



Dr Xiuju Liu

**Quantitative
stratigraphy**
Senior Stratigrapher

Xiuju has a PhD in Geology (Late Quaternary climate history on the northeast Tibetan Plateau: Multi-proxy investigation of Lake Qinghai sediments, China, U. Minnesota - Twin Cities, 2011), an MSc in Physical Geography (Late Holocene climate change revealed by pollen records from lacustrine sediments in the Qaidam Basin, Lanzhou U., China, 2007) and a BSc in Geosciences (Climatic factors on tree-ring width in the arid/semi-arid area of western China, Lanzhou U., China, 2004). She is bilingual in Mandarin and English.

Her expertise is in advanced quantitative stratigraphic data analysis, and graphical display and integration of multiple datasets (chemostratigraphic, lithostratigraphic, biostratigraphic data) using standard software package ODM (Oilfield Data Manager). She has advanced computer skills in SigmaPlot, STATISTICA, Microsoft Office, and experience with Matlab, R, ArcGIS, AutoCAD and Adobe Illustrator. Xiuju joined the team in 2013 and has since gained experience in quality-control and compilation, integration, interpretation and presentation of geological and geochemical data, including XRF, ICP-AES/MS (elemental composition), XRD (mineralogy), Leco TOC, LOI, Rock-Eval Pyrolysis/Oxidation, FTIR, Pyrolysis Fluorescence, ChromaStratigraphy® (rock colour), wireline-logs, gas-logs, well-path and biostratigraphy. She has experience in producing geochemical data, and has performed real-time, high-resolution, well-site, XRF-aided chemosteering during horizontal drilling. Xiuju also analyses FTIR and calibrates/QCs spectral results to mineralogy. She has further developed the application of statistical tools for chemostratigraphic analysis and is engaged in developing geochemical schemes in conventional and unconventional plays.

Publications:

- 2014 — Liu, X.J., Colman, S.M., Brown, E.T., An, Z.S., Zhou, W.J., Jull, T.A.J., Huang, Y.S., Cheng, P., Liu, W.G. & Xu, H. A climate threshold at the eastern edge of the Tibetan Plateau. *Geophysical Research Letters*, 41(15): 5598-5604.
- 2014 — Liu, X.J., Colman, S.M., Brown, E.T., Henderson, A.C.G., Werne, J.P. & Holmes J.A. Abrupt deglaciation on the northeastern Tibetan Plateau: evidence from Lake Qinghai. *Journal of Paleolimnology*, 51(2): 223-240.
- 2014 — Liu, X.J., Fisher, T.G., Lepper, K. & Lowell, T.V. Geochemical characteristics of glacial Lake Agassiz sediments and new ages for the Moorhead Phase at Fargo, North Dakota, USA. *Canadian Journal of Earth Sciences*, 51(9): 850-861.
- 2013 — Liu, X.J., Colman, S.M., Brown, E.T., Minor, E.C. & Li, H. Estimation of carbonate, total organic carbon, and biogenic silica content by FTIR and XRF techniques in lacustrine sediments. *Journal of Paleolimnology*, 50(3): 387-398.
- 2012 — An, Z.S., Colman, S.M., Zhou, W.J., Li, X.Q., Brown, E.T., Jull, A.J.T., Cai, Y.J., Huang, Y.S., Lu, X.F., Chang, H., Song, Y.G., Sun, Y.B., Xu, H., Liu, W.G., Jin, Z.D., Liu, X.D., Cheng, P., Liu, Y., Ai, L., Li, X.Z., Liu X.J., Yan, L.B., Shi, Z.G., Wang, X.L., Wu, F., Qiang, X.K., Dong, J.B., Lu, F.Y. & Xu, X.W. Interplay between the Westerlies and Asian summer monsoon recorded in Lake Qinghai sediments since 32 ka. *Scientific Reports*, 2: 619-622.
- 2010 — Zhao, Y., Yu, Z.C., Liu, X.J., Zhao, C., Chen, F.H. & Zhang, K. Late Holocene vegetation and climate oscillations in the Qaidam Basin of the northeastern Tibetan Plateau. *Quaternary Research*, 73(1): 59-69.
- 2009 — Fang, K.Y., Gou X.H., Levia, D.F., Li, J.B., Zhang, F., Liu, X.J., He, M.S., Zhang, Y. & Peng, J.F. Variations of radial growth patterns in trees along

three altitudinal transects in north central China. *IAWA Journal*, 30(4): 443-457.

- 2008 — Zhao, Y., Yu, Z.C., Chen, F.H., Liu, X.J. & Ito, E. Sensitive response of desert vegetation to moisture change based on a near-annual resolution pollen record from Gahai Lake in the Qaidam Basin, northwest China. *Global and Planetary Change*, 62(1): 107-114.