**Biographical Sketch**

**Lin Ma**

Associate Professor

Department of Geological Sciences

University of Texas at El Paso

Tel: 915.747.5218 Email: lma@utep.edu

1. **Professional Preparation**

University of Science and Technology of China, Hefei, China Geochemistry, B.S., 1996-2001

University of Michigan, Ann Arbor, MI Noble Gas Geochemistry, Ph.D., 2003-2008 Pennsylvania State University, University Park, PA Postdoctoral Fellow, 2009-2010

**b.** **Appointments**

University of Texas at El Paso, El Paso TX Associate Professor, 2017-present

University of Texas at El Paso, El Paso TX Assistant Professor, 2011-2017

University of Strasbourg, France Visiting Assistant Professor, 03/2010-06/2010

**c.** **Products (**\* Student author)

**(i) Five products most closely related to the proposed project**

**1)** Nyachoti, S. \*, Jin, L., Tweedie, C., and **Ma, L.** (2017), Insight into factors controlling formation rates of pedogenic carbonates: a combined geochemical and isotopic approach in dryland soils of the US southwest. Chemical Geology, doi:10.1016/j.chemgeo.2017.10.014

**2)** Guo\*, J., **Ma, L.**, Gaillardet, J., Sak, P., Pereyra\*, Y., Engel\*, J. (2019), Reconciling chemical weathering rates across scales: Application of Uranium-series isotope systematics in volcanic weathering clasts from Basse-Terre Island (French Guadeloupe), Earth and Planetary Science Letters, in press.

**3)** Voll\*, K., Davidson, G., Borrok, D., Corcoran, M., Kelley, J., **Ma, L.** (2019), Variable pathways, residence time, and geochemical evolution of seepage beneath the Mississippi River levee during the 2011, 2015, and 2016 floods. Applied Geochemistry, 108, 104367

**4)** **Ma, L.**, Dosseto, A., Gaillardet, J., Sak, P. B., & Brantley, S. L. (2019). Quantifying weathering rind formation rates using in situ measurements of U-series isotopes with laser ablation and inductively coupled plasma-mass spectrometry. Geochimica et Cosmochimica Acta, 247, 1-26. https://doi.org/10.1016/j.gca.2018.12.020

**5)** Coyte, RM\*, Jain, RC, Srivastava, SK, Sharma, KC, Khalil, A, **Ma, L.**, Vengosh, A (2018). Large-Scale Uranium Contamination of Groundwater Resources in India. Environmental Science&Technology Letters. Doi: 10.1021/acs.estlett.8b00215.

**(ii) Five other significant products**

**1**) Hiebing, M\*, Doser, D, Avila, VM, **Ma, L.** (2018). Geophysical studies of fault and bedrock control on groundwater geochemistry within the southern Mesilla Basin, western Texas and southern New Mexico. Geosphere. Doi:10.1130/GES01567.1.

**2)** Engel, J.\*, **Ma, L.**, P. Sak, J. Gaillardet, M. Ren, M. Engle, S. Brantley (2016), Quantifying chemical weathering rates along a precipitation gradient on Basse-Terre Island, French Guadeloupe: new insights from U-series isotopes in weathering rinds, Geochimica Cosmochimica Acta, 195, 29-67.

**3)** Huckle, D.\*, **Ma, L.**, McIntosh, J., Vazques-Ortega, A., Rasmussen, C., Chorover, J. (2016), Characterizing U-series isotope signatures in soils and headwater streams in a complex volcanic terrain. Chemical Geology, 445, 68-83.

**4)** Szynkiewicz, A., Borrok, D., Ganjegunte, G., Skrzypek, G., **Ma, L.**, Rearick, M., Perkins, G., (2015). Isotopic studies of the Upper and Middle Rio Grande. Part 2 – Salt loads and human impacts in south New Mexico and west Texas. Chemical Geology 411, 336-350.

**5)** **Ma, L.**, Castro, M.C., Hall, C.M., and Walter, L.M. (2005). Cross-formational flow and salinity sources inferred from a combined study of helium concentrations, isotopic ratios and major elements in the Marshall aquifer, southern Michigan, Geochemistry Geophysics Geosystems 6(10), Q10004, doi:10.1029/2005GC001010.

**d. Synergistic activities**

* Directing Graduate research: Dr. Ma’s expertise is using and developing novel isotope systems to quantify rates of Earth surface processes and trace groundwater flow paths and solute sources. More specifically, his current research includes using U-series isotope disequilibrium system to determine rates and duration of chemical weathering in soils and weathering profiles as well as formation rates of pedogenic carbonates. Ma also uses U, Sr, B isotopes as tracers to identify solute sources in waters. Since 2011, Ma has been working at UTEP and built a state-of-the-art isotope analytical laboratory. Ma’s lab has successfully developed analytical procedures for both column chemistry and MC-ICP-MS for U-series, Sr, Fe, Pb, Cd, Zn, and B isotopes. He has directed graduate research for 3 PhD, 6 MS students at UTEP and co-directed 2 MS/PhD students with colleagues at University of Arizona.
* Undergraduate focused research: serve as co-PIs or senior personnel on NSF funded education grants: ROCCS (2016-2019), AY-PREY (2015-2018), Pathways programs and Earth Science day at UTEP.
* Ma is also devoted to classroom education. He received the *Best Graduate Teaching Award* from the Department of Geological Sciences in 2008. At UTEP, Ma developed both undergraduate and graduate-level courses: *Earth system and Environments*, *Introduction to Hydrogeology, Environmental Tracers in Hydrogeology, and Groundwater in Geological Processes*. These courses are designed to teach students the hydrological processes occurring at the Earth’s surface as well as abilities to assess water resources management and sustainability and environmental problems.
* Serve as Editor, Associate Editor, on Editorial Board, and Special Issue Editor for Scientific journals and newsletters, including Geochemical News (weekly newletters for Geochemical Society), Chemical Geology, and Geofluids. Serve as journal reviewers, chairs or co-chairs for scientific conferences and meetings and journals, in the fields of low temperature geochemistry, hydrogeology, environmental geophysics, and Critical Zone Science.
* Serve as Reviewer or Panelist for research grants and funding agencies including National Science Foundation, The National Academies of Sciences, Engineering, and Medicine, Department of Energy, American Chemical Society, Israel Science Foundation, and Chinese Natural Science Foundation.