

Ajay B. Limaye

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Education

Ph.D. Planetary Science, California Inst. of Technology, 2014, Adviser: Michael P. Lamb,
Dissertation: Valley evolution by meandering rivers.
B.A. Geophysics (honors), Univ. of California, Berkeley, 2007.

Appointments

Postdoctoral Associate, Dept. of Earth Sciences, Univ. of Minnesota, Supervisor:
Chris Paola, 2014-present.
Contractor, US Geological Survey, Flagstaff, Arizona, Supervisor: Kenneth Tanaka, 2007.

Honors

American Geophysical Union (AGU) *Eos* Research Spotlight, *Journal of Geophysical Research: Earth Surface*, 2015 and 2016
National Center for Earth-surface Dynamics 2 Postdoctoral Fellowship, 2015-2016
Community Surface Dynamics Modeling System (CSDMS) Student Modeler Award, 2014
National Defense Science and Engineering Graduate Fellowship, 2010-2013
Keck Institute for Space Studies Graduate Fellowship, 2009-2010
NASA Student Travel Grant, Mars Polar Science and Exploration Conference, 2011
NASA Student Travel Grant, Mars Sedimentology and Stratigraphy Conference, 2010
NSF Research Experiences for Undergraduates Fellowship, 2006

Publications

For an updated list and copies for download, please see: www.ajaylimaye.com/publications/.

In review

Limaye, A. B., Grimaud, J.-L., Lai, S. Y. J., Foreman, Y., Komatsu, Y., and Paola, C., in review,
Geometry and dynamics of braided channels, bars, and associated deposits under
experimental density currents, *Sedimentology*.

Accepted

Torres, M. A., **Limaye, A. B.**, Ganti, V., Lamb, M. P., West, A. J., and Fischer, W. W., 2017,
Model predictions of long-lived storage of organic carbon in river deposits, *Earth Surface
Dynamics* 5, 711-730, doi:10.5194/esurf-5-711-2017.
Limaye, A. B., 2017, Extraction of multi-thread channel networks with a reduced complexity
flow model, *Journal of Geophysical Research: Earth Surface* 122, doi:10.1002/
2016JF004175.

- Clubb, F. J., Mudd, S. M., Milodowski, D. T., Valters, D. A., Slater, L. J., Hurst, M. D., and **Limaye, A. B.**, 2017, Geomorphometric delineation of floodplains and terraces from objectively defined topographic thresholds, *Earth Surface Dynamics*, doi:10.5194/esurf-2017-21.
- Lai, S. Y. J., Hung, S. S. C., Foreman, B. Z., **Limaye, A. B.**, Grimaud, J. L., and Paola, C., 2017, Stream power controls the braiding intensity of submarine channels similarly to rivers, *Geophysical Research Letters* 44, doi:10.1002/2017GL072964.
- Limaye, A. B. S.**, and Lamb, M. P., 2016, Numerical model predictions of autogenic fluvial terraces and comparison to climate change expectations, *Journal of Geophysical Research: Earth Surface* 121, doi:10.1002/2014JF003392.
- Limaye, A. B. S.**, and Lamb, M. P., 2014, Numerical simulations of bedrock valley evolution by meandering rivers with variable bank materials, *Journal of Geophysical Research: Earth Surface* 119, doi:10.1002/2013JF002997.
- Limaye, A. B. S.**, and Lamb, M. P., 2013, A vector-based approach to bank-material tracking in coupled models of meandering and landscape evolution, *Journal of Geophysical Research: Earth Surface* 118, doi:10.1002/2013JF002854.
- DiBiase, R. A., **Limaye, A. B.**, Scheingross, J. S., Fischer, W. W. and Lamb, M. P., 2013, Deltaic deposits at Aeolis Dorsa: Sedimentary evidence for a large body of water in the northern plains of Mars, *Journal of Geophysical Research: Planets* 118, 1285-1302, doi:10.1002/jgre.20100.
- Limaye, A. B. S.**, Aharonson, O., and Perron, J. T., 2012, Detailed stratigraphy and bed thickness of the Mars north and south polar layered deposits, *Journal of Geophysical Research: Planets* 117 (E06009), doi:10.1029/2011JE003961.
- Lamb, M. P., Scheingross, J. S., Amidon, W. H., Swanson, E., and **Limaye, A.**, 2011, A model for fire-induced sediment yield by dry ravel in steep landscapes, *Journal of Geophysical Research: Earth Surface* 116 (F03006), doi:10.1029/2010JF001878.
- Hubbard, B., Milliken, R. E., Kargel, J. S., **Limaye, A.**, and Souness, C., 2011, Geomorphological characterisation and interpretation of a mid-latitude glacier-like form: Hellas Planitia, Mars, *Icarus* 21, 330-346, doi:10.1016/j.icarus.2010.10.021.

Selected, recent conference proceedings

- Limaye, A. B.**, Komatsu, Y., Suzuki, K., and Paola, C., 2017, A three-dimensional stratigraphic model for aggrading submarine channels based on laboratory experiments, numerical modeling, and sediment cores, AGU Fall Meeting, New Orleans, LA.

Invited Talks

- 2017: National Taiwan University.
- 2016: Sediment Experimentalists Network – Community Surface Dynamics Modeling System (SEN-CSDMS) Annual Meeting (poster); Geological Society of America Annual Meeting.
- 2015: American Association of Petroleum Geologists (AAPG) Annual Meeting; Minnesota Geological Survey; AGU Fall Meeting.

2014: California Inst. of Technology, The Associates; Community Surface Dynamics Modeling System (CSDMS) Annual Meeting; Univ. of Southern California, Lithospheric Dynamics.

Teaching

Teaching Assistant, California Inst. of Technology (2010-2013):

- Ge 121: Advanced Field Mapping (Death Valley and Carrizo Plain, California).
- Ge 125: Geomorphology.
- Ge 126: Topics in Earth Surface Processes.
- Ge 151: Introduction to Planetary Surfaces.

Advising

- Advised undergraduate students Michael Jenson (California Inst. of Technology, 2013), Meg O'Connor (U. Minnesota, 2014-2015), and David Baldus (U. Minnesota, 2015-2016), Zachary Beckman (U. Minnesota, 2017).

Service

- Reviewer for *Icarus*, *Nature Communications*, *Geophysical Research Letters*, *JGR-Earth Surface*, *Geological Society of America Bulletin*, and NSF—Geomorphology and Land-use Dynamics.
- Organizer/instructor, California Inst. of Technology Computing Seminars (2011-2013).
- Instructor, Summer Institute for Earth-surface Dynamics (2016-2017).

Outreach

- Outreach presentations for Los Angeles area schools and California Inst. of Technology Science Saturday (8 events, 2011-2013).
- Public tours at St. Anthony Falls Laboratory, Univ. of Minnesota (7 events, 2015-2017).

Technical Skills

- Computing: Unix, C Shell, Matlab, Python, and high-performance computing.
- Geospatial software: ArcGIS, ENVI, GRASS, SOCET SET (stereogrammetry), USGS ISIS (planetary image processing), and Quick Terrain Modeler (LiDAR processing).
- Field: Topographic surveys, geologic mapping, geophysical surveys (ground-penetrating radar, seismic refraction, resistivity).

Professional Society Memberships

- American Geophysical Union, American Association of Petroleum Geologists.