

JINGTAO LAI

Ph.D. Candidate
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Education

PhD candidate in Geology

Aug. 2015-present

University of Illinois at Urbana-Champaign, USA

Dissertation: *Constrain tectonic and climatic controls on glacial/post-glacial landscape evolution using numerical modeling.*

Advised by Dr. Alison Anders

Expected Graduation: Dec. 2020

B.Sc. in Geology

Aug. 2011-July 2015

Peking University, China

Thesis: *Using surface roughness to understand spatial scale of erosional and tectonic processes*
(supervised by Dr. Jianqing Ji)

Research Interests

- Numerical landscape evolution modeling
- Fluvial and glacial erosion
- Interactions of climate, tectonics and surface processes

Publications

Published, in press or accepted

Lai, J., & Anders, A. M. (2020). Tectonic controls on rates and spatial patterns of glacial erosion through geothermal heat flux. *Earth and Planetary Science Letters*, 543, 116348.
<https://doi.org/10.1016/j.epsl.2020.116348>

Lai, J., & Anders, A. M. (2018). Modeled Postglacial Landscape Evolution at the Southern Margin of the Laurentide Ice Sheet: Hydrological Connection of Uplands Controls the Pace and Style of Fluvial Network Expansion. *Journal of Geophysical Research: Earth Surface*, 123(5), 967–984.
<https://doi.org/10.1029/2017JF004509>

In preparation

Lai, J., & Anders, A. M. Climatic controls on spatial patterns of mountain glacier erosion through basal thermal regime. In preparation for *Earth Surface Dynamics*.

Recent Conference Abstracts

Lai, J., & Anders, A. M. Tectonic controls on rates and spatial patterns of glacial erosion through geothermal heat flux. *AGU Fall Meeting, Dec 2019, San Francisco, CA.*

- Lai, J., Anders, A. M., & Marshak, S.** The influence of flexural unloading and rock fractures on landscape evolution at the boundary between a cratonic platform and an orogen: A case study of uplift in the southern Ozark Plateau. *GSA Annual Meeting, Sep 2019, Phoenix, AZ.*
- Lai, J., & Anders, A. M.** Modeled Postglacial Landscape Evolution at the Southern Margin of the Laurentide Ice Sheet. *Invited, CSDMS Annual Meeting, May 2019, Boulder, CO.*
- Lai, J., & Anders, A. M.** A comparison of basal sliding and erosion in numerical glacial landscape evolution models using two different sliding laws. *AGU Fall Meeting, Dec 2018, Washington, D.C.*
- Lai, J., & Anders, A. M.** Climatic controls on glacial erosion – insights from numerical glacial landscape evolution modeling. *GSA Annual Meeting, Nov 2018, Indianapolis, IN.*

Appointments

- Graduate Teaching Assistant, UIUC Aug. 2017-present
- Graduate Research Assistant, UIUC June 2016-present
- Graduate Fellow, UIUC Aug. 2015-May 2016
- Undergraduate Researcher, Peking University May 2012-Sept. 2014

Teaching Experience

Teaching assistantship at UIUC

- GEOL 107, Physical Geology, Spring 2018, Spring 2019 (rank as excellency), Spring 2020
- GEOL 401, Geomorphology, Fall 2017
- GEOL 143, History of Life, Fall 2018
- GEOL 118, Natural Disasters, Fall 2017, Spring 2018, Spring 2019

Guest lecturer at UIUC

- Glacial erosion (GEOL 401), Oct. 2019
- Glacier dynamics (GEOL 401), Oct. 2017
- Glacier dynamics (GEOL 107), Apr. 2020

Field Experience

- Scotland, UK May 2018
- Southeast Tibet, China Sept. 2014
- The Three Gorges area, Hubei, China July 2014
- Wutai Mountain, Shanxi, China July 2014
- Xingcheng, Liaoning, China July 2013

Outreach

Exhibitor, UIUC Engineering Open House, 2019

Awards & Honors

- SESE Research Review Outstanding Poster Award, Geology – 3rd place, UIUC, 2020
- CSDMS Student Modeler Award, 3rd place, 2019
- SESE Research Review Outstanding Poster Award, Geology – 2nd place, UIUC, 2017
- Wanless Graduate Fellowship, Department of Geology, UIUC, 2015
- Model Student of Academic Records, Peking University, 2013
- Merit Student, Peking University, 2012

Skills

Computer skills

Python (main tool for data analysis and visualization), C/C++

ArcGIS, Matlab, GMT (The Generic Mapping Tools)

Experience in linux-based supercomputing environments

Language skills

Chinese (native language), English (fluent)

Field skills

Geological mapping

Professional Memberships

- American Geophysical Union
- Geological Society of America