

Michael P. Lamb

Geological and Planetary Sciences
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Professional Experience

Assistant Professor, Geological and Planetary Sciences, California Institute of Technology, 2009 – present.

Postdoctoral Fellow, Geological Sciences, University of Texas, Austin, Advisor: David Mohrig, 2008 – 2009.

Scientist, St. Anthony Falls Laboratory, Minneapolis, Minnesota, Advisors: Gary Parker & Chris Paola, 2000 – 2001.

Education

Ph.D. Earth and Planetary Science, University of California, Berkeley, Advisor: William Dietrich, 2008. Dissertation: *Formation of Amphitheater-headed Canyons*.

M.S. Oceanography, University of Washington, Seattle, Advisor: Jeffrey Parsons, 2003. Thesis: *High-density suspensions formed under waves*.

B.S. Geophysics *high distinction* & B.S. Geology *magna cum laude*, University of Minnesota, Minneapolis, Advisors: Gary Parker & Chris Paola, 2001.

Research Interests

Sedimentary and geomorphic processes that shape the surfaces of Earth, Mars and Titan. Current topics include waterfall erosion, sediment transport in steep mountain streams, river-terrace formation, river-mouth dynamics, and hyperpycnal river plumes.

Honors and Awards

Editors' Citation for Excellence in Refereeing for JGR-Earth Surface, 2009

Louderback Award for Outstanding Scholarship, University of California, 2007

Kobe International School of Planetary Sciences Scholarship, Japan, 2004

NASA Fellowship for Mars Valley Networks Workshop, Hawaii, 2004

National Defense Science and Engineering Graduate Fellowship, 2001-2004

Academic Rewards for College Scientists (ARCS) National Scholarship, 2001-2004

Aldrich Award for Academic Excellence, University of Minnesota, 2001

Field Mentor Grant, Association of American State Geologists, 2000

Dennis Scholarship for Academic Excellence, University of Minnesota, 2000

W.A. Hoyer National Scholarship, Society of Professional Well Log Analysts, 2000

Public Service

Interviewee for local and national news (October 2009: KABC-TV Channel 7, KNBC-TV Channel 4, KMEX-TV Channel 34, CBS Early Show, CBS Nightly News; February 2010: KABC-TV Channel 7; April & August 2010: Pasadena Star News; September 2010: LA Times; April 2011: ABC *The Science Show*)

Contributor to FOSS® (Full Option Science System™) chapter Soils, Rocks, and Landforms. FOSS is a hands-on, inquiry-based science curriculum for teachers and students in grades K-6. The program is developed at the Lawrence Hall of Science, University of California at Berkeley, and is funded in part by grants from the National Science Foundation.

Developed and lead workshop and field trip on sediment transport in steep rivers for the annual meeting of the National Association of Geoscience Teachers, 2011.

Provided images and text for an informational geologic sign at Box Canyon State Park, Idaho, 2010.

Academic Service

Founder and moderator of the “GeomorphLectures” Wiki that facilitates transfer of educational materials in geomorphology, 2010 – present.

Co-convenor: Earth and Planetary Surfaces General Poster Session, AGU 2009 - 2011.

Co-convenor: *Morphodynamics of Mountain Streams*, AGU 2011.

Co-convenor: *Hydrodynamics and Sediment Transport in Lowland Rivers*, AGU 2011.

Co-convenor: *The Great Mississippi Flood of 2011*, AGU 2011.

Participant in the NSF funded Community Sediment Dynamics Model (2008-2009).

Co-organizer for Gilbert Club Conference, Berkeley, CA, 2004 – 2007.

Co-organizer for the Friends of the Pleistocene Trip, Bonneville Flood, 2011.

Reviewer for: *J. Geophysical Research – Oceans* (1), *J. Geophysical Research – Planets* (1), *J. Geophysical Research – Earth Surface* (8), *Water Resources Research* (4), *J. Hydro-environment Research* (1), *J. Sedimentary Research* (5), *J. Hydraulic Research* (3), *Geology* (6), *Earth Surface Processes and Landforms* (1), *Geomorphology* (1), *Engineering Geology* (1), *National Science Foundation* (2), *NASA Mars Fundamental Research Program* (1), *NASA Icy Satellites Program* (1), *American Chemical Society* (1), *John Wiley & Sons* (2).

