SURUI XIE

Scripps Institution of Oceanography, University of California, San Diego
9500 Gilman Drive, MC 0225, La Jolla, CA 92093, USA
Tel: 813-335-9027 *E-mail:* suxie@ucsd.edu *Web:* https://suruixie.github.io/

EDUCATION

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

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

AWARDS

Scripps Institution of Oceanography Postdoctoral Award *2020*
Chinese National Scholarship *2009*

PROFESSIONAL SERVICE

Reviewer for Journals: The Cryosphere; Journal of Glaciology

TEACHING EXPERIENCE

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*

FIELD EXPERIENCE

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*
Multiple geodetic surveys in Antarctica *2011–2013*

LAB EXPERIENCE

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

INSTRUMENT SKILLS

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

COMPUTER SKILLS

Programming languages: Python, Fortran, Shell, C++, Matlab, HTML
Software packages: GipsyX, GAMIT/GLOBK/TRACK, SNAP, GMT, QGIS, GIMP, Gnuplot, LaTeX
Operating systems: Linux, macOS, Microsoft Windows

PUBLICATIONS

In progress

Xie, S., et al., (in prep., early version is available upon reasonable request). Open water sea levels measured with an anchored spar-buoy system using GPS interferometric reflectometry.

Published Papers (,)

Xie, S., Dixon, T.H., Malservisi, R., Jiang, Y., Protti, M., Muller, C. (2020). 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*, doi:10.1029/2020JB020503.

Vaňková, I., Nicholls, K.W., **Xie, S.**, Parizek, B.R., Voytenko, D., Holland, D.M. (2020). Depth-dependent artifacts resulting from ApRES signal clipping. *Annals of Glaciology*. 61(81), 108–113, doi:10.1017/aog.2020.56.

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., Guitiérrez, 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*, 537, 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.

PRESENTATIONS

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**)