JINGTAO LAI

来景涛

Postdoctoral Researcher
Section 4.7: Earth Surface Process Modelling
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Education

Ph.D. in Geology 2020

University of Illinois at Urbana-Champaign, USA
Dissertation: *Constraining tectonic and climatic controls on glacial/postglacial landscape evolution using numerical modeling*.
Advised by Dr. Alison Anders

B.Sc. in Geology 2015

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

Research Interests

- Fluvial and glacial geomorphology
- Numerical modeling of Earth surface processes
- Coupling of climate, tectonics and surface processes

Publications

Published, in press or accepted

Lai, J., & Anders, A. M. (2021). Climatic controls on mountain glacier basal thermal regimes dictate spatial patterns of glacial erosion. *Earth Surface Dynamics*, 9(4), 845–859. https://doi.org/10.5194/esurf-9-845-2021

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

Recent First-Author Conference Abstracts

Lai, J., & Anders, A. M. Climatic controls on mountain glacier basal thermal regimes dictate spatial patterns of glacial erosion. *EGU General Assembly, April 2021*.

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

- Postdoctoral Researcher, GFZ — Since April 2021
- Graduate Teaching Assistant, UIUC — Aug. 2017-Dec. 2020
- Graduate Research Assistant, UIUC — June 2016-Dec. 2020
- 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 (rank as excellency), Fall 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

Professional Service

Peer Review

Reviewer for *Geophysical Research Letters*, *Journal of Open Source Software*

Outreach

Exhibitor, UIUC Engineering Open House, 2019

Awards & Honors

- EGU Outstanding Student and PhD candidate Presentation Awards, EGU 2021
- 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
- European Geosciences Union