rough Fractures" *(accepted, PRL)* (LINK)
4. Solomatova, N.V., Jackson, J.M., Sturhahn, W., Wicks, J.K., Zhao, J., Toellner, T.S., Kalkan, B. and **Steinhardt, W.** "Equation of state and spin crossover of (Mg, Fe) O at high pressure, with implications for explaining topographic relief at the core-mantle boundary." *American Mineralogist*, 101(5), pp.1084-1093. (2016).
5. Bindi, L., Yao, N., Lin, C., Hollister, L.S., Andronicos, C.L., Distler, V.V., Eddy, M.P., Kostin, A., Kryachko, V., MacPherson, G.J., **Steinhardt, W.,** Yudovskaya M., Steinhardt P.J., "Decagonite, $Al_{71}Ni_{24}Fe_5$, a quasicrystal with decagonal symmetry from the Khatyrka CV3 carbonaceous chondrite." American Mineralogist, 100(10), pp.2340-2343. (2015).
6. Bindi, L., Yao, N., Lin, C., Hollister, L.S., Andronicos, C.L., Distler, V.V., Eddy, M.P., Kostin, A., Kryachko, V., MacPherson, G.J., **Steinhardt, W.,** Yudovskaya M., Steinhardt P.J., 2015. "Natural quasicrystal with decagonal symmetry." Scientific Reports, 5, p.9111. (2015).
7. Bindi, L., Yao, N., Lin, C., Hollister, L.S., MacPherson, G.J., Poirier, G.R., Andronicos, C.L., Distler, V.V., Eddy, M.P., Kostin, A., Kryachko, V., **Steinhardt, W.,** Yudovskaya M., Steinhardt P.J., "Steinhardtite, a new body-centered-cubic allotropic form of aluminum from the Khatyrka CV3 carbonaceous chondrite." American Mineralogist, 99(11-12), pp.2433-2436. (2014).
8. Hollister, L.S., Bindi, L., Yao, N., Poirier, G.R., Andronicos, C.L., MacPherson, G.J., Lin, C., Distler, V.V., Eddy, M.P., Kostin, A., Kryachko, V., **Steinhardt, W.,** Yudovskaya M., Eiler J.M., Guan Y., Clarke J.J., Steinhardt P.J, "Impact-induced shock and the formation of natural quasicrystals in the early solar system." Nature Communications, 5, p.4040. (2014).
9. MacPherson, G.J., Andronicos, C.L., Bindi, L., Distler, V.V., Eddy, M.P., Eiler, J.M., Guan, Y., Hollister, L.S., Kostin, A., Kryachko, V., **Steinhardt, W.,** Yudovskaya M., Steinhardt P.J., "Khatyrka, a new CV 3 find from the Koryak Mountains, Eastern Russia." Meteoritics & Planetary Science, 48(8), pp.1499-1514. (2013).
10. M. Obrić, Ž Ivezić, P. N. Best, R. H. Lupton, C. Tremonti, J. Brinchmann, M. A. Agüeros, G. R. Knapp, J. E. Gunn, C. M. Rockosi, D. Schlegel, D. Finkbeiner, M. Gaćša, V. Smolčić, S. F. Anderson, W. Voges, M. Jurić, R. J. Siverd, **Steinhardt, W.,** A. S. Jagoda, M. R. Blanton, D. P. Schneider; "Panchromatic properties of 99 000 galaxies detected by SDSS, and (some by) ROSAT, GALEX, 2MASS, IRAS, GB6, FIRST, NVSS and WENSS surveys", Monthly Notices of the Royal Astronomical Society, Volume 370, Issue 4, 1677–1698 (2006).
11. Sesar, B., Svilković, D., Ivezić, Ž., Lupton, R.H., Munn, J.A., Finkbeiner, D., **Steinhardt, W.,** Siverd, R., Johnston, D.E., Knapp, G.R. and Gunn, J.E., "Variable faint optical sources discovered by comparing the POSS and SDSS catalogs." The Astronomical Journal, 131(6), p.2801. (2006).

12. Ivezić, Ž., Richards, G., Hall, P., Lupton, R., Jagoda, A., Knapp, G., Gunn, J., Strauss, M., Schlegel, D., **Steinhardt, W.** and Siverd, R., June. "Quasar Radio Dichotomy: Two Peaks, or not Two Peaks, that is the Question." AGN Physics with the Sloan Digital Sky Survey (Vol. 311, p. 347). (2004).

Invited Talks

USGS Earthquake Sceince Center Seminar **7 / 2022**
""What Rubber and Jello Can Teach Us About Earthquakes and Fractures"
University of Washington Earth and Space Science Colloquium **1 / 2022**
""What Rubber and Jello Can Teach Us About Earthquakes and Fractures"
UCSC IGPP Seminar **2 / 2020**
"The Rules of Roughness: An Experimental Investigation into the Origins of Brittle Fracture Complexity"
American Physical Society (March Meeting 2019) **3 / 2019**
"The Rules of Roughness: Understanding the Dynamic Generation of 3D Complexity in Fractures"

Contributed Talks

American Geophysical Union | Fall Meeting **12 / 2021**
Southern California Earthquake Center | Annual Meeting **9 / 2021**
American Geophysical Union | Fall Meeting **12 / 2020**
American Geophysical Union | Fall Meeting **12 / 2019**
Southern California Earthquake Center | Annual Meeting **9 / 2019**
American Physical Society | March Meeting **3 / 2019**
American Geophysical Union | Fall Meeting **12 / 2018**
World Congress on Computational Mechanics **8 / 2018**
BIRS Workshop | Hydraulic Fracturing: Modeling, Simulation, and Experiment **6 / 2018**
Harvard-CUPB Workshop on Rock Physics for Fracking and EOR **11 / 2017**
Society of Engineering Science | Annual Meeting **10 / 2016**
American Geophysical Union | Fall Meeting **12 / 2015**

Teaching

Teaching Fellow for *ENG-SCI 123: Introduction to Fluid Mechanics and Transport Processes* **Spr 2015, Spr 2016**
Teaching Assistant for *GE 1: Earth and Environment* **Spr 2010**

Service and Outreach

Reviewer for *Scientific Reports*
Supervised graduate student Caroline Martin on fracture surface analysis project **2019 - 2019**
Supervised graduate student Rodrigo Telles on hydrogel heterogeneity project **2018 - 2019**
Supervised undergraduate Aria Hamann on interfacial hydrogel fracture project through Harvard REU Program **2014**
Led *Science Days* lab tours and demonstrations for middle school students **2015, 2016**