Service at Caltech

Committee member: GPS Strategic Planning Committee (2010), GIS Committee (2009 – present), Mechanical Engineering Faculty Search (2010 - present), Quarterly junior faculty social events at Caltech (2010), GPS Core Committee (2011 - present).

Organizer for GPS Division Seminar series (2010 – 2011).

Organizer / leader of field trip for prospective GPS graduate students (February, 2010).

Presenter for GPS administrative staff research seminar series (2012).

Graduate student general examination committee member for: Ajay Limaye (2009), Joel Scheingross (2010), Paul Magyar (2010), Peter Gao (2011), Brent Minchew (2011), Jeff Prancevic (2011), Elizabeth Trembath-Reichert (2011), Luca Malatesta (2012), Kirsten Siebach (2012), Mathieu Lapotre (2012).

Ph.D. committee member for: Nathalie Vriend (2009 – 2010), Willy Amidon (2009 – 2010), Joanna Metz (2009- 2010), Katie Stack (2010- present), Ajay Limaye (2010 - present), Lauren Edgar (2011 – present).

Academic graduate advisor for: Lauren Edgar (2011 – present).

Academic undergraduate advisor for: Annie Ritch (2011 – present).

Courses Taught at Caltech

Ge13: Mentor for *Scientific Writing Tutorial*, Spring 2010, Spring 2011.

Ge40: *Special Problems for Undergraduates*, Spring 2010, Fall 2010, Spring 2011.

Ge125: *Geomorphology*, Fall 2010, Fall 2012.

Ge126: *Topics in Geomorphology*:

Winter 2010: *Geomorphology and Wildfire*

Winter 2011: *Sediment Transport Physics*

Winter 2012: *Alluvial Fans and Pediments*

Ge121: *Advanced Field Mapping*:

Spring 2012: *Death Valley and Carrizo Plain*

Student Research Advised

High-school students: Conor O’Toole (2010)

Undergraduate students: Peter Buhler (Caltech, 2009 - 2010), Eric Kleinsasser (Occidental College, 2010), Mariya Levina (Caltech, 2010), Cindy Tran (Orange Coast College, 2010 –

2011), Will Steinardt (2011), Odin Marc (2010 - 2011), Mathieu Lapotre (2011), Connor O'Toole (2011), Cailan Haliday (2011).

Graduate students: Ajay Limaye (2009- present), Joel Scheingross (2009- present), Jeff Prancevic (2010 – present), Luca Malatesta (2011-present), Mathieu Lapotre (2012 – present).

Postdoctoral scholars: Ryan Ewing (2010 – 2011), Ben Mackey (2010 – 2011), Phairot Chatanantavet (2010 – present), Roman DiBiase (2011 – present).

Research Grants Awarded

Caltech Tectonics Observatory, 6/1/2012 – 6/1/2013, “Seismic geomorphology,” Co-PIs V. Tsai and M. Lamb.

National Science Foundation (EAR – 1204375), 12/1/2011 – 11/31/2012, “EAGER: Deciphering boulder movement history using cosmogenic isotopes – a numerical investigation,” PI: M. Lamb.

National Science Foundation (EAR – 1147381), 1/1/2012 – 12/31/2014, “Developing Mechanistic Models for Bedrock Erosion at Waterfalls,” PI: M. Lamb.

Terrestrial Hazard Observation and Reporting (THOR), Stanback Foundation, 2011-2012 “Earthquake source processes, debris flows, and soil liquefaction: Physics-based modeling of failure in granular media,” PIs Ampuero, Andrade, Lamb, Lapusta.

Davidow Discovery Funds, 2011, “Developing a quantitative model of sediment yield following wildfire in steep terrain,” PI M. Lamb.

The Director's Research and Development Fund, JPL, 2011, “Radar Probing of Water Dynamics in Arid Environments: Understanding Sub-Surface Water storage in Earth Dry Regions as a Key Element in Monitoring Global Environmental Changes”, Co-PI M. Lamb (with E. Heggy, JPL).

Keck Institute for Space Studies, 2010 – 2012, “Slow Moving Landslides as Case Studies for Observing Earth Surface Changes from Space,” Co-P.I. M. Lamb (with J. Roering; part of *Observing Earth Surface Changes from Space*, J.P. Avouac and P. Rosen).

