

# SURUI XIE

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## EDUCATION

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**Ph.D.**, Geology, University of South Florida, Tampa, Florida, USA 2020  
**M.E.**, Geodesy and Survey Engineering, Wuhan University, Wuhan, Hubei, China 2014  
**B.E.**, Geodesy and Geomatics Engineering, Wuhan University, Wuhan, Hubei, China 2011

## APPOINTMENTS

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**Postdoctoral Scholar**, Scripps Institution of Oceanography, UC San Diego, La Jolla, CA Starting Aug 2020  
**Geodesist**, Chinese National Antarctic Research Expedition, Zhongshan Station, Antarctica Nov 2011–Jan 2013

## TEACHING EXPERIENCE

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TA for *History of Life* Spring 2016 – Spring 2017  
 TA for *Dynamic Earth: Introduction to Physical Geology* Fall 2015  
 TA for *Introduction to Earth Science* Spring 2015  
 TA for *Geology For Engineers* Fall 2014

## AWARDS

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Scripps Institution of Oceanography Postdoctoral Award 2020  
 Chinese National Scholarship 2009

## PROFESSIONAL SERVICE

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Reviewer for Journals: The Cryosphere; Journal of Glaciology

## FIELD EXPERIENCE

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Geological field investigations in the Mojave Desert of the Eastern California Shear Zone 2016, 2018  
 Marine-terminating glacier studies at Jakobshavn Isbræ of Greenland 2015  
 Volcano topography and deformation studies at Nevado del Ruiz in Colombia 2015  
 Geodetic surveys in Antarctica 2011–2013

## LAB EXPERIENCE

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Terrestrial cosmogenic nuclide exposure dating in the Quaternary Geochronology Laboratories at the University of Cincinnati. Jun-Jul 2015, Jul 2016

## INSTRUMENT SKILLS

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Static and kinematic GNSS, terrestrial interferometer, theodolite, total station, optical and digital level

## COMPUTER SKILLS

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**Programming languages:** Python, Fortran, Shell, C++, Matlab, HTML  
**Software packages:** GipsyX, GAMIT/GLOBK/TRACK, SNAP, GMT, QGIS, GIMP, Gnuplot, L<sup>A</sup>T<sub>E</sub>X  
**Operating systems:** Linux, macOS, Microsoft Windows

## PUBLICATIONS

### Submitted Manuscripts

- Xie, S.**, Dixon, T.H., Malservisi, R., Jiang, Y., Protti, M., Muller, C. (in review). Slow slip and inter-transient locking on the Nicoya megathrust in the late and early stages of an earthquake cycle. *Journal of Geophysical Research: Solid Earth*.
- Vaňková, I., Nicholls, K.W., **Xie, S.**, Parizek, B.R., Voytenko, D., Holland, D.M. (**accepted**). Depth-dependent artifacts resulting from ApRES signal clipping. *Annals of Glaciology*.

### Published Papers (, )

- Deng, F., Dixon, T.H., **Xie, S.** (2020). Surface deformation and induced seismicity due to fluid injection and oil and gas extraction in western Texas. *Journal of Geophysical Research: Solid Earth*, 125, doi:10.1029/2019JB018962.
- Gallant, E., Deng, F., Connor, C., Dixon, T., **Xie, S.**, Saballos, J.A., Guitierrez, C., Myhre, D., Connor, L., Zayac, J., LaFemina, P., Charbonnier, S., Richardson, J., Malservisi, R., Thompson, G. (2020). Deep and rapid thermo-mechanical erosion by a small-volume lava flow. *Earth and Planetary Science Letters*, doi:10.1016/j.epsl.2020.116163.
- Xie, S.**, Law, J., Russell, R., Dixon, T.H., Lembke, C., Malservisi, R., Rodgers, M., Iannaccone, G., Guardato, S., Naar, D.F., Calore, D., Fraticelli, N., Brizzolara, J., Gray, J.W., Hommeyer, M., Chen, J. (2019). Seafloor geodesy in shallow water with GPS on an anchored spar buoy. *Journal of Geophysical Research: Solid Earth*, 124, 12116–12140, doi:10.1029/2019JB018242.
- Deng, F., Rodgers, M., **Xie, S.**, Dixon, T.H., Charbonnier, S., Gallant, E.A., López Velez, C.M., Ordoñez, M., Malservisi, R., Voss, N.K., Richardson, J.A. (2019). High-resolution DEM generation from multiple remote sensing data sources for improved volcano hazard assessment – a case study at Nevado del Ruiz, Colombia. *Remote Sensing of Environment*, 233, 111348, doi:10.1016/j.rse.2019.111348.
- Xie, S.**, Dixon, T.H., Holland, D.M., Voytenko, D., Vaňková, I. (2019). Rapid iceberg calving following removal of tightly packed pro-glacial mélange. *Nature Communications*, 10, 3250, doi:10.1038/s41467-019-10908-4.
- Xie, S.**, Gallant, E., Wetmore, P.H., Figueiredo, P.M., Owen, L.A., Rasmussen, C., Malservisi, R., Dixon, T.H. (2019). A new geological slip rate estimate for the Calico Fault, eastern California: Implications for geodetic versus geologic rate estimates in the Eastern California Shear Zone. *International Geology Review*, 61(13), 1613–1641, doi:10.1080/00206814.2018.1531272.
- Vaňková, I., Voytenko, D., Nicholls, K.W., **Xie, S.**, Parizek, B.R., Holland, D.M. (2018). Vertical structure of diurnal englacial hydrology cycle at Helheim Glacier, East Greenland. *Geophysical Research Letters*, 45, 8352–8362, doi:10.1029/2018GL077869.
- Dixon, T.H., **Xie, S.** (2018). A kinematic model for the evolution of the Eastern California Shear Zone and Garlock Fault, Mojave Desert, California. *Earth and Planetary Science Letters*, 494, 60–68, doi:10.1016/j.epsl.2018.04.050.
- Xie, S.**, Dixon, T.H., Voytenko, D., Deng, F., Holland, D.M. (2018). Grounding line migration through the calving season at Jakobshavn Isbræ, Greenland, observed with terrestrial radar interferometry. *The Cryosphere*, 12(4), 1387–1400, doi:10.5194/tc-12-1387-2018.
- Xie, S.**, Dixon, T.H., Voytenko, D., Holland, D.M., Holland, D., Zheng, T. (2016). Precursor motion to iceberg calving at Jakobshavn Isbræ, Greenland, observed with terrestrial radar interferometry. *Journal of Glaciology*, 62(236), 1134–1142, doi:10.1017/jog.2016.104. (**issue front cover**)
- Xie, S.**, Li, F., Zhao, J., Zhang, S. (2014). Estimation of sea ice thickness at Zhongshan station in Antarctica based on a combination of GPS and tide observations. *Geomatics and Information Science of Wuhan University*, 39(10), 1153–1157, doi:10.13203/j.whugis20130048.

