

Seulgi Moon

Assistant professor

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DEGREES

2007–2013	Stanford University Ph.D. Geological and Environmental Sciences. Advisor: George Hilley & Page Chamberlain	CA, USA
2005–2007	Seoul National University M.S. Earth System Science. Advisor: Youngsook Huh	Seoul, Korea
2001–2005	Seoul National University B.S., Earth System Science, <i>summa cum laude</i> .	Seoul, Korea

EMPLOYMENT

2015 –	University of California, Los Angeles Assistant Professor, Dept. of Earth, Planetary, and Space Sciences	CA, USA
2013 – 2015	Massachusetts Institute of Technology Postdoctoral Associate, Dept. of Earth, Atmospheric, Planetary and Sciences	MA, USA

AWARDS AND HONORS

Alexander von Humboldt Research Fellowship recipient, 2013

Gabilan Stanford Graduate Fellowship, Stanford University, 2008-2011

High Academic Achievement Award, Seoul National University, 2003-2004

PUBLICATIONS

Citation metrics available from Google Scholar (<https://goo.gl/RRLCtA>)

* UCLA student author

Articles

1. S. Moon, Y. Huh, J. Qin, and N. van Pho, "Chemical weathering in the Hong (Red) River basin: Rates of silicate weathering and their controlling factors," *Geochimica et Cosmochimica Acta* 71, (2007), pp. 1411-1430.
2. J. B. Borges, Y. Huh, S. Moon, and H. Noh, "Provenance and weathering control on river bed sediments of the eastern Tibetan Plateau and the Russian Far East," *Chemical Geology* 254, (2008), pp. 52-72.
3. J. Yoon, Y. Huh, I. Lee, S. Moon, H. Noh, and J. Qin, "Weathering Processes in the Min Jiang: Major Elements, $^{87}\text{Sr}/^{86}\text{Sr}$, $\delta^{34}\text{S}_{\text{SO}_4}$, and $\delta^{18}\text{O}_{\text{SO}_4}$," *Aquatic Geochemistry* 14, (2008), pp. 147-170.
4. S. Moon, Y. Huh, and A. Zaitsev, "Hydrochemistry of the Amur River: Weathering in a Northern Temperate Basin," *Aquatic Geochemistry* 15, (2009), pp. 497-527.

5. G. E. Hilley, C. P. Chamberlain, S. Moon, S. Porder, and S. D. Willett, "Competition between erosion and reaction kinetics in controlling silicate-weathering rates," *Earth and Planetary Science Letters* 293, (2010), pp. 191-199.
6. S. Moon, C. Page Chamberlain, K. Blisniuk, N. Levine, D. H. Rood, and G. E. Hilley, "Climatic control of denudation in the deglaciated landscape of the Washington Cascades," *Nature Geoscience* 4, (2011), pp. 469-473.
7. S. Moon, C. P. Chamberlain, and G. E. Hilley, "New estimates of silicate weathering rates and their uncertainties in global rivers," *Geochimica et Cosmochimica Acta* 134, (2014), pp. 257-274.
8. S. Moon, E. Shelef, and G. E. Hilley, "Recent topographic evolution and erosion of the deglaciated Washington Cascades inferred from a stochastic landscape evolution model," *Journal of Geophysical Research: Earth Surface* 120, (2015), pp. 856-876.
9. J. St. Clair[#], S. Moon[#], W. S. Holbrook, J. T. Perron, C. S. Riebe, S. J. Martel, et al., "Geophysical imaging reveals topographic stress control of bedrock weathering," *Science* 350, (2015), pp. 534-538. ([#]equal contribution)
10. B. W. Goodfellow, G. E. Hilley, S. M. Webb, L. Sklar, S. Moon, and C. A. Olson, "The chemical, mechanical, and hydrological evolution of weathering granitoid," *Journal of Geophysical Research: Earth Surface* 121, (2016), pp. 1410–1435.
11. D. E. Ibarra, J. K. Caves, S. Moon, D. L. Thomas, J. Hartmann, C. P. Chamberlain, et al., "Differential weathering of basaltic and granitic catchments from concentration–discharge relationships," *Geochimica et Cosmochimica Acta*, 190, (2016), pp. 265-293.
12. S. Moon, J. T. Perron, S. Martel, W. S. Holbrook, J. St. Clair, "A model of three-dimensional topographic stresses with implications for bedrock fractures, surface processes and landscape evolution," *Journal of Geophysical Research: Earth Surface*, 122, (2017)