American Chemical Society, Petroleum Research Fund (PRF# 50248-DNI8), 2010 – 2012, “Backwater Controls on Fluvial Morphodynamics near River Mouths,” PI: M.P. Lamb.

IBM Match Grant Program, 2010, Workstations and laptops for student research. P.I. M.P. Lamb.

National Science Foundation (EAR-0922199), 2009-2012, “When Do Boulders Move in Steep Mountain Streams?,” P.I. M.P. Lamb.

Invited Seminars

2012: University of Southern California, Earth Science.

2011: University of California, Riverside, Earth Sciences; University of Illinois, Champaign, Geology; University of Wyoming, Geology and Geophysics; Titan Surface Processes Workshop, Pasadena.

2010: American Geophysical Union (2), Earth and Planetary Surfaces Section (2); California Institute of Technology, Board of Trustees, Keck Institute for Space Sciences & GPS Geoclub seminar; University of Washington, Seattle, School of Oceanography; Chevron Corporation; University of Pittsburg, Civil and Environmental Engineering.

2009: University of California, Santa Barbara, Earth Science; California Institute of Technology, Environmental Science and Engineering & GPS Division seminar; University of Arizona, Tucson, Geosciences; University of California, Berkeley, Civil and Environmental Engineering; University of Texas, Austin, School of Geosciences.

2008: University of Texas, Austin, RioMar Workshop & School of Geosciences; U.S. Geological Survey, Menlo Park; University of California, Berkeley, Earth and Planetary Science.

2007: Rice University, Earth Science; California Institute of Technology, Geological and Planetary Sciences; Massachusetts Institute of Technology, Earth and Planetary Sciences; University of Wisconsin, Madison, Geology and Geophysics.

Refereed Publications

In Review and Revision

- *Mackey, B.H., **Lamb, M.P.**, *in review*, Deciphering boulder mobility from cosmogenic exposure age dating, *JGR - Earth Surface*
- Burr, D.M., Ádámkóvics, M., Baker, V., Collins, G., Howard, A.D., Irwin, R.P., **Lamb, M.P.**, Perron, J.T., Sklar, L.S., Drummond, S.A., Black, B.A., *in revision*, Fluvial Features on Titan, *Geological Society of America Bulletin*.
- **Lamb, M.P.**, Fischer, W.W., Raub, T.D., Perron, J.T., Myrow, P.M., *in review*, Origin of giant wave ripples in Snowball Earth cap carbonates, *Geology*.

