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# SURUI XIE

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# **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

Geodesist, Chinese National Antarctic Research Expedition, Zhongshan Station, Antarctica

Nov 2011–Jan 2013

#### 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

#### AWARDS

Scripps Institution of Oceanography Postdoctoral Award	2020
Chinese National Scholarship	2009

#### PROFESSIONAL SERVICE

Reviewer for Journals: The Cryosphere; Journal of Glaciology

# 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

# In progress

Xie, S., et al., (in prep., early version is available upon reasonable request). Water levels measured with a shallow water seafloor geodetic system using GPS interferometric reflectometry.

# Published Papers (3, 0)

- 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. *Geometrics and Information Science of Wuhan University*, 39(10),

#### 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)