Theses

1. Moon, S. (2007), Chemical weathering in the Hong (Red) and Amur River basins, MS thesis, Seoul National University
2. Moon, S. (2013), Classical views in geomorphology imaged and reconciled using cosmogenic isotopes, topographic analysis, and numerical modeling. PhD thesis, Stanford University

Papers in review/ revision

1. S. Moon, D. J. Merritts, N. P. Snyder, A. Sanquini, J. Fosdick, and G. E. Hilley, "Denudation of coastal drainages in the Mendocino Triple Junction region (MTJ), northern California," (in revision)
2. S. Faulk*, J. Mitchell, **S. Moon**, and J. Lora, "Extreme methane rainstorms in Titan simulations coincide with observed alluvial fans " (in review)

3. B. A. Flinchum, W. S. Holbrook, D. Rempe, S. Moon, C. S. Riebe, B. Carr, J. L. Hayes, J. St. Clair, and M. P. Peters, "Critical zone structure under a granite ridge inferred from drilling and three-dimensional seismic refraction data" (in review)

Selected conference abstracts (since 2015)

1. **Moon, S.**, Perron, J. T., Martel, S., Holbrook, W.S., St. Clair, J., and Singha, K., (2015) Three-dimensional topographic stress controls on bedrock fractures and landscape evolution, AGU Fall Meet., EP52D-01 (*invited*)
2. **Moon, S.**, Merritts, D., Snyder, N., Sanquini, A., Fosdick, J., Hilley G.E., (2015) Denudation and topographic response of the coastal drainages near the Mendocino Triple Junction Region (MTJ), Northern California, AGU Fall Meet., EP33D-02 (*invited*)
3. Faulk S*, **Moon S.**, Mitchell J., Lora J., (2016) Quantifying precipitation variability on titan using a GCM and implications for observed geomorphology, Annual meeting of Division for Planetary Sciences of the American Astronomical Society
4. Emmons* B., **Moon S.**, Brown N., Blisniuk K., Rhodes E., (2016) Applying newly developed luminescence dating to alluvial fans in the Anza Borrego Desert, southern California, SCEC fall meeting
5. Lin* J., **Moon S.**, Meng L., Davis P., (2016) Topographic Influence on Near-Surface Seismic Velocity in southern California, SCEC fall meeting
6. Chang* E., Peltzer G., **Moon S.**, (2016) Fault scarp degradation analysis at Dragon's Back using high resolution topography data, SCEC fall meeting
7. **Moon, S.**, Chamberlain C.P., and Hilley, G.E., (2016) Uncertainty assessment in quantification of silicate weathering rates in global rivers, Goldschmidt Conference (*keynote*)
8. **Moon, S.**, Perron, J. T., Martel, S., Holbrook, W.S., St. Clair, J., and Singha, K., (2016) Interplay between tectonics and topography: Topographic stress controls on bedrock fractures and surface processes, AGU Fall Meet., EP14B-01 (*invited*)
9. Lin* J., **Moon S.**, Meng L., Davis P., (2016) Topographic Influence on Near-Surface Seismic Velocity in southern California, AGU Fall Meet., S33B-2835.
10. Faulk S*, **Moon S.**, Mitchell J., Lora J., (2016) Quantifying Precipitation Variability and Relative Erosion Rates on Titan Using a GCM and Implications for Observed Geomorphology, AGU Fall Meet., P33F-07.