In Press and Print

32. Tsai, V.C., *Minchew, B., **Lamb, M.P.**, Ampuero, J.-P., 2012, A Physical Model for Seismic Noise Generation from Sediment Transport in Rivers, *Geophysical Research Letters*, doi:10.1029/2011GL050255.
31. *Chatanantavet, P., **M. P. Lamb**, and *J. A. Nittrouer, 2011, Backwater controls on avulsion location on deltas, *Geophys. Res. Lett.*, doi:10.1029/2011GL050197.
30. **Lamb, M.P.**, *J. Nittrouer, D. Mohrig, *J. Shaw, 2012, Backwater and river-plume controls on scour upstream of river mouths: Implications for fluvio-deltaic morphodynamics. *Journal of Geophysical Research Earth Surface*, v. 117, F01002, doi:10.1029/2011JF002079
29. *Nittrouer, J.A., *Shaw, J., **Lamb, M.P.**, Mohrig, D., 2012, Spatial and temporal trends for water-flow velocity and bed-material transport in the lower Mississippi River. *Geological Society of America Bulletin*, doi: 10.1130/B30497.1
28. *Mackey, B.H., J.J. Roering, **M.P. Lamb**, 2011, Landslide-dammed paleolake perturbs anadromous fish evolution and marine sedimentation. *Proceedings of the National Academy of Science*, doi:10.1073/pnas.1110445108, p. 1-5.
27. **Lamb, M.P.**, Grotzinger, J., Southard, J.B., Tosca, N., *in press*, Were ripples on Mars formed by flowing brines? in J. Grotzinger and R. Milliken (eds.), *Sedimentary Geology on Mars*, SEPM Special Publication.
26. **Lamb, M.P.**, *Scheingross, J., *Swanson, E., *Amidon, W., *Limaye, A., 2011, A model for post-fire sediment flux by dry ravel in steep landscapes. *Journal of Geophysical Research – Earth Surface*, F03006, doi:10.1029/2010JF001878.
25. **Buhler, P.B., *Fassett, C., Head, J.W., **Lamb, M.P.**, 2011, Paleolakes in Erythraea Fossa, Mars: Implications for an ancient active hydrological cycle. *Icarus*, doi:10.1016/j.icarus.2011.03.004.
24. Tosca, N.J., McLennan, S., **Lamb, M.P.**, Grotzinger, J., 2011, Physico-chemical properties of concentrated Martian surface waters. *Journal of Geophysical Research – Planets*, doi:10.1029/2010JE003700.
23. *Conway, S.J., **Lamb, M.P.**, Balme, M.R., Towner, M.C., Murray, J.B., 2011, Enhanced runoff and erosion by overland flow at low pressure and subfreezing conditions: experiments and application to Mars. *Icarus*, 211, p. 458-471, doi:10.1016/j.icarus.2010.08.026.
22. *Yan, B., Zhang, Q., **Lamb, M.P.**, 2010, Time-averaged turbulent mixing and vertical concentration distribution of high-density suspensions formed under waves, in *Coastal Engineering*, Eds. Smith, J.M. and Lynett, P., v. 32, p. 1-8.
21. **Lamb, M.P.** and Fonstad, M.A., 2010, Rapid formation of a modern bedrock canyon by a single flood event. *Nature Geoscience*, DOI: 10.1038/NGEO894
20. **Lamb, M.P.**, *McElroy, B., **Kopriva, B., *Shaw, J. and Mohrig, D., 2010, Linking river-flood dynamics to hyperpycnal-plume deposits: Experiments, theory, and geological implications. *Geological Society of America Bulletin*, 122(9/10), p. 1389-1400, doi: 10.1130/B30125.1.
19. **Lamb, M.P.** and Mohrig, D., 2009, Do hyperpycnal plumes record river flood dynamics? *Geology* 7(12); p. 1067–1070; doi: 10.1130/G30286A. *Noted on Geology's Most Read List, January 2010.*

