

XIAO-MING LIU Curriculum Vitae

Last updated date: 2/13/2023

PERSONAL INFORMATION

Department of Earth, Marine and
Environmental Sciences
University of North Carolina at Chapel Hill

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Google Scholar page:
<https://scholar.google.com/citations?user=PL6mG0wAAAAJ&hl=en>

EDUCATION

Ph.D. in Geology & Geochemistry, 2009 – 2013

University of Maryland, College Park, MD, USA

Dissertation advisors: Roberta Rudnick and William McDonough

M.S. in Geology & Geophysics, 2007 – 2009

University of Maryland, College Park, MD, USA

Thesis advisors: Roberta Rudnick and Sash Hier-Majumder

B.S. with Honors in Geology/Earth Sciences, 2003 – 2007 (2+2 Program)

University of Waterloo, Waterloo, ON, Canada (2005 – 2007)

& China University of Geosciences, Beijing, China (2003 – 2005)

Thesis advisor: Robert Linnen

PROFESSIONAL EXPERIENCE

McMillan Associate Professor, University of North Carolina	2021 – present
McMillan Assistant Professor, University of North Carolina	2015 – 2021
Carnegie Postdoctoral Fellow, Carnegie Institution of Washington	2013 – 2015
Research/Teaching Assistant, University of Maryland	2007 – 2012

AWARDS AND HONORS

Senior Faculty Research & Scholarly Leave, Office of the Provost, UNC Chapel Hill	2023
Early Geological Career Award, Geological Society of America (GSA), Mineralogy, Geochemistry, Volcanology & Petrology Division	2021
NSF Faculty Early Career (CAREER) Award	2019
Colin McMillan Distinguished Professorship in Geological Sciences, UNC	2015 – present
Carnegie Postdoctoral Fellowship, Carnegie Institution for Science	2013 – 2015
Ann G. Wylie Dissertation Fellowship, University of Maryland	2012
Best Talk Award – PhD. Category (runner-up), Dept. of Geology, Univ. of Maryland	2011
J.P. Bickell Foundation Mining Scholarship, Bickell Mining Foundation	2006 – 2007
David M. Forget Memorial Award in Geology, University of Waterloo	2005 – 2006

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GRANTS

Funded

- NSF CAREER AWARD (Sole-PI, \$496,410), “Understanding Chemical Weathering Using Lithium and Potassium Isotopes” 2019 – 2024
- North Carolina Policy Collaboratory (Sole-PI, \$20,000), “An Investigation of Elemental Coal Ash Contamination of Soils in Iredell County, NC” 2019 – 2020
- Galapagos Seed Grant (Lead-PI, Co-PI: Diego Riveros-Iregui, \$5,000) 2019 – 2020
- UNC CURE course development grant at UNC (Sole-PI, \$8,900) 2018 – 2020
- DOD Army Research Office (Lead-PI, \$358,363), “Isotopic Fractionation of Lithium and Cerium by Fluid-Rock Interactions on Earth’s Surface” (Co-PI: Julia Barzyk) 2017 – 2021
- University Research Council Publication Grant at UNC (Sole-PI, \$4,600) 2017 – 2019
- University Junior Faculty Development Award (Sole-PI, \$7,500), “Spatial and Temporal Investigation of Trace Metals in the Neuse River, North Carolina” 2017
- University Research Council Faculty Research Grant at UNC (Sole-PI, \$6,000), “Trace Metal Investigation of the Neuse River and Its Estuary in North Carolina” 2016 – 2017

BIBLIOGRAPHY

PEER-REVIEWED PUBLICATIONS (student/mentee: &)

Published

2023

61. Li W.&, **Liu X-M.**, Hu Y., Suzuki A., Yoshimura T. (2023) Factors controlling coral P/Ca nutrient proxy: Insights from Porites culture experiments and synchrotron - based X-ray spectroscopy. (*in press*, [Palaeogeography](#), [Palaeoclimatology](#), [Palaeoecology](#)).
60. Liu X-F.&, **Liu X-M.**, Wang X-K.&, Liu X., Zhai S. (2023) Dolostone as a new tracer of seawater lithium isotope composition. (*in press*, [Communications Earth & Environment](#))
59. Li W.&, **Liu X-M.**, Nakada R., Takahashi Y., Hu Y., Shakouri Y., Mohsen, Zhang Z., Okumura T., and Yamada S. (2023) The cerium isotope fingerprints of redox fluctuation in bauxites. [Earth and Planetary Science Letters](#), 602: 117962.

2022

58. Zhang J-W, Yan Y-N, Zhao Z-Q, **Liu X-M.**, Li X-D., Zhang D., Ding H., Meng J-L., Liu C-Q. (2022) Spatiotemporal variation of Li isotopes in the Yarlung Tsangpo River basin (upper reaches of the Brahmaputra River): Source and process. [Earth and Planetary Science Letters](#), 599: 117849.
57. Li W.&, **Liu X-M.**, Kun Wang, McManus J., Haley Brian A., Takahashi Y., Shakouri M., Hu Y. (2022d) Potassium isotope signatures in modern marine sediments: Insights into

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seawater K uptake during early diagenesis. [*Earth and Planetary Science Letters*, 599: 117849.](#)

56. Cao C.&, Bataille C.P.&, Song H., Wu H., Tierney K., Saltzman M., Korte C., Zhang Z., **Liu X-M.** (2022) Persistent Late Permian to Early Triassic warmth linked to enhanced reverse weathering. [*Nature Geoscience*, 15: 832–838.](#)
55. Wang X-K.&, **Liu X-M.**, Chen H. (2022) Optimization of potassium chromatography for isotopic analysis in marine carbonates. [*Journal of Analytical Atomic Spectrometry*, 37: 2410 – 2419.](#)
54. Cao C.&, **Liu X-M.**, and Chen J. (2022) Thermodynamics-based cerium oxidation model calibration in the modern ocean. [*Frontiers in Earth Science*,
https://doi.org/10.3389/feart.2022.927826.](#)
53. Li W.&, **Liu X-M.** (2022) Lithium isotope fractionation during clay adsorption: Mineralogy and fluid chemistry controls. [*Science of The Total Environment*, 851: 158138.](#)
52. Li W.&, **Liu X-M.**, Wang, K., Takahashi, Y., Hu, Y. F., and Chadwick, O. A. (2022c) Soil potassium isotope composition during four million years of ecosystem development in Hawai'i. [*Geochimica et Cosmochimica Acta*, 332: 57-77.](#)
51. Li W.&, **Liu X-M.**, Teng, F-Z., Hu, Y. F., Chadwick., O. A. (2022b) Potassium isotope fractionation during chemical weathering in humid and arid Hawaiian regoliths. [*Geochimica et Cosmochimica Acta*, 333: 39-55.](#)
50. **Liu X-M.**, Gaschnig, R.M., Rudnick, R.L., Hazen, R.M., Shahar, A. (2022) Constant iron isotope composition of the upper continental crust over the past 3 Gyr. [*Geochem. Persp. Let.* 22, 1–4. *https://doi.org/10.7185/geochemlet.2221.*](#)
49. Liu X-F.&, Zhai S., Wang X-K.&, Liu X., **Liu X-M.** (2022) Rare earth element geochemistry of late Cenozoic Island carbonates in the South China Sea. [*Minerals* 12, no. 5: 578. *https://doi.org/10.3390/min12050578.*](#)
48. Cao Y-W.&, **Liu X-M.**, Wang C., Bai E., Wu N. (2022) Climate-controlled biogeochemical cycle of rare earth elements in soil of Northern China. [*Ecological Processes* 11, 29: *https://doi.org/10.1186/s13717-022-00375-z.*](#)
47. Li W.&, **Liu X-M.**, Wang, K., Hu, Y. F., Suzuki, A., and Yoshimura, T. (2022a) Potassium speciation and isotopic fractionation in Scleractinian corals. [*Earth and Planetary Science Letters*, 581: 117393.](#)

