

Zhengyu Xia

Department of Earth and Environmental Sciences, Lehigh University

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EDUCATION

- 2015 – Pres. **Ph.D. in Earth and Environmental Sciences**, Lehigh University, USA
Dissertation title: A peat moss isotopic perspective on southern Patagonia climate dynamics (expected in 05/2020)
Advisor: Dr. Zicheng Yu
- 2011– 2015 **B.S. in Geology**, China University of Geosciences, Wuhan, P.R. China

PROFESSIONAL EXPERIENCE

- 2019 – Pres. **Research Assistant**, Lehigh University
- 2017 – 2019 **Teaching Assistant**, Lehigh University
 - 1) Taught lab class EES022 (*Exploring Earth*)
 - 2) Assisted with lab section and grading for EES152 (*Ecology*), EES357 (*Paleoecology and Landscape History*), and EES386 (*Wetland Ecology*)
- 2016 – 2017 **Research Assistant**, Lehigh University

PUBLICATIONS

- Peer-reviewed journal articles:

Xia, Z., and Butorovic, N. Quantifying the influence of moisture transport pathways on monthly oxygen isotope composition of precipitation in southern Patagonia. *Journal of Geophysical Research: Atmospheres* (submitted)

Xia, Z., Zheng, Y., Stelling, J. M., Loisel, J., Huang, Y., and Yu, Z. Environmental controls on the carbon and water (H and O) isotopes in peatland *Sphagnum* mosses. *Geochimica et Cosmochimica Acta* (in revision)

Treat, C. C., Kleinen, T., Broothaerts, N., Dalton A. S., Dommain, R., Douglas, T. A., Drexler, J., Finkelstein S. A., Grosse, G., Hope, G., Hutchings, J., Jones, M. C., Kuhry, P., Lacourse, T., Lähteenoja, O., Loisel, J., Notebaert, B., Payne, R., Peteet, D., Sannel A. B. K., Stelling, J. M., Strauss, J., Swindles, G. T., Talbot, J., Tarnocai, C., Verstraeten, G., Williams, C. J., **Xia, Z.**, Yu, Z., Väliranta, M., Hättestrand, M., Alexanderson, H., and Brovkin, V., 2019. Widespread global peatland establishment and persistence over the last 130,000 y. *Proceedings of the National Academy of Sciences*, 116(11), 4822–4827.

Xia, Z., Yu, Z., and Loisel, J., 2018. Centennial-scale dynamics of the Southern

Hemisphere Westerly Winds across the Drake Passage over the past two millennia. *Geology*, 46(10), 855–858.

▪ Peer-reviewed book chapters:

Xia, Z. and Yu, Z. Applications of stable isotopes to studies of paleohydrology and Paleoclimatology. *Encyclopedia of Water: Science, Technology and Society*, Ed. P. A. Maurice, Wiley (in press)

CONFERENCE ABSTRACTS

Xia, Z. Investigating the influence of moisture sources and trajectories on monthly isotopic composition of precipitation using daily weather station data, HYSPLIT backward trajectory modeling, and moisture uptake analysis. 2018 AGU Fall Meeting, Washington D.C., USA

Xia, Z., Yu, Z., Zheng, Y., Loisel J., and Huang, Y. Late-Holocene hydroclimate and atmospheric circulation variability in southern Patagonia: insights from triple stable isotopes ($\delta^{18}\text{O}$, $\delta^{13}\text{C}$, δD) of peat bog *Sphagnum* moss. 2017 AGU Fall Meeting, New Orleans, USA

Treat, C. C., Broothaerts, N., Dalton, A., Dommain, R., Finkelstein, S., Grosse, G., Jones, M. C., Kleinen, T., Kuhry, P., Lacourse, T., Lhteenoja, O., Notebaert, B., Payne, R., Peteet, D. M., Sannel, B., Stelling, J., Strauss, J., Swindles, G., Talbot, J., Tarnocai, C., Verstraeten, G., Williams, C., **Xia, Z.**, Yu, Z., and Brovkin, V. Buried Peats: Past Peatland Distribution as an Indicator of Hydroclimate and Temperature. 2016 AGU Fall Meeting, San Francisco, USA

Yu, Z., Beilman D., Loisel J., Stelling, J. M., **Xia, Z.**, Parnikoza, I. Solar heating, microclimate, and the formation of peat-accumulating ecosystems in Antarctica. XXXIV SCAR Open Science Conference (2016), Kuala Lumpur, Malaysia

Xia, Z., Yu, Z., Loisel, J., and Stelling J. M. A 500-year record of atmospheric circulation change in southern Patagonia from dual water isotopes of subfossil *Sphagnum* moss cellulose (2016). VIII Southern Connection Congress, Punta Arenas, Chile

INVITED TALKS

School of Geographical Sciences, Northeast Normal University, Changchun, China (2019)

HONORS AND AWARDS

Lehigh University Williams-Upton Summer Fellowship (2019)

The University of Utah SPATIAL short course participant support award (2019)

Lehigh University College of Arts and Sciences Summer Research Fellowship (2018)

Lehigh University EES Graduate Symposium Best Talk Winner (2018)

Lehigh University Presidential Fellowship (2015)

FIELD WORK EXPERIENCE

Toolik Field Station area, Alaska North Slope (2019)

Antarctic Peninsula Palmer Station area (2018–2019)

Patagonian peatlands in Chile (2016)

Peatlands in northeastern and central China (2014)

SERVICES

Reviewer for *The Holocene* (2) and *Climate of the Past*

PROFESSIONAL AFFILIATION

American Geophysical Union (2017 – pres.)