18. **Lamb, M.P.** and Dietrich, W.E., 2009, The persistence of waterfalls in fractured rock. *Geological Society of America Bulletin*, doi: 10.1130/B26842.1.
17. **Lamb, M.P.**, Dietrich, W.E., Aciego, S.M., DePaolo, S.M., Manga, M., 2008, Formation of Box Canyon, Idaho, by megaflood: Implications for seepage erosion on Earth and Mars. *Science*, 320, 1067, doi: 10.1126/science.1156630.
16. **Lamb, M.P.**, Dietrich, W.E. and Sklar, L.S., 2008, A model for fluvial bedrock incision by impacting suspended and bedload sediment. *Journal of Geophysical Research – Earth Surface* 113, F03025, doi:10.1029/2007JF000915.
15. **Lamb, M.P.**, Dietrich, W.E., and Venditti, J.G., 2008, Is the critical Shields stress for incipient sediment motion dependent on channel-bed slope? *Journal of Geophysical Research – Earth Surface*, 113, F02008, doi:10.1029/2007JF000831.
14. **Lamb, M.P.**, Myrow, P.M., Lukens, C., Houck, K., and Strauss, J., 2008, Deposits from wave-influenced turbidity currents: Pennsylvanian Minturn Formation, Colorado, USA. *Journal of Sedimentary Research*, 78, doi: 10.2110/jsr.2008.052.
13. Myrow, P.M., Lukens, C., **Lamb, M.P.**, Houck, K. and Strauss, J., 2008, Dynamics of a transgressive prodeltaic system: Implications for geography and climate within a Pennsylvanian intracratonic basin, Colorado, USA. *Journal of Sedimentary Research*, 78, doi: 10.2110/jsr.2008.061.
12. **Lamb, M.P.**, Parsons, J.D., Mullenbach, B.L., Finlayson, D.P., Orange, D. and Nittrouer, C., 2008, Evidence for superelevation, channel incision and formation of cyclic steps by turbidity currents in Eel Canyon, California. *Geological Society of America Bulletin*, 120, p. 463 – 475, doi: 10.1130/B26184.1.
11. **Lamb, M.P.**, Howard, A.D., Dietrich, W.E. and Perron, J.T., 2007, Formation of amphitheatre-headed valleys by waterfall erosion after large-scale slumping on Hawai'i. *Geological Society of America Bulletin*, 119, p. 805-822, doi: 10.1130/B25986.1.
10. Liang, H., **Lamb, M.P.** and Parsons, J.D., 2007, Formation of a sandy near-bed transport layer from a fine-grained bed under oscillatory flow. *Journal of Geophysical Research – Oceans*, 112, C02008, doi: 10.1029/2006JC003635.
9. Aciego, S.M., DePaolo, D.J., Kennedy, B.M., **Lamb, M.P.**, Sims, K. and Dietrich, W.E., 2007, Combining [³He] cosmogenic dating with U-Th/He eruption ages using olivine in basalt. *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2006.11.039.
8. Toniolo, H., **Lamb, M.** and Parker, G., 2006, Depositional turbidity currents in diapiric minibasins on the continental slope: formulation and theory. *Journal of Sedimentary Research*, 76, doi: 10.2110/jsr.2006.071.
7. Perron, J.T., **Lamb, M.P.**, Koven, C.D., Fung, I.Y., Yager, E. and Adamkovics, -M., 2006, Valley formation and methane precipitation rates on Titan. *Journal of Geophysical Research – Planets*, Vol. 111, E11001, doi: 10.1029/2005JE002602.
6. **Lamb, M.P.**, Howard, A.D., Johnson, J., Whipple, K., Dietrich, W.E. and Perron, J.T., 2006, Can springs cut canyons into rock? *Journal of Geophysical Research – Planets*, 111, E07002, doi: 10.1029/2005JE002663.
5. **Lamb, M.P.**, Toniolo, H. and Parker, G., 2006, Trapping of sustained turbidity currents by intraslope minibasins. *Sedimentology*, 53, p. 147 – 160, doi: 10.1111/j.1365-3091.2005.00754.x.
4. Dietrich, W.E., Nelson, P.A., Yager, E., Venditti, J.G., **Lamb, M.P.**, and Collins, L., 2006, Sediment patches, sediment supply, and channel morphology. In Parker, G., and Garcia, M. (eds.), *River, Coastal, and Estuarine Morphodynamics*, IAHR Symposium, Taylor and Francis, London, vol. 1, p. 79-90.
3. **Lamb, M.P.** and Parsons, J.D., 2005, High-density suspensions formed under waves. *Journal of Sedimentary Research*, 79, 386-397.
2. **Lamb, M.P.**, D'Asaro, E. and Parsons, J.D., 2004, Turbulent structure of high-density suspensions formed under waves. *Journal of Geophysical Research - Oceans*, 109, p. C12026-C12039, doi: 10.1029/2004JC002355.

1. **Lamb, M.P.**, Hickson, T., Marr, J.G., Sheets, B., Paola, C. and Parker, G., 2004, Surging versus continuous turbidity currents: flow dynamics and deposits in an experimental intraslope basin. *Journal of Sedimentary Research*, 74(1), p. 148-155.

Other Publications

2. **Lamb, M.P.**, 2008, *The Formation of Amphitheater-Headed Canyons*, PhD dissertation, University of California, Berkeley, California, 297 pp.
1. Myrow, P.M., **Lamb, M.**, Lukens, C., Houck, K., Kluth, C., and Parsons, J., 2004, *Hyperpycnal wave-modified turbidites of the Pennsylvanian Minturn Formation, north-central Colorado*: Geological Society of America Field Trip Guide, 28 p.

Conference Proceedings (Non-Refereed)