2021

46. Han R., Wang Z., Shen Y., Wu Q., **Liu X-M.**, Cao C.&, Gao S., Zhang J (2021). Anthropogenic Gd in urban river water: A case study in Guiyang, SW China. [*ELEMENTA: Science of the Anthropocene*, 9 \(1\): 00147.](#)

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45. Cui H., Kaufman A.J., Xiao S., Zhou C., Zhu M., Cao M., Loyd S., Crockford P., **Liu X.-M.**, Goderis S., Wang W., Guan C. (2021). Dynamic interplay of biogeochemical C, S, and Ba cycles in response to Shuram oxygenation event. [*Journal of the Geological Society*, 179 \(2\): jgs2021-081.](#)
44. Zabrecky J.&, **Liu X.-M.**, Wu Q., and Cao C. (2021) Evidence of anthropogenic Gadolinium in Triangle Area Waters, North Carolina, USA. [*Water* 2021, 13 \(14\), 1895.](#)
43. Larsen W.&, **Liu X.-M.**, Riveros-Iregui, D. A. (2021) Rare earth element behavior in springs and streams on a basaltic island: San Cristóbal, Galápagos. [*Applied Geochemistry*, 131:105004.](#)
42. Li W.&, **Liu X.-M.**, Hu, Y., Teng, F. Z., Hu, Y. F., and Chadwick, O. A. (2021d) Potassium isotope fractionation in humid and arid soil-plant systems in Hawaii. [*Geoderma*, 400: 115219.](#)
41. Li W.&, **Liu X.-M.**, Wang, K., Fodrie, F. J., Yoshimura, T., and Hu, Y. F., (2021c) Potassium isotopic composition in modern marine biogenic carbonates. [*Geochimica et Cosmochimica Acta*, 304: 364-380.](#)
40. Li W.&, **Liu X.-M.**, Hu Y., Teng F.-Z., Hu Y. (2021b) Potassium isotope fractionation during clay adsorption. [*Geochimica et Cosmochimica Acta*, 304: 160-177.](#)
39. Li W.&, **Liu X.-M.**, Wang, K., and Koefoed, P. (2021a) Lithium and potassium isotope fractionation during silicate rock dissolution: an experimental approach. [*Chemical Geology*, 568: 120142.](#)
38. Li W.&, and **Liu X.-M.** (2021) Systematic investigations on iron cycling in phosphorus/siderophore systems: synergism or antagonism? [*Applied Geochemistry*, 124: 104796.](#)
37. **Liu X.-M.**, Kah L., Knoll A., Cui H., Wang C., Bakker A., and Hazen R.M. (2021) A persistently low level of atmospheric oxygen in Earth's middle age. [*Nature Communications*, 12: 315.](#)

2020

36. Li W.&, **Liu X.-M.**, Chadwick, O. A. (2020b) Lithium isotope behavior in Hawaiian regoliths: Soil-atmosphere-biosphere exchanges. [*Geochimica et Cosmochimica Acta*, 285: 175-192.](#)
35. Cui H., Warren L.V., Uhlein G.J., Okubo J., **Liu X.-M.**, Plummer R.E., Baele J.-M., Goderis S., Claeys P., Li F. (2020) Global or regional? Constraining the origins of the middle Bambuí carbon cycle anomaly in Brazil. [*Precambrian Research, Special Issue: Neoproterozoic Earth-Life System*, 105861.](#)

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34. Li W.[&], **Liu X-M.** (2020b) Experimental investigation of lithium isotope fractionation during kaolinite adsorption: Implications for chemical weathering. [*Geochimica et Cosmochimica Acta*, 284:156-172.](#)
33. Li W.[&], **Liu X-M.**, and Hu Y. (2020a) K and Ca K-edge XANES in chemical compounds and minerals: implications for geological phase identification. [*Geostandards and Geoanalytical Research*, doi:10.1111/ggr.12351.](#)
32. Li, W.[&] and **Liu X-M.** (2020a) Mobilization and partitioning of rare earth elements in the presence of humic acids and siderophores. [*Chemosphere*, 254: 126801.](#)
31. Cui H., Kaufman A.J., Zou H., Kattan F.K., Trusler P., Smith F., Ivantsov A. Y., Rich T. H., Qubsani A.A., Yazed A., **Liu X-M.**, Johnson P., Goderis S., Claeys P., Vickers-Rich P. (2020) Primary or secondary? A dichotomy of the strontium isotope anomalies in the Ediacaran carbonates of Saudi Arabia. [*Precambrian Research, Special Issue: Neoproterozoic Earth-Life System*, 105720.](#)
30. Chen H., **Liu X-M.**, Wang K. (2020) Potassium isotope fractionation during chemical weathering of basalts. [*Earth and Planetary Science Letters*, 539: 116192.](#)
29. Cao C.[&], **Liu X-M.**, Bataille C.P.[&], Liu C. (2020) What do Ce anomalies in marine carbonates really mean? A perspective from leaching experiments. [*Chemical Geology*, 532: 119413.](#)
28. Hanna H.D.[&], **Liu X-M.**, Rudnick R.L., Park Y-R, and Kay S.M. (2020) Lithium isotopes may trace subducting slab signatures in Aleutian arc lavas and intrusions. [*Geochimica et Cosmochimica Acta, Special Issue: The Continents*, 278: 322-339.](#)
- 2019**
27. **Liu X-M.** and Li W.[&] (2019) Lithium isotopic analysis by quadrupole-ICP-MS: Optimization for geological samples. [*Journal of Analytical Atomic Spectrometry*, 34: 1708-1717.](#)
26. **Liu X-M.**, Hardisty D., Lyons T., and Swart P. (2019) Evaluating the integrity of the cerium paleoredox tracer through analysis of a modern marine carbonate analog. [*Geochimica et Cosmochimica Acta*, 248: 25-42.](#)
25. Li W.[&], **Liu X-M.**, and Godfrey L. (2019) Development of a matrix independent lithium chromatography and isotopic analysis in geostandards by MC-ICP-MS. [*Geostandards and Geoanalytical Research*, 43: 261-276.](#)
- 2018**
24. Turner, S., Williams, H., **Liu, X-M.**, Blichert-Toft, J., Piazzolo, S., Gerdes, M., Adam, J., Martin, L., and Maury, R. (2018) Sub-arc xenolith Fe-Li-Pb isotopes and textures tell tales of their journey through the mantle wedge and crust. [*Geology*, 46 \(11\): 947-950.](#)

