SURUI XIE

School of Geosciences, University of South Florida
NES 107, 4202 E. Fowler Ave, Tampa, FL 33620, USA
Tel: 813-335-9027 *E-mail:* suruixie@mail.usf.edu *Web:* https://suruixie.github.io/

EDUCATION

University of South Florida, Tampa, Florida, USA *Projected May 2020*

Ph.D., Geology

- Dissertation: Seafloor geodesy in shallow water with GPS on an anchored spar buoy
- Advisor: Timothy H. Dixon, Rocco Malservisi (co-advisor)

Wuhan University, Wuhan, Hubei, China *Jun 2014*

M.E., Geodesy and Survey Engineering

- Thesis: Current crustal movements in Antarctica from GPS measurements
- Advisor: Fei Li

Wuhan University, Wuhan, Hubei, China *Jun 2011*

B.E., Geodesy and Geomatics Engineering (Outstanding graduate)

- Thesis: Orbit integrator design for a Martian probe

RESEARCH EXPERIENCE

Geodesy Lab at the University of South Florida, Tampa, Florida, USA

Research Assistant *Fall 2017–*

Space and terrestrial geodesy (GPS, InSAR, ground-based radar), fault slip rate (geologic and geodetic methods), tidewater glacier dynamics.

Quaternary Geochronology Laboratories at the University of Cincinnati, Cincinnati, Ohio, USA

Visiting Student *Jun-Jul 2015, Jul 2016*

Terrestrial cosmogenic nuclide exposure dating.

The 28th Chinese National Antarctic Research Expedition, Zhongshan Station, Antarctica

Geodesist *Nov 2011 – Jan 2013*

Geodetic surveying and mapping, tide gauge calibration and maintenance.

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

GSA Graduate Student Research Grant *2019*
Tharp Endowed Scholarship, University of South Florida *2015, 2016, 2017*
Outstanding Graduate, Wuhan University *2011*
Chinese National Scholarship *2009*

PROFESSIONAL SERVICE

Reviewer for: The Cryosphere

FIELD EXPERIENCE

Geological field investigations in the Mojave Desert of the Eastern California Shear Zone	*2016, 2018*
Mountain glacier studies at Gangotri of the west Himalayas	*2016*
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*

COMPUTER SKILLS

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

INSTRUMENT SKILLS

- Static and kinematic GPS
- Terrestrial radar interferometer
- Theodolite and total station
- Optical and digital level

LANGUAGES

Chinese (native), English (fluent)

PUBLICATIONS

Submitted manuscripts

Xie, S., Law, J., Russell, R., Dixon, T.H., Lembke, C., Rodgers, M., Malservisi, R., Iannaccone, G., Guardato, S., Naar, D.F., Calore, D., Fraticelli, N, Brizzolara, J., Gray, J.W., Hommeyer, M., Chen, J., (**in review**). Seafloor geodesy in shallow water with GPS on an anchored spar buoy. *JGR: Solid Earth*.

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., (**in revision**). 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*.

Xie, S., Dixon, T.H., Holland, D.M., Voytenko, D., Vaňková, I., (2019, accepted). Rapid iceberg calving following removal of tightly packed pro-glacial mélange. *Nature Communications*. doi:10.1038/s41467-019-10908-4.

Published papers (*More information on* and)

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.

Lei, J., Li, F., Zhang, S., Xiao, C., **Xie, S.**, Ke, H., Zhang, Q., Li, W., 2018. Ocean Tides Observed from A GPS Receiver on Floating Sea Ice Near Chinese Zhongshan Station, Antarctica. *Marine Geodesy*, 41(4), 353–367, doi:10.1080/01490419.2018.1454370.

Yuan, L., Li, F., Zhang, S., **Xie, S.**, Xiao, F., Zhu, T. and Zhang, Y., 2017. Antarctic ice sheet slope and aspect based on ICESat's repeat orbit measurement. *The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, XLII-2/W7, 1579–1583, doi:10.5194/isprs-archives-XLII-2-W7-1579-2017.

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.

PRESENTATIONS

(*More information on*)

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., Galliant, E., Wetmore, P., 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. GSA Annual Meeting, Seattle, WA, USA. (**Oral**)

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**)