53. **Lapôtre, M.G.A., Lamb, M.P., 2011, Hydraulic control on the width of waterfall escarpments on Earth and Mars. *7th TOPO-EUROPE Workshop*, Davos, Switzerland.
52. *Prancevic, J., **Lamb, M.P.** and Fuller, B., 2011, Assessing the slope dependency of the critical Shields stress in very steep streams using laboratory flume experiments, *EOS Trans. AGU EP21C-0708*.
51. *Limaye, A.B. and **Lamb, M.P.**, 2011, Automated detection and morphometry of fluvial terraces from digital elevation models, *EOS Trans. AGU EP43B-0676*.
50. *Mackey, B.H., **Lamb, M.P.**, Roering, J., 2011, Automated optical image correlation to constrain dynamics of slow-moving landslides, *EOS Trans. AGU EP52C-02. Invited*.
49. *Chatanantavet, P.E., **Lamb, M.P.**, and *Nittrouer, J., 2011, Backwater controls on avulsion location on deltas, *EOS Trans. AGU EP21A-0657*.
48. *Edgar, L., *Ewing, R., Grotzinger, J., Southard, J., **Lamb, M.**, 2011, Bedform reconstruction using Terrestrial Laser Scanning at Hunt's Hole, New Mexico: implications for sediment transport in pyroclastic surge deposits and criteria for their identification on Mars, *EOS Trans. AGU V54C-06*.
47. Burr, D.M., Ádámkóvics, M., Baker, V., Collins, G., Howard, A.D., Irwin, R.P., **Lamb, M.P.**, Perron, J.T., Sklar, L.S., Drummond, S.A., Black, B.A., 2011, Fluvial Features on Titan: New Insights from Morphology and Hydraulic Modeling, *EOS Trans. AGU P32C-02*.
46. *Ewing, R., **Lamb, M.P.**, Fischer, W., *Wiseman, I., 2011, Paleosurface temperature constraints from low latitude Late Neoproterozoic sand wedges, *EOS Trans. AGU PP34B-02*.
45. *Mackey, B.H., **Lamb, M.P.**, *Scheingross, J., Farley, K., 2011, Rate of bedrock channel incision by waterfall retreat and landscape response constrained by cosmogenic ³He, Kauai, Hawaii, *EOS Trans. AGU EP51B-0848*.
44. **Lamb, M.P.**, *Scheingross, J., **Levina, M., *Swanson, E., *Amidon, W., *Limaye, A., 2011, Predicting Fire-Induced Sediment Yield by Dry Ravel in Steep Landscapes, *EOS Trans. AGU H23L-03*.
43. *Nittrouer, J., *Petter, A., Mohrig, D., *Chatanantavet, P., **Lamb, M.P.**, 2011, Backwater flow dynamics in lowland rivers, influence on channel avulsions and the development of fluvial-deltaic stratigraphic architecture, *GSA Abstracts with Programs* Vol. 43, No. 5.
42. Mohrig, D., **Lamb, M.P.**, Nittrouer, J.A., 2011, Direct transfer of sand from shelf-edge deltas to the continental slope, American Association of Petroleum Geologists, Search and Discovery Article 90124. ***Certificate of Recognition for outstanding presentation*.
41. **Lamb, M.P.**, Perron, J.T., Burr, D., Collins, G., Sklar, L., 2011, Scaling fluvial hydraulics, sediment transport and bedforms on Titan, Titan Surface Workshop, Pasadena, CA.
40. *Hayes, A., Aharonson, O., Fischer, W., *Graves, S., **Lamb, M.**, Lorenz, R., 2011, Cassini RADAR Team, Wind driven capillary-gravity waves on Titan's Lakes: Hard to Detect or Non-Existent, Titan Surface Workshop, Pasadena, CA.
39. *Hayes, A., Aharonson, O., Fischer, W., *Graves, S., **Lamb, M.**, Lorenz, R., 2011, Cassini RADAR Team, The onset of gravity-capillary waves on Titan's lakes, In *AAS/Division for*

Planetary Science meeting Abstracts, Volume 42 of *AAS/Division for Planetary Sciences Meetings Abstracts*.