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23. Brens Jr., R.[&], **Liu, X-M.**, Turner, S., and Rushmer, T. (2018) Lithium isotopic composition of the Tonga-Kermadec Arc and constraints on subduction recycling. *Island. Arc*, doi: [10.1111/iar.12276](https://doi.org/10.1111/iar.12276).
22. Bataille C.P.[&], Ridgway K.D., Colliver L., and **Liu X-M.** (2018) An early Paleogene fluvial regime shift in response to global warming: a subtropical record from the Tornillo basin, West Texas, U.S.A. *GSA Bulletin*, doi: <https://doi.org/10.1130/B31872.1>.
21. Dinwiddie E.[&], and **Liu X-M.** (2018) Examining the geologic link of arsenic contamination in groundwater in Orange County, NC. *Frontiers in Earth Science*, doi: [10.3389/feart.2018.00111](https://doi.org/10.3389/feart.2018.00111).
20. Cui H., Kaufman A.J., Peng Y., **Liu, X-M.**, Plummer R., and Lee E. (2018) The Neoproterozoic Hüttenberg $\delta^{13}\text{C}$ anomaly: Genesis and global implications. *Precambrian Geology*, 313: 242-262.
19. Bataille C.P.[&], von Holstein I.C., Laffoon J.E., Wilmes M., Davies G., and **Liu X-M.** (2018) A bioavailable strontium isoscape for Western Europe: A machine learning approach. *PLoS ONE*, doi: doi.org/10.1371/journal.pone.0197386.
18. Smith C.[&], and **Liu X-M.** (2018) Spatial and temporal distribution of rare earth elements in the Neuse River, North Carolina. *Chemical Geology*, 488: 34-43.
17. Wang X.[&], Yang S., Ran X., **Liu X-M.**, Bataille C.P.[&], and Su N. (2018) Response of the Changjiang (Yangtze River) water chemistry to the impoundment of Three Gorges Dam during 2010–2011. *Chemical Geology*, 487: 1-11.

2017

16. Bataille C.P.[&], Willis A., Yang X., and **Liu X-M.** (2017) Continental Crust Composition: A Major Control of Past Global Chemical Weathering. *Science Advances*, 3, DOI: [10.1126/sciadv.1602183](https://doi.org/10.1126/sciadv.1602183).
15. Cui H., Kaufman A.J., Xiao S., Zhou C., and **Liu, X-M.** (2017) Was the Ediacaran Shuram Excursion a globally synchronized early diagenetic event? Insights from methane-derived authigenic carbonates in the uppermost Doushantuo Formation, South China. *Chemical Geology*, 450: 59–80.
14. Penniston-Dorland S., **Liu X-M.**, and Rudnick R. L. (2017) Lithium Isotope Geochemistry. *Reviews in Mineralogy and Geochemistry*, 82: 165-217.

2016

13. Cui H., Peek S., Grazhdankin D.V., Xiao S., Rogov V.I., Bykova N.V., Sievers N., **Liu X-M.**, and Kaufman A.J. (2016) Redox-dependent distribution of early macro-organisms:

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Evidence from the terminal Ediacaran Khatyspyt Formation in Arctic Siberia. [*Palaeogeography, Palaeoclimatology, Palaeoecology*, 461: 122–139.](#)

12. Cui H., Kaufman A.J., Xiao S., Peek S., Cao H., Min X., Cai Y., Siegel Z., **Liu X-M.**, Peng Y., Schiffbauer J.D. and Martin A.J. (2016). Environmental context for terminal Ediacaran biomineralization of animals. [*Geobiology*, 14: 344–363.](#)
11. **Liu X-M.**, Kah L., Knoll A., Cui H., Kaufman A.J., Shahar A., and Hazen R.M. (2016) Tracing Earth's O₂ evolution using Zn/Fe systematics in marine carbonate. [*Geochemical Perspective Letters*, 2: 24-34.](#)

2015 and before

10. Cui H., Kaufman A.J., Xiao S., Zhu M., Zhou C. and **Liu X-M.** (2015) Redox architecture of an Ediacaran Ocean margin: Integrated chemo-stratigraphic ($\delta^{13}\text{C}$ – $\delta^{34}\text{S}$ – $^{87}\text{Sr}/^{86}\text{Sr}$ –Ce/Ce*) correlation of the Doushantuo Formation. [*Chemical Geology*, 405: 48-62.](#)
9. **Liu X-M.**, Wanner C., Rudnick R.L., and McDonough W.F. (2015) Processes controlling $\delta^7\text{Li}$ in rivers illuminated by study of streams and ground waters draining basalts. [*Earth and Planetary Science Letters*, 409: 212-224.](#)
8. Hazen R.M., **Liu X-M.**, Downs R.T., Golden J., Grew E.S., Hystad G., Estrada C. and Sverjensky D.A. (2014) Mineral Evolution: Episodic Metallogenesis, the Supercontinent Cycle, and the Co-evolving Geosphere and Biosphere. [*Special Publication 18, Society of Economic Geologists*.](#)
7. Teng F-Z., Li W-Y., Ke S., Yang W., Liu S-A., Sedaghatpour F., Wang S-J., Huang K-J., Hu Y., Ling M-X., Xiao Y., **Liu X-M.**, Li X-W., Gu H-O., Sio C., Wallace D.A., Su B-X., Zhao L., Harrington M., and Brewer A. (2014) Magnesium isotopic compositions of international geostandards. [*Geostandards and Geoanalytical Research*, 39: 329–339.](#)
6. Wanner C., Sonnenthal E.L., and **Liu X-M.** (2014) Seawater $\delta^7\text{Li}$: a direct proxy for global CO₂ consumption by continental silicate weathering? [*Chemical Geology*, 381: 154-167.](#)
5. **Liu X-M.**, Teng F-Z., Rudnick R.L., McDonough W.F., and Cummings M. (2014) Massive magnesium depletion and isotopic fractionation in weathered basalts. [*Geochimica et Cosmochimica Acta*, 135: 336-349.](#)
4. Nelson B.F., Gleeson S.A., Dean A.S., **Liu X-M.**, and Hoskin P. (2014) The Source of Halogens in Geothermal Fluids from the Taupo Volcanic Zone, North Island, New Zealand. [*Geochimica et Cosmochimica Acta*, 126: 265-283.](#)
3. **Liu X-M.**, Rudnick R.L., McDonough W.F., and Cummings M. (2013) Influence of chemical weathering on the composition of the continental crust: Insights from Li and Nd isotopes in bauxite profiles developed on Columbia River Basalts. [*Geochimica et Cosmochimica Acta*, 115: 73-91.](#)

