Bradley Paul Lipovsky

Department of Earth and Planetary Sciences
Harvard University
Cambridge, MA 02138

(617) 496 5132
brad_lipovsky@fas.harvard.edu

CURRENT POSITION

Lecturer, Research Associate, and Principal Investigator
Department of Earth and Planetary Sciences, Harvard University

EDUCATION

2018	**Postdoctoral Fellow**, Earth and Planetary Sciences, Harvard University
2017	**Doctor of Philosophy**, Geophysics, Stanford University,
2011	**Master of Science**, Earth Science, University of California–Riverside
2008	**Bachelor of Arts**, Mathematics, Cornell University
2004	**Associate of Arts**, Mathematics, Lake Tahoe Community College

PUBLICATIONS

13. **B. P. Lipovsky**, "Ice shelf rift propagation: stability, three dimensional effects, and the role of marginal weakening" (2019). Submitted to the Cryosphere.

12. P. Danré, J. Yin, **B. P. Lipovsky**, M. Denolle, "Earthquakes Within Earthquakes: Patterns in Rupture Complexity" (2019). Geophysical Research Letters. http://doi.org/10.1029/2019GL083093.

11. S. Olinger, **B. P. Lipovsky**, D. Wiens, R. Aster, P. Bromirski, Z. Chen, P. Gerstoft, A. Nyblade, R. Stephen "Tidal and Thermal Stresses Drive Seismicity along a Major Ross Ice Shelf Rift" (2019). Geophysical Research Letters. http://doi.org/10.1029/2019GL082842.

10. **Lipovsky, B.P.**, Meyer, C.R., Zoet, L.K., McCarthy, C., Hansen, D.D., Rempel, A.W., Gimbert, F., "Glacier sliding, seismicity, and sediment entrainment" (2019). Annals of Glaciology. http://doi.org/10.1017/aog.2019.24.

9. Gräff, D., **Lipovsky, B.P.**, Walter, F.. "Crack wave resonances within the basal water layer" (2019). Annals of Glaciology. http://doi.org/10.1017/aog.2019.8.

8. Minchew, B. M., Meyer, C.R., Pegler, S.S., **Lipovsky B.P.**, Rempel, A.W., Gudmundsson, G.H. and Iverson, N.R., "Comment on: "Friction at the bed does not control fast glacier flow" by L. A. Stearns and C. J. van der Veen" (2019). Science. http://doi.org/10.1126/science.aau6055.

7. Schöpa, A., Chao, W., **Lipovsky, B.P.**, Hovius, N., White, R. S., Green, R. G., Turowski, J. M. Dynamics of the Askja Caldera July 2014 landslide from seismic signal analysis: precursor, motion and aftermath (2018). Earth Surface Dynamics, Special issue "From Process to Signal - Advancing Environmental Seismology." https://doi.org/10.5194/esurf-2017-68.

6. **Lipovsky, B.P.** (2018), "Ice shelf rift propagation and the mechanics of wave-induced fracture". J. Geophys. Res. Oceans http://dx.doi.org/10.1029/2017JC013664.

5. **Lipovsky, B.P.**, and Dunham, E. M. (2017), "Slow-slip events on the Whillans Ice Plain, Antarctica, described using rate-and-state friction as an ice stream sliding law". J. Geophys. Res. Earth Surface http://dx.doi.org/10.1002/2016JF004183.

4. Mordret, A., Mikesel, D., Harig, C., **Lipovsky, B. P.** , Prieto, G. A. (2016) "Monitoring southwest Greenland's ice sheet melt with ambient seismic noise". Science Advances. http://dx.doi.org/10.1126/sciadv.1501538.

3. **Lipovsky, B.P.**, and Dunham, E.R. (2016), "Tremor during ice stream stick-slip". The Cryosphere. http://dx.doi.org/10.5194/tc-10-385-2016

2. **Lipovsky, B.P.**, and Dunham, E.R. (2015), "Vibrational modes of hydraulic fractures: Inference of fracture geometry from resonant frequencies and attenuation". J. Geophys. Res. http://dx.doi.org/10.1002/2014JB011286.

1. Gonzalez A., Gonzalez-Garcia J.J., Sandwell, D.T., Fialko, Y., Agnew, D.C., **Lipovsky, B.P.**, Fletcher, J.M., Nava-Pichardo, F.A. (2014) GPS coseismic and postseismic surface displacements of the El Mayor-Cucapah earthquake. J. Geophys. Res. http://dx.doi.org/10.1002/2013JB010193.

GRANTS AND FUNDING

2018	NVIDIA GPU Grant recipient for research in machine learning and glaciology.
2016-2018	Postdoctoral Fellowship in the Department of Earth and Planetary Sciences, Harvard University
2015	National Science Foundation, Division of Polar Programs Award #1542885. "Collaborative Research: Characterizing Brittle Failure and Fracture Propagation in Fast Ice Sliding with Dynamic Rupture Models based on Whillans Ice Stream Seismic/Geodetic Data," Award amount $210,000
2012	McGee Grant, Stanford School of Earth Sciences, "Field observation of icefall seismicity, Juneau Ice Field, Alaska," Award amount $5,000
2011	National Geographic Explorers Grant, "Glacial mass loading and the occurrence of solid-earth seismicity: can the variation of glacial weight turn seismicity on and off?" Award amount $5,000

FIELD WORK

2015	"High resolution heterogeneity at the Base of Whillians Ice Stream and its Control on Ice Dynamics", Whillans Ice Stream, West Antarctica
2012	"Observation of icefall seismicity", Juneau Ice Field, Alaska
2010-11	Rapid postseismic deployment following the 2010 April 04 El Mayor-Cucapah earthquake, Mexicali, Mexico.

