

## **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**

Research Associate, Dept. of Earth Sciences and St. Anthony Falls Laboratory, Univ. of  
Minnesota, 2017-present  
Postdoctoral Associate, Dept. of Earth Sciences and St. Anthony Falls Laboratory, Univ. of  
Minnesota, Supervisor: Chris Paola, 2014-2017  
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/](http://www.ajaylimaye.com/publications/).

### *Accepted*

12. **Limaye, A. B.**, Grimaud, J.-L., Lai, S. Y. J., Foreman, Y., Komatsu, Y., and Paola, C., accepted, Geometry and dynamics of braided channels, bars, and associated deposits under experimental density currents, *Sedimentology*.
11. 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.
10. **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.

9. 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.
8. 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.
7. **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.
6. **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.
5. **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.
4. 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.
3. **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.
2. 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.
1. 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