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2. **Liu X-M.** and Rudnick R.L. (2011) Constraints on continental crustal mass loss via chemical weathering using lithium and its isotopes. [*Proceedings of the National Academy of Sciences*, 108: 20873-80.](#)
1. **Liu X-M.**, Rudnick R.L., Hier-Majumder S., and Sirbescu M.C. (2010) Processes Controlling Lithium Isotopic Distribution in Contact Aureoles: a case study of the Florence County Pegmatites, Wisconsin. [*Geochemistry, Geophysics, Geosystems*, 11: Q08014.](#)

CONFERENCE PRESENTATIONS

31. Longo A. and **Liu X-M.** (2023) Objectives for an experimental study of weathering on the surface of Venus. *Lunar and Planetary Science Conference, Woodlands, TX. (Poster presentation)*
30. **Liu X-M.**, Hanna H., Barzky J. (2022) Geochemistry of Soils from San Cristobal Island, Galapagos: Impact of weathering and climate. *ISIC All Hands Meeting 1, Cincinnati, OH. (Poster presentation)*
29. **Liu X-M.**, Cao C., Bataille C.P., Song H., Wu H., Tierney K., Saltzman M., Korte C. Zhang Z. (2022) Persistent late Permian to early Triassic warmth linked to enhanced reverse weathering. *Geological Society of America Annual Meeting, Denver, CO., <https://doi.org/10.1130/abs/2022AM-380868>. (Oral presentation)*
28. **Liu X-M.**, Cao C., Bataille C.P., Song H., Wu H., Tierney K., Saltzman M., Korte C. Zhang Z. (2022) Enhanced reverse weathering in the Late Permian and the Early Triassic Ocean. *Goldschmidt Conference, Honolulu, Hawaii. (Oral presentation)*
27. **Liu X-M.**, Hanna H., Barzky J. (2022) Geochemistry and Mineralogy of Soils from San Cristobal Island, Galapagos. *World Summit on Island Sustainability, Galapagos, Ecuador. (Invited oral presentation)*
26. **Liu X-M.**, Kah L., Knoll A., Cui H., Wang C., Bakker A., and Hazen R.M. (2021) A persistently low level of atmospheric oxygen in Earth's middle age. Evolution of Earth's Surface: A session honoring Xiao-Ming Liu, recipient of the 2021 MGPV Division's Early Geological Career Award. *Geological Society of America Annual meeting, Portland, OR., <https://doi.org/10.1130/abs/2021AM-365936> (Invited oral presentation)*
25. **Liu X-M.** (2021) MGPV Early Geologic Career Award Lecture: Are lithium isotopes good tracers of continental weathering? *Geological Society of America Annual meeting, Portland, OR., <https://doi.org/10.1130/abs/2021AM-366701> (Award presentation)*
24. **Liu X-M.** (2020) Tracing continental silicate weathering using lithium and potassium isotopes: the Hawaiian example. *Virtual Goldschmidt Conference, Honolulu, Hawaii (Invited oral presentation)*
23. **Liu X-M.** (2020) Are lithium isotopes good tracers of continental weathering over Cenozoic? *AGU Chapman Conference, Washington DC. (Poster presentation)*
22. **Liu X-M.** and Li W. (2019) Kinetically controlled lithium isotope fractionation during chemical weathering. *Goldschmidt Conference, Barcelona, Spain. (Oral presentation)*
21. **Liu X-M.** (2019) Are lithium isotopes good proxies of continental silicate weathering? *Gordon Research Conference, South Hadley, MA. (Poster presentation)*