HONORS, FELLOWSHIPS, AND AWARDS

2017	Early Career Scientist Outstanding Presentation Award, WCRP/IOC Conference on Regional Sea Level Changes and Coastal Impacts
2016-	Department Postdoctoral Fellowship, Department of Earth and Planetary Sciences, Harvard University
2011-15	Mannon Family Fellowship, Department of Geophysics, Stanford University
2010	AGU Outstanding Student Paper Award

TEACHING

2019	**Lecturer**, Harvard EPS 253, "Machine Learning Across the Earth and Planetary Sciences".
2018	**Lecturer**, Harvard EPS 254, "Glaciology".
2018	**Informal Guest Lecturer**, Harvard EPS 203 , "Earthquakes and Faulting"
2013-2016	**Teaching Assistant and Informal Guest Lecturer**, Stanford Geophysics 120/220, "Ice, Water, Fire"

ADVISING

Graduate Students

2018-	**Seth Olinger**, PhD student at Harvard University studying ice shelf seismology.
2019-	**William Flanagan**, Masters student at Harvard University studying subglacial hydrology and seismology.

Undergraduate Students

2017-	**Vladislav Sevostianov**, Semester-long internship, Harvard University. Laboratory experiments on the frictional properties of ice.
2015	**Janine Birnbaum**, Summer internship, Stanford University. Research focusing on finite element modeling of ice stream loading.
2014	**Dilia Olivo**, Summer internship, Stanford University. Research focusing on rapidly repeating stick slip motion in glaciers.

SERVICE

ongoing	Reviewer for scientific journals, including: The Cryosphere, Geophysical Research Letters, Journal of Geophysical Research, Science Advances, Nature Communications, Earth and Planetary Science Letters, Annals of Glaciology, Journal of the Acoustical Society of America, Proceedings of the National Academy of Sciences
ongoing	Reviewer for government agencies, including: the U.S. National Science Foundation, the U. S. Geological Survey, the Swiss National Science Foundation, the Australian Antarctic Division, and the French Polar Institute Paul-Emile Victor (IPEV)
2019	Convener, "Environmental seismology: Environmental Seismology: A Geophysical Tool to study Surface and Near Surface Processes" session at the American Geophysical Union Fall Meeting.
2018-19	Scientific Editor, Annals of Glaciology, Special Issue on Cryoseismology
2019	Convener, "Environmental seismology" session at the Seismological Society of America annual meeting.
2018	Convener, "Environmental seismology: using geophysical tools for Earth surface processes research" session at the American Geophysical Union Fall Meeting.
2018	Convener, "Environmental seismology" session at the Seismological Society of America annual meeting.
2016	Participant, United States Ice Drilling Program, Science Advisory Board Meeting
2015	Student Member, Cryosphere Faculty Search Committee, Department Geophysics, Stanford
2014	Student presentation judge, Stanford School of Earth Science Research Review
2013	Convener and chair, "Seismicity in the cryosphere", session at the Annual Meeting of the American Geophysical Union
2011-2012	Member, Graduate Student Advisory Council, Department of Geophysics
2010-2012	Student Representative, American Geophysical Union, Geodesy Section
2009-2010	University of California–Riverside Earth Science Graduate Association, President

INVITED PRESENTATIONS

2019	American Geophysical Union, Fall Meeting, Cryosphere section, " Pathways to eureka from unexplained phenomena and interdisciplinary approaches to glaciology"
2019	Institut de Physique du Globe de Paris
2019	Antarctic Research Centre, University of Wellington
2019	School of Surveying, University of Otago
2019	American Physical Society, "Physics of Natural Phenomena" session.
2019	Department of Geology and Geophysics, Woods Hole Oceanographic Institution
2019	Department of Mechanical Engineering, University of Colorado at Boulder
2018	Grands Séminaires ISTerre, Institut des Sciences de la Terre, Université Grenoble Alpes
2018	Institut des Géosciences de l'Environement, Université Grenoble Alpes
2017	Brown University Department of Earth, Environmental and Planetary Sciences, Department Colloquium
2017	Lamont Doherty Earth Observatory, Seismology Seminar
2016	Massachusetts Institute of Technology, Friday Informal Seminar Hour
2016	University of Kansas
2016	University of Washington, Glaciology Lunch
2015	University of California, Santa Cruz
2015	Massachusetts Institute of Technology, Friday Informal Seminar Hour
2014	American Geophysical Union Fall Meeting, Invited Presentation
2014	Scripps Institution of Oceanography, Institute of Geophysics and Planetary Physics, University of California–San Diego
2014	California Institute of Technology
2013	Earthquake Research Institute, University of Tokyo, Japan
2010	Southern California Earthquake Center Annual Meeting: Workshop on Transient Anomalous Strain Detection
2010	USGS Public Lecture Series Symposium at Pasadena City College
2009	Southern California Earthquake Center Annual Meeting: Workshop on Transient Anomalous Strain Detection