INVITED TALKS

2017 Pomona College

2016 University of Wyoming

China Academy of Sciences Institute of Geology and Geophysics

University of California, San Diego

University of Oregon, Eugene

University of Washington, Seattle

Goldschmidt Conference (*keynote*)

- 2015 AGU Fall meeting, Earth & Planetary Surface Processes focus group (*invited*)
 University of Pittsburgh
 University of California at Los Angeles
 ETH Zurich, Swiss
 Seoul National University, Korea
 Yonsei University, Korea
 University of Utah
 University of Southern California
 California Institute of Technology
 AGU Fall meeting, Earth & Planetary Surface Processes focus group (2 *invited*)
- 2014 University of California at Berkeley
 University of Massachusetts at Amherst
 University of Michigan at Ann Arbor
- 2013 Seoul National University, Korea
 Korea Basic Science Institute, Korea

UCLA SERVICES

Participation

- 2nd Annual Faculty Workshop on Best Practices in Teaching, 9/27/2015
 NSF Day (NSF funded one-day workshop for proposal writing), 01/22/2016
 Insight into Philanthropy workshop, 03/29/2016
 Preparing for Academic Personnel Review Luncheon, 5/17/2016

Committees

- EPSS faculty committee on web site, 07/2016 - present
 EPSS faculty committee on departmental clean lab facility, 07/2016 – present
 EPSS faculty committee on faculty search, 11/2016 – present

Academics

- EPSS Undergraduate and graduate advisor, 2015 – present
 PhD committees: Sean Faulk, Nathan Brown, Chris McGuire

Outreach

- Preparation for EPSS communication event “Total Solar Eclipse Trip 2017”, 05/2015 - present

TEACHING

- EPSS 61: Geologic Maps (Fall 16, enrollments 39)
 EPSS 298: Special Topics in EPSS: Historic Papers in Geomorphology (Fall 16, enrollments 6)
 EPSS 165: Tectonic Geomorphology (Spring 16, enrollments 9)
 EPSS 199: Direct Research (Spring 16, enrollments 3)

STUDENT SUPERVISED

Undergraduate students

Brittney Emmons	2015-2016
Jessica Lin	2015
Emil Chang	2015

Graduate students

Sean Faulk	2015-	(co-adviser: Jonathan Mitchell)
Jessica Lin	2016-	
Heather Kirkpatrick	2016-	(co-adviser: Mark Harrison)

EXTERNAL SERVICE

Journal reviewer of Journal of Geophysical Research: Earth Surface, Geology, Earth and Planetary Science Letters, Geochimica et Cosmochimica Acta

Proposal reviewer of Army Research Office, NSF Geomorphology and Land-use Dynamics program, Swiss-NSF

Members of American Geophysical Union, Geological Society of America, European Association of Geochemistry, Southern California Earthquake Center

FUNDING

Current

NASA- Cassini Data Analysis: Understanding the Controlling Factors of Titan's Climate, Weather and Methane Hydrology in Space and Time (\$ 388,666; 06/2016 – 07/2019), Co-PI Moon with J. Mitchell as PI.

UCLA Faculty Research Grant/Trans-disciplinary Seed Grant: The impact of future climate change on landslide hazards in the Washington Cascades, USA (\$5979; 07/2016-06/2017)

UCLA Office of Instructional Development Instructional Improvement Project, EPSS Geomagnetic Drone Enhanced Survey Instrument (GEODESI) (\$6,000; 07/2016-06/2017) with PI Angelopoulos

Past

USC SCEC 2016: Characterizing seismic site conditions in southern California based on topographically induced stress and bedrock fractures (\$ 30,000; 02/2016 – 01/2017), PI Moon with L. Meng as Co-PI.

UCLA Office of Instructional Development mini grant for EPS 165 (\$580; 07/2015-06/2016)

UCLA Council on Research Travel grant (\$1,350; 07/2015-06/2016).

National Center for Airborne Laser Mapping (NCALM) Seed Grant (2011)

Geological Society of America, Graduate Student Research Grant (\$2963; 2011)

Stanford University, McGee Research Grant (\$3800; 2011)