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20. **Liu X-M.** (2018) Are lithium isotopes good proxies of continental silicate weathering? *9th International Conference on Asian Marine Geology, Shanghai, China.* (Oral presentation)
19. **Liu X-M.** (2017) Are lithium isotopes good proxies of continental silicate weathering? *Goldschmidt Conference, Paris, France.* (**Invited oral presentation**)
18. **Liu X-M.**, Hardisty D., Lyons T., and Swart P. (2016) Evaluating the integrity of the Ce anomaly as a paleoredox tracer using modern marine carbonates. *Fall AGU meeting, San Francisco, CA.* (Poster presentation)
17. **Liu X-M.**, Gaschnig R.M., Rudnick R.L., Hazen R.M., and Shahar A. (2016) Tracing the secular evolution of the upper continental crust using the Fe isotopes of glacial diamictites. *Goldschmidt Conference, Yokohama, Japan.* (Oral presentation)
16. **Liu X-M.**, Gaschnig R.M., Rudnick R.L., Hazen R.M., and Shahar A. (2015) Tracing the secular evolution of the UCC using the iron isotope composition of ancient glacial diamictites. *Fall AGU meeting, San Francisco, CA.* (**Invited oral presentation**)
15. **Liu X-M.**, Hardisty D., Lyons T., and Swart P. (2015) Evaluating the integrity of the Ce anomaly as a paleoredox tracer using modern marine carbonates. *Fall AGU meeting, San Francisco, CA.* (Poster presentation)
14. **Liu X-M.**, Kah L., Knoll A., Cui H., Kaufman A.J., Shahar A. and Hazen R.M. (2015) Tracing Earth's O₂ evolution using Zn/Fe systematics in marine carbonates. *Geological Society of America Annual meeting, Baltimore, MD.* (Oral presentation)
13. **Liu X-M.**, Rudnick R.L., Wanner C., and McDonough W.F. (2014) Lithium isotopes as proxy of continental silicate weathering. *Fall AGU meeting, San Francisco, CA.* (**Invited oral presentation**)
12. **Liu X-M.**, Kah, L., and Hazen R.M. (2014) Trace element ratios in carbonates as tracers of Earth's O₂ evolution. *Fall AGU meeting, San Francisco, CA.* (Poster presentation)
11. **Liu X-M.**, Wanner C., Rudnick R.L., and McDonough W.F. (2014) Processes controlling $\delta^7\text{Li}$ in rivers: A study of streams and groundwaters draining basalts. *Geological Society of America Annual meeting, Vancouver, Canada.* (Oral presentation)
10. **Liu X-M.**, Kah, L., and Hazen R.M. (2014) Trace element ratios in carbonates as tracers of Earth's O₂ evolution. *Goldschmidt Conference, Sacramento, CA.* (Oral presentation)
9. **Liu X-M.**, Wanner C., Rudnick R.L., and McDonough W.F. (2013) Novel interpretations of large Li isotopic variations produced by streams and ground waters draining basalts. *Fall AGU meeting, San Francisco, CA.* (Oral presentation)
8. **Liu X-M.**, Teng F-Z., Rudnick R.L., McDonough W.F., and Cummings M. (2013) Massive magnesium isotopic fractionation produced by basalt weathering. *CZO workshop, Denver, CO.* (Poster presentation)
7. **Liu X-M.**, Rudnick R.L., McDonough W.F., and Cummings M. (2013) Evaluating the influence of chemical weathering on the continental crust using lithium and its isotopes. *CIDER workshop, University of California - Berkeley, CA.* (Poster presentation)
6. **Liu X-M.**, Hazen R.M., Downs R.T., Golden J., Grew E.S., Hystad G., and Sverjensky D.A. (2013) A mineralogical record of metallogeny associated with supercontinent assembly. *Goldschmidt Conference, Florence, Italy.* (Oral presentation)

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5. **Liu X-M.**, Teng F-Z., Rudnick R.L., McDonough W.F., and Cummings M. (2012) Extreme magnesium isotope fractionation during bauxite formation on the Columbia River Basalts. *Fall AGU meeting, San Francisco, CA. (Poster presentation)*
4. **Liu X-M.**, Rudnick R.L., McDonough W.F., and Teng F-Z. (2012) Tracing continental weathering using Li and Mg isotopes: Insights from rivers draining the Columbia River Basalts. *Goldschmidt Conference, Montreal, Canada. (Oral presentation)*
3. **Liu X-M.**, Rudnick R.L., McDonough W.F., Teng F-Z., and Cummings M. (2011) Behavior of lithium and magnesium isotopes during extreme weathering of the Columbia River Basalt. *Fall AGU meeting, San Francisco, CA. (Oral presentation)*
2. **Liu X-M.**, Rudnick R.L., McDonough W.F., and Cummings M. (2010) Low $\delta^7\text{Li}$ Regolith Produced during Basalt Weathering: A case study from the Columbia River Basalts. *Goldschmidt Conference, Knoxville, TN. (Oral presentation)*
1. **Liu X-M.**, Rudnick R.L., Hier-Majumder S., and Sirbescu M.C (2009) Advection-diffusion controlled lithium isotopic distribution in contact aureoles: – A case study from the Florence County Pegmatites, Wisconsin. *Geological Society of America Annual meeting, Portland, OR. (Oral presentation)*

INVITED TALKS

2022

Washington University in St. Louis
University of St. Andrews, UK (online)
North Carolina State University
4th Non-traditional Stable Isotope Summer School (online)
IPACE (online)

2021

Geological Society of America Annual Meeting, Portland, OR
Tongji University, Shanghai, China
GeoForschungsZentrum (GFZ) in Potsdam, Germany (online)
Nanjing University, Nanjing, China
Chinese Academy of Sciences – Institute of Geochemistry, Guiyang, China
Guizhou University, Guiyang, China
Shandong University, Weihai, China
Xiamen University, Xiamen, China

2020

University of Maryland – College Park (online)
University of North Carolina – Chapel Hill (Marine Sciences, online)
3rd Non-traditional Stable Isotope Summer School (online)
30th V.M. Goldschmidt Conference, Honolulu, Hawaii (online)

2019

University of California – Los Angeles
Indiana University – Bloomington

XIAO-MING LIU Curriculum Vitae

University of California – San Diego
California Institute of Technology
University of California – Santa Barbra
Duke University
Chinese Academy of Sciences – Institute of Geology and Geophysics, Beijing, China

2018

Chinese Academy of Sciences – Institute of Deep-Sea Science and Engineering,
Sanya, China
Tianjin University, Tianjin, China
Chinese Academy of Sciences – Institute of Geochemistry, Guangzhou, China
Tongji University, Shanghai, China
China Ocean University, Qingdao, China
University of Science and Technology of China, Hefei, China
China University of Geosciences, Wuhan, China

2017

27th V.M. Goldschmidt Conference, Paris, France

2016

Non-traditional Stable Isotope Workshop, Berkeley, CA
Tongji University, Shanghai, China
UNC – Chapel Hill (Marine Sciences)
Eastern Carolina University

2015

China University of Geosciences (Beijing)
Annual Meeting of the American Geophysical Union
Carnegie Institution of Washington (Department of Terrestrial Magnetism)
Pacific Northwest National Laboratory
University of North Carolina – Chapel Hill
University of Minnesota – Twin Cities
University of California – Riverside
University of Indiana – Bloomington

2014

Annual Meeting of the American Geophysical Union
University of Washington
University of Maryland – College Park
Deep Carbon Forum (Deep Carbon Observatory, Carnegie Institution)
Geological Society of Washington
University of Nevada – Las Vegas
University of Rochester

2013

Brown University
University of Texas – El Paso

XIAO-MING LIU Curriculum Vitae

2012

Carnegie Institution of Washington (Geophysical Lab)

TEACHING/MENTORING ACTIVITIES

Courses taught

University of North Carolina, Chapel Hill, NC, USA

GEOL101 Planet Earth	Spring 2016, 2018, 2019
GEOL405 Geochemistry	Spring 2023
GEOL501 Geological Research Techniques	Spring 2018
GEOL567 Application of Plasma Mass Spectrometry in Earth and Environmental Sciences	Spring 2020
GEOL580 Evolution of Earth's Surface Environment	Fall 2016, 2019, 2022, Spring 2021
GEOL655 Novel stable isotope geochemistry	Fall 2015, 2020, 2021, Spring 2017
GEOL700 Graduate Research Seminar	Fall 2016
GEOL857 Seminar in Geochemistry	Spring 2019, 2020, 2021, 2022

Current Students

Graduate students

Alex Longo (M.S. student, 2023 – 2024, expected), thesis topic “Weathering on Venus: An experimental approach”.

