

## **Weimin Feng, Ph.D**

*Assistant Professor of Geochemistry*

*Dept. of Physics, Astronomy and Geosciences, Valdosta State University, Valdosta, GA*

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### **EMPLOYMENT:**

- 2011-present: Assistant professor, Department of Physics, Astronomy and Geosciences, Valdosta State University, Valdosta, GA
- 2009-2011: Postdoctoral Fellow, Jackson School of Geosciences, the University of Texas at Austin, Austin, TX
- 2003-2009: Research and Teaching Assistant, Huffington Department of Earth Sciences, Southern Methodist University, Dallas, TX
- 2001-2003: Research and Teaching Assistant, School of Earth and Space Sciences, Uni. of Science and Technology of China, Hefei, China

### **EDUCATION:**

- 2003-2009: Ph.D. Geochemistry, Southern Methodist University, Dallas, TX
  - Thesis: Stable isotope studies of selected synthetic and pedogenic Hydroxyl-bearing minerals and some implications for the environment of the mid-Cretaceous; Adviser: Dr. Crayton J. Yapp
- 2001-2003: M.S. Geochemistry, Uni. Science and Technology of China, Hefei, China, PR
  - Thesis: Stable isotope geochemistry of low-grade metamorphic rocks in the Dabie-Sulu terrains. Adviser: Dr. Yong-Fei Zheng
- 1996-2001: B.S. Geology, Uni. of Science and Technology of China, Hefei, China, PR

### **CURRENT RESEARCH INTERESTS:**

- Application of stable isotope in environmental geology, hydrology
- Paleoclimate reconstruction using stable C, O, and H isotopes of paleosols, using U-Th geochronology and stable isotopes of speleothems
- Establishment and/or calibration of proxies for paleo-temperature, paleo-precipitation and paleo atmospheric CO<sub>2</sub> concentration

### **COURSE TAUGHT:**

- GEOG1113K Introduction to Landforms
- GEOG1110A Our Hazardous environment

### **TEACHING INTERESTS:**

- geochronology, stable isotope geochemistry, mass spectrometry, soils and paleosols, proxies for paleoclimate.

#### **HONORS AND AWARDS**

- USTC Award for Excellent Student 1997, 1998, 1999

#### **CURRENT MEMBERSHIPS:**

- American Geophysical Union
- Clay Mineral Society
- Geochemical Society
- Geological Society of America

#### **PROFESSIONAL SERVICES:**

- 2010, Session Chair, Geological Society of America annual meeting in Denver, CO
- 2006-2007, American Association of Petroleum Geologists SMU Student Chapter Treasure

#### **SCIENTIFIC REVIEWS:**

- Review for National Science Foundation (1, 2012)
- Isotope in Environmental & Health Studies (1, 2011)
- Hydrological Processes (1, 2011)

#### **FUNDING PROPOSAL WRITTEN:**

- 2012. Faculty research seed grant, Valdosta State University. \$7500.00
- 2011. New faculty research grant, Valdosta State University. \$3000.00
- 2010. New equipment matching fund proposal: micromill system for high-resolution micro-sampling for paleoclimate reconstructions. Granted to Banner, J and Yang, L. \$6,060.00

#### **ACADEMIC ADVISING OR CO-ADVISING:**

- 2011. Kevin Meyer (UT Austin), Undergraduate Honor project, High resolution stable isotope study of a central Texas stalagmite, implications for paleoclimate of late Pleistocene to Holocene
- 2010. Lisa Duran, (St. Mary's College), REU, Application of Sr Isotopes to tracing vadose flow paths in the Edwards aquifer and implications for reconstructing paleoclimate
- 2009. William Harper, (Brown University), REU, Possibility of using cave water trace element data to determine flow path, using Stone of Time as an example

#### **PUBLISHED PAPERS:**

- **Feng, W.**, Banner, J., Musgrove, M., and James, E., (2012, in press) Mechanisms of oxygen isotopic fractionation between drip water and speleothem calcite: Evidence from a 10 year

monitoring study, central Texas, USA, *Chemical Geology*