## Others

- Xie, S.** (2020). Shallow water seafloor geodesy: GPS on an anchored spar buoy. *Ph.D. Diss., University of South Florida, Tampa*, <https://search.proquest.com/docview/2390173379?pq-origsite=gscholar>.
- Xie, S.** (2019). Calling: Earth #013 - Surui Xie, Geodesist. *Calling: Earth*, 14. [https://scholarcommons.usf.edu/geo\\_podcasts/14](https://scholarcommons.usf.edu/geo_podcasts/14).

## PRESENTATIONS

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- Xie, S.**, Dixon, T.H., Holland, D.M., Voytenko, D., Vaňková, I. (2018). Rapid iceberg calving following removal of tightly packed pro-glacial mélange at Jakobshavn Isbræ, Greenland. Fall Meeting of the American Geophysical Union, Washington, D.C., USA. (**Poster**)
- Figueiredo, P., Rasmussen, C., **Xie, S.**, Wetmore, P.H., Owen, L.A., Dixon, T.H. (2018). Geological slip rate estimate for the Calico Fault at Newberry Springs, California: new age constraints from optically stimulated luminescence dating. Fall Meeting of the American Geophysical Union, Washington, D.C., USA. (**Poster, presenting author**)
- Xie, S.**, Dixon, T.H., Voytenko, D., Deng, F., Holland, D.M., Holland, D. (2017). Ice speed variation driven by tidal currents near the terminus of Jakobshavn Isbræ, Greenland, observed with terrestrial radar interferometry. Fall Meeting of the American Geophysical Union, New Orleans, LA, USA. (**Poster**)
- Dixon, T.H., **Xie, S.**, Malservisi, R., Lembke, C., Iannaccone, G., Law, J., Rodgers, M., Russel, R., Voss, N. (2017). Measurement of shallow water sea floor motion with GPS on a rigid buoy: system design and preliminary analysis. Fall Meeting of the American Geophysical Union, New Orleans, LA, USA. (**Poster, presenting author**)
- Wetmore, P.H., **Xie, S.**, Gallant, E., Owen, L.A., Dixon, T.H. (2017). A new geological slip rate estimate for the Calico fault, Eastern California: Implications for geodetic versus geologic rate estimates in the Eastern California shear zone. Fall Meeting of the American Geophysical Union, New Orleans, LA, USA. (**Poster, presenting author**)
- Xie, S.**, Wetmore, P.H., Owen, L.A., Gallant, E., Dixon, T.H. (2016). Evidence for a high slip rate of the Calico fault in the Eastern California Shear Zone. Fall Meeting of the American Geophysical Union, San Francisco, CA, USA. (**Oral**)
- Xie, S.**, Dixon, T.H., Voytenko, D., Holland, D.M., Holland, D., Zheng, T. (2016). Precursor motion to iceberg calving at Jakobshavn Isbræ, Greenland, observed with terrestrial radar interferometry. International Symposium on Interactions of Ice Sheets and Glaciers with the Ocean, La Jolla, CA, USA. (**Oral**)
- Xie, S.**, Voytenko, D., Holland, D.M., Dixon, T.H. (2015). Calving and velocity variations observed by Terrestrial Radar Interferometry at Jakobshavn Isbræ, Greenland, in 2015. Fall Meeting of the American Geophysical Union, San Francisco, CA, USA. (**Poster**)