Awards: *Graduated with the Highest Honors (UNC, B.S. 2022), Phi Beta Kappa, Carolina Scholarship, John Glenn Award*

Caroline Koschik (Ph.D. student, 2021 – 2026, expected), dissertation topic “Understanding marine authigenic clay formation”.

Awards: *UNC Inclusive Excellence Top-Up Fellowship, 2021-2022; Graduate Student Research Grant, Geological Society of America, 2022-2023*

Xikai Wang (Ph.D. student, 2019 – 2024, expected), dissertation topic “Tracing secular evolution of chemical weathering through Earth history using marine carbonates”.

Awards: *Graduate Student Research Grant, Geological Society of America, 2021-2022*
1st Place in Poster Presentation Award (graduate student category) at the 2022 EMES PerkinElmer Student Research Symposium

Undergraduate students

Alexa Tomlinson (2022 - present)

Awards: *Pignatiello/MIMS Award from the Department of Earth, Marine and Environmental Sciences*

Jianing Yang (2022 - present)

Jamil Andrade (2022 - present)

XIAO-MING LIU Curriculum Vitae

Member of Graduate Committee

University of North Carolina, Chapel Hill, NC, USA

Damián Donoso Tapia (Ph.D. 2021 – 2026, expected)

Alexis Topaz (Ph.D. 2020 – 2025, expected)

Han Truong (M.S. 2020 - 2022)

Ami Ward (Ph.D. 2019 – 2024, expected)

Josh Rosera (Royster fellow, Ph.D. 2020)

Madelyn Percy (Royster fellow & NSF graduate research fellow, Ph.D. 2019)

Amanda Crenshaw (M.S. 2019)

Mejs Hasan (Royster fellow, Ph.D. 2018)

Other institutions

Sailaja Pappala (North Carolina State University, Ph.D. 2024, expected)

Di Cai (GFZ Potsdam, Germany, Ph.D. 2021)

Chengfan Yang (Sorbonne University, France & Tongji University, China, Ph.D. 2020)

Xiaodan Wang (Tongji University, China, Ph.D. 2019)

Visiting students/scholars

Yiwen Cao, Institute of Applied Ecology, Chinese Academy of Sciences (Ph.D. 2022, visiting time: 2020 – 2021)

Liqiang Xu, Hefei University of Technology (Ph.D. China University of Science and Technology, visiting time: 2019 – 2020)

Xiaofeng Liu, Ocean University of China (Ph.D. 2021, visiting time: 2019 – 2020)

Qixin Wu, Guizhou University (Ph.D. Chinese Academy of Sciences, visiting time: 2017 – 2018)

Xiaodan Wang, Tongji University (Ph.D. 2019, visiting time: 2017)

Marco Romanin, Polish Academy of Science - Institute of Paleobiology (visiting time: 2016)

Students and postdoctoral scholars supervised

Graduate students

Wenshuai Li (Ph.D. student, 2016 – 2021), dissertation title “Understanding chemical weathering using lithium and potassium isotopes”, now a JSPS postdoctoral fellow at the University of Tokyo.

Awards: *Graduate Student Research Grant, Geological Society of America, 2020-2021; Roy L. Ingram Research Awards, 2019 & 2020*

Heather Hanna (Ph.D. student, 2016 – 2020), dissertation title “A geochemical investigation of fluid-rock interactions during chemical weathering and subduction”. She is currently in private consulting.

XIAO-MING LIU Curriculum Vitae

Cheng Cao (Ph.D. student, 2015 – 2020), dissertation title “Geochemical investigation of weathering and paleo-ocean redox evolution”, now a postdoctoral fellow at Nanjing University.

Awards: *Graduate Student Research Grant, Geological Society of America, 2017-2018*

Postdoctoral Scholars

Wenshuai Li (Ph.D. University of North Carolina, 2021 – 2022), now a JSPS postdoctoral fellow at the University of Tokyo.

Clement Bataille (Ph.D. University of Utah, Postdoctoral Associate, 2016 – 2017), now an Associate Professor at the University of Ottawa.

Undergraduate students

Senior Honors Thesis

Chloe Kent (Senior Honors Thesis student, 2021 – 2022), research topic “Lithium isotopes in Galapagos soils”, now a graduate student at Yale University.

Awards: *DOD SMART Fellowships, NSF funded IDEA (Increasing Diversity and Enhancing Academia) award, 2019; Summer Undergraduate Research Fellowship (SURF), 2020;*

Presentations: *Undergraduate Research Symposium at UNC 2021; EMES PerkinElmer Student Research Symposium 2022*

Patrick Powers (Senior Honors Thesis student, 2019 – 2020), graduated with Honors.

Will Larsen (IDEA scholar and Senior Honors Thesis student, 2017 – 2018), thesis topic “Rare earth elements in surface and ground waters of Galapagos” (Graduated with the Highest Honors), SULI fellow and now a Ph.D. candidate at Rice University.

Awards: *Pignatiello Award from the Department of Geological Sciences*

Ethan Dinwiddie (Senior Honors Thesis student, 2016 – 2017), thesis topic “Examining the geologic link of arsenic contamination in groundwater in Orange County, NC” (Graduated with Honors and currently working as a geologist for Terracon at Rayleigh, NC).

Coley Smith (IDEA scholar and Senior Honors Thesis student, 2015 – 2016), thesis topic “Spatial and temporal distribution of rare earth elements in the Neuse River, North Carolina” (Graduated with the Highest Honors), SULI fellow and MS from Indiana University.

Awards: *MIMS Award from the Department of Geological Sciences*

NSF-funded Increasing Diversity Enhancing Academia (IDEA) scholars

Emily Robinson (IDEA scholar 2020), research topic “Nitrate Contamination in Sampson County Warrants a Closer Look”.

XIAO-MING LIU Curriculum Vitae

Chole Kent (IDEA scholar 2019), research topic “Lithium in the public drinking water supply and suicide mortality across North Carolina”.

Jordan Zabrecky (IDEA scholar 2018), research topic “Anthropogenic gadolinium in Triangle Area waters, NC: A case study of wastewater treatment plant”, current a NSF graduate fellow at the University of Nevada – Reno.

Awards: *MIMS Award from the Department of Geological Sciences*

Sarah Brooker (IDEA scholar 2018), research topic “Rare earth element analysis of soil weathering profiles in varying climate zones on the island of Hawai’i”.

SELF (STEM Experiences in the Lab and Field) interns

Caroline Gavasci (2022)

Gabral Locklear (2022)

Kadan Carter (2022)

Brianna Gray (2021)

Joyce De Jesus Perez (2021)

WinSPIRE (Women in Science Promoting Inclusion in Research Experiences) fellows

Monica Palao (2022)

Research Assistants/Independent Research

Dylan Myers (2021 - 2022), Chole Kent (2019 - 2020), Nikta Nasri (2018 - 2019), Huong Ngo (2018 - 2019), Abraham Elmir (2018 - 2019), Coley Smith (2015-2016)

COLLABORATOR PRESENTATIONS (STUDENT/MENTEE: &)

1. Wang, X.&, **Liu X-M.**, Jurikova H., Wang K., and ShaKouri M. (2022) Potassium isotope fractionation in cultured brachiopods *Magellania venosa*. *Goldschmidt Conference, Honolulu, Hawaii. (Oral presentation)*
2. Li W., **Liu X-M.**, Wang K., Hu Y., Teng F-Z., Hu Y., Chadwick, O. A. (2022) Potassium isotope fractionation during chemical weathering: insights from the Island of Hawaii. *Goldschmidt Conference, Honolulu, Hawaii. (Oral presentation)*
3. Aarons S., Dauphas N., Greber N.D., Roshkosz M., Bouchez J., Carley T., **Liu X-M.**, Rudnick R., Gaillardet, J. (2022) Titanium transport and isotopic fractionation in the critical zone. *Goldschmidt Conference, Honolulu, Hawaii. (Invited oral presentation)*
4. Gan T., Tian M., Wang X., Wang S., **Liu X-M.**, Luo T., Xiao S. (2022) Lithium isotope evidence for a plume world ocean in the aftermath of a Cryogenian Snowball Earth. *Goldschmidt Conference, Honolulu, Hawaii. (Oral presentation)*
5. Wang, X.&, **Liu X-M.**, and Liu X. (2021) Rare earth element geochemistry of Cenozoic carbonates during dolomitization. *Geological Society of America Annual Meeting, Portland, OR. (Poster presentation)*

XIAO-MING LIU Curriculum Vitae

6. Teng, F-Z and **Liu X-M.** (2021) Potassium isotope fractionation during continental weathering. *Geological Society of America Annual Meeting, Portland, OR.* (Oral presentation)
7. Cui, H., Kaufman, A.J., Xiao, S., Zhou, C., Zhu, M., Cao, M., Loyd, S., Crockford, P., **Liu, X-M.**, Goderis, S., Wang, W., Guan, C. (2021). Dynamic interplay of biogeochemical C, S, and Ba cycles in response to Shuram oxygenation event. *Geological Society of America Annual Meeting, Portland, OR.* (Oral presentation)
8. Li W. & **Liu X-M.**, Hu Y., Teng F-Z., Hu Y., Chadwick, O. A. (2020) Potassium isotope fractionation during plant uptake in the Island of Hawaii. *Virtual Goldschmidt Conference, Honolulu, Hawaii.* (Oral presentation)
9. Wang, X.& **Liu X-M.**, and Liu X. (2021) Rare earth element characteristics of marine carbonates from Xisha Islands, South China Sea: Implications for the effect of dolomitization on REEs. *Virtual Goldschmidt Conference, Honolulu, Hawaii.* (Poster presentation)
10. Cao C.& **Liu X-M.**, Owens, J. (2019) Globally distinctive redox responses to Oceanic Anoxic Event 2. *Goldschmidt Conference, Barcelona, Spain.* (Poster presentation)
11. Li W. & **Liu X-M.**, Chadwick, O. A. (2019) Tracing controls on lithium isotope behavior in Hawaiian regoliths: Soil-atmosphere-biosphere exchanges. *Goldschmidt Conference, Barcelona, Spain.* (Oral presentation)
12. Hanna H.& **Liu X-M.**, and Singletary, S. (2018) Advantages of mineral grain analysis in forensic soil investigations: Case studies from North Carolina, United States. *Fall AGU meeting, Washington DC.* (Poster presentation)
13. Brooker S.& **Liu X-M.**, Li W., and Chadwick O. (2018) Rare earth element analysis of a wet and dry soil weathering profile on the island of Hawai'i. *Geological Society of America Annual Meeting, Indianapolis, IN.* (Poster presentation)
14. Zabrecky J.& **Liu X-M.** (2018) Anthropogenic gadolinium in Triangle Area waters, NC: A case study of wastewater treatment plant. *Geological Society of America Annual Meeting, Indianapolis, IN.* (Poster presentation)
15. Hanna H.& **Liu X-M.**, Park Y., Kay S., Rudnick R.L. (2018) Lithium isotopes: a tracer for subducting slab signatures in Aleutian arc lavas? *Goldschmidt Conference, Boston, MA.* (Oral presentation)
16. Cao C.& **Liu X-M.**, Bataille C.P.& Liu C. (2018) Is Ce anomaly in carbonates real? A perspective from leaching experiments. *Goldschmidt Conference, Boston, MA.* (Poster presentation)
17. Li W.& **Liu X-M.**, Cao C.& Liu Y., Liu C., Yang L. (2018) Systematic investigations on ferrihydrite dissolution in phosphorus/siderophore system: synergism or antagonism? *Goldschmidt Conference, Boston, MA.* (Poster presentation)
18. Bataille C.P.& Cao C.& Li W.& Tierney K., Saltzman M., **Liu X-M.** (2018) Strontium and Lithium Isotope Variations from Bulk Carbonates across the Permian Period. *Goldschmidt Conference, Boston, MA.* (Poster presentation)

XIAO-MING LIU Curriculum Vitae

19. Chen H., **Liu X-M.**, Wang K. (2018) Potassium isotope fractionation during chemical weathering of basalts. *Goldschmidt Conference, Boston, MA*. (Oral presentation)
20. Larsen W.&, **Liu X-M.**, and Riveros-Iregui, D. (2017) Dissolved load rare earth element analysis of springs on the island of San Cristobal, Galapagos. *Fall AGU meeting, San Francisco, CA*. (Poster presentation)
21. Bataille C.P.&, Willis A., Yang X., and **Liu X-M.** (2017) Continental Crust Composition: A Major Control of Past Global Chemical Weathering? *Goldschmidt Conference, Paris, France*. (Oral presentation)
22. Cao C.&, **Liu X-M.**, Bataille C.P.&, and Liu C. (2017) A new dissolution method to extract primary seawater rare earth element signals from ancient carbonates. *Goldschmidt Conference, Paris, France*. (Poster presentation)
23. Smith C.&, **Liu X-M.**, and Mills, R. (2016) Spatial and temporal analysis of rare earth elements in the Neuse River, North Carolina. *Fall AGU meeting, San Francisco, CA*. (Poster presentation)
24. Bataille C.P.&, Willis A., Yang X., and **Liu X-M.** (2016) Sensitivity of the Marine Strontium Budget to the Composition of Young Igneous Rocks. *Fall AGU meeting, San Francisco, CA*. (Poster presentation)