38. *Mackey, B. H.; J. J. Roering; **M. P. Lamb**, 2011, Punctuated Sediment Supply in the Eel River Catchment Caused by Landslide Dams, *Chapman Conference, AGU*.
37. *Nittrouer, J. A.; **M. Lamb**; *J. Shaw; D. Mohrig, 2011, Predicting the time and space properties of bed-material transport in the normal-flow to backwater transition of the lowermost Mississippi River. *Chapman Conference, AGU*.
36. **Lamb, M. P.**; *J. Nittrouer; *P. Chatanantavet; *B. McElroy; **B. Kopriva; D. Mohrig; J. Shaw, 2011, The influence of fluvial-backwater and plunge-point dynamics on hyperpycnal plume generation, *Chapman Conference, AGU*.
35. **Lamb, M.P.**, *Nittrouer, J., Mohrig, D., *McElroy, B., and *Shaw, J., 2010, Fluvial backwater zones as filters on source to sink sediment transport. American Geophysical Union EP54A-07. *Invited*.
34. **Lamb, M.P.** and Fonstad, M.F., 2010, Rapid Formation of a Modern Bedrock Canyon by a Single Flood Event. *EOS Trans. AGU EP21C-0754. Invited*.
33. *Limaye, A., and **M. P. Lamb**, 2010, Numerical simulations of the formation and destruction of fluvial terraces, *EOS Trans. AGU EP51B-0545*.
32. *Nittrouer, J., *Shaw, J., **Lamb, M.**, Mohrig, D., 2010, Modeling Water-flow Velocity and Bed-material Sediment Transport in the Normal-flow to Backwater Transition of the Lowermost Mississippi River, *EOS Trans. AGU EP24B-02*.
31. *Mackey, B. H., **M. P. Lamb**, 2010, Modeling the evolution of in situ cosmogenic nuclide concentrations in mobile and eroding boulders - applications to channel incision and flood frequency analysis. *EOS Trans. AGU EP41B-0703*.
30. *Mackey, B. H., J. J. Roering, J. Hollingsworth, **M. P. Lamb**, 2010, Integrating airborne LiDAR and historical aerial photos to assess the kinematics and evolution of a large, slow-moving landslide. *EOS Trans. AGU EP51A-0534*.
29. *Scheingross, J.S., **E. Winchell, **M.P. Lamb**, W.E. Dietrich, 2010, Micro-topography controls on incipient motion in very steep, ephemeral streams. *EOS Trans. AGU EP31A-0725*.
28. **Levina, M., **Lamb, M.P.**, 2010, Predicting sediment flux from hillslopes by dry ravel following wildfires in steep terrain. *EOS Trans. AGU EP41B-0688*.
27. *Mackey, B., Roering, J., **Lamb, M.**, 2010, Evidence for a large landslide-dammed paleolake on the Eel River, California. Implications for anadromous fish migration, offshore sedimentation, and landscape evolution. *Geological Society of America Abstracts*, 42(5).
26. *Peyret, A.B., Mohrig, D., **Lamb, M.**, McElroy, B., 2010, Determining How Much Topographic Complexity Must Be Incorporated into Models for Depositional Turbidity Currents Filling Sinuous Submarine Channels and Constructing Channel Levees. American Association of Petroleum Geologists Annual Convention.
25. **Lamb, M. P.**, D. C. Mohrig, *B. J. McElroy, *B. Kopriva, *J. Shaw, 2010, Source-to-Sink: Connecting Hyperpycnal-Flow Deposits to River-Flood Dynamics. American Association of Petroleum Geologists Annual Convention.
24. Sheets, B.A., Violet, J.A., **Lamb, M.P.**, Hickson, T., Parker, G., and Paola, C., 2009, Experimental investigations of controls on deep-water stratigraphic architecture, SEPM Research Conference - Stratigraphic Evolution of Deep-Water Architecture: Examples on Controls and Depositional Styles from the Magallanes Basin, Chile: Puerto Natales, Chile.
23. **Lamb, M. P.**, D. C. Mohrig, *B. J. McElroy, **B. Kopriva, *J. Shaw, 2009, Reading river response to climate change from hyperpycnal-plume deposits. *EOS Trans. AGU*, 90(52), Fall Meet. Suppl. Abstract U43A-0061.
22. **Winchell, E., **Scheingross, J., Dietrich, W.E., **Lamb, M.P.**, 2008, Fluvial transport of gravel in debris flow cut channels. *EOS Trans. AGU*, 89(53), Fall Meet. Suppl. Abstract H53C-1076.
21. **Lamb, M.P.** and Dietrich, W.E., 2008, Waterfall erosion, rock toppling, and the formation of amphitheater-headed canyons in fractured rock. *EOS Trans. AGU*, 89(53), Fall Meet. Suppl. Abstract P34A-07.

20. **Lamb, M.P.** and Dietrich, W.E., 2008, Why do waterfalls persist in fractured rock? *Geological Society of America Abstracts with Programs*, 40(6), p. 431.
19. **Lamb, M.P.**, Dietrich, W.E., and Venditti, J.G., 2008, Constraints on paleoflood magnitudes from a slope-dependent critical Shields Stress, *39th Annual Binghamton Geomorphology Symposium*, Austin, TX.
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