PROFESSIONAL SERVICE

Conference organization

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| Convener of the session “Investigating Earth surface processes using cosmogenic nuclides, non-traditional isotope systems, and other novel proxies” at the 32 th V.M. <i>Goldschmidt Conference</i> | 2022 |
| Chair of the session “Island Ecosystems – Terrestrial Sub-Systems”, <i>World Summit on Island Sustainability, Galapagos, Ecuador</i> | 2022 |
| Theme Chair for “Weathering, Erosion, and Geochemical Cycles” at the 28 th V.M. <i>Goldschmidt Conference</i> | 2018 |
| Convener of session “The Continents: Origin, Evolution and Interactions with Other Reservoirs” at the 28 th V.M. <i>Goldschmidt Conference</i> | 2018 |
| Convener of session “Geochemistry of Sediments and Sediment Recycling and Implications for Crust and Mantle Evolution over Earth history” at the <i>Annual Meeting of American Geophysical Union</i> | 2015 |
| Convener of session “New Insights on Geochemical Cycles toward Redox Proxy Development and Application to the Ancient Ocean and Atmosphere” at the <i>Annual Meeting of American Geophysical Union</i> | 2015 |
| Convener of session “Climate, Redox, and Seawater Chemistry in Deep Time from the Geochemistry of Sediments” at the 24 th V.M. <i>Goldschmidt Conference</i> | 2014 |

XIAO-MING LIU Curriculum Vitae

Convener of session “Tracing Earth Surface and Deep Processes Using Innovative Isotopic Approaches” at the *Annual Meeting of American Geophysical Union* 2012

Editorial Board

Editorial board for *Communications Earth & Environment* 2023 – present

Associate editor for *Geochimica et Cosmochimica Acta* 2022 – present

Associate editor for *Frontiers in Earth Science* 2022 – present

Editor for *Geochemical News* (the weekly newsletter of the Geochemical Society)
2019 – 2020

Guest editor for *Geochimica et Cosmochimica Acta* on special issue “The continents: Origin, evolution, and interactions with other reservoirs” 2018 – 2019

Guest editor for *Frontiers in Earth Science* on special issue “From Mantle to Oceans and Back Again: A Novel Isotope System Perspective on Global Geochemical Cycles”
2018 – 2019

Review editor for *Frontiers in Earth Science* (Geochemistry section) 2014 – 2022

Journal reviews

AGU books, America Journal of Science, Applied Geochemistry, Chemical Geology, Earth and Planetary Science Letters, Earth-Science Reviews, Environmental Science & Technology, Frontiers in Earth Science, G-Cubed, Geology, Geochimica et Cosmochimica Acta, Geostandards and Geoanalytical Research, Journal of Analytical Atomic Spectrometry, Journal of the Geological Society, Journal of Petrology, Marine and Petroleum Geology, Natural Communications, Natural Geoscience, Ore Geology Reviews, Procedia Earth and Planetary Science, Rapid Communications in Mass Spectrometry, Science Advances, Science of the Total Environment

Proposal reviews/panels

NSF Geobiology & Low-T Geochemistry, NSF Petrology & Geochemistry, NSF EAR Postdoctoral Fellowships, NSF Graduate Research Fellowships Program (GRFP), Lewis and Clark Fund for Exploration and Field Research in Astrobiology, Women in Science Award

Outreach activities

GSA Annual Meeting Student Mentor 2022

PI mentor for the UNC WinSPIRE (Women-Identifying and Non-Binary STEM Students Promoting Inclusion in Research Experiences) Program 2022 – present

PROGRESS (PROmoting Geoscience Research, Education, and SuccesS) Mentor
2021 – 2022

UNC KEEN Faculty Learning Community 2021 – 2022

TEAM ADVANCE Faculty Peer Mentoring Circle 2019 – 2020

IDEA (Increasing Diversity and Enhancing Academia) Mentor 2016 – 2020

AGU Undergraduate Mentorship Program Mentor 2016

XIAO-MING LIU Curriculum Vitae

GSA “On to the Future” Student Mentor	2015
Mentor Program for Goldschmidt Conference	2014 – 2022
Outstanding Student Paper Awards Judge for AGU Fall Meeting	2014 – 2017
GEMS (Girls Excel in Math and Science) Program Mentor	2011
Volunteer for Maryland Day	2008 – 2012

Departmental/university service

Center for Galapagos Studies Faculty Research Director	2022 – Present
Dept. of Earth, Marine and Environmental Sciences Colloquium Committee	2022
Dept. of Earth, Marine and Environmental Sciences Director of Graduate Admissions	2021 – 2022
Dept. of Geol. Sciences Director of Graduate Admissions	2020 – 2021
Earth and Marine Sciences Merger Planning Committee	2020 – 2021
Dept. of Geol. Sciences Executive Committee	2019 – 2020
Dept. of Geol. Sciences Faculty Search Committee	2017
Dept. of Geol. Sciences Geology Colloquium	2016 – 2020

FIELD EXPERIENCE

Field Work in the Island of Hawaii, HI, USA	2022, 2019
Field Work in the San Cristobal Island, Galapagos, Ecuador	2022, 2018
Field Trip in Yunnan Plateau, Yunnan, China	2019
Surface and Wastewater Sampling in the Research Triangle Area, NC, USA	2018
Surface Water Sampling in Neuse River Watersheds, NC, USA	2015
Field Trip in Calvert Cliffs (Chesapeake Group), MD, USA	2015
Field Trip in Yellowstone National Park, USA	2014
Field Sampling in Columbia River Basalts (river & ground waters), WA & OR, USA	2012
Field Sampling in CRBs (rock, soils, & river waters), WA & OR, USA	2010
GSA Field Trip in Columbia River Basalts, WA, USA	2009
Field Work in Florence County Pegmatite Fields, WI, USA	2008
Geology Field Camp (independent mapping) in Sudbury Area, ON, Canada	2006
Geology Field Camp (independent mapping) in Zhoukoudian Area, China	2005
Geology Field Camp in Beidahe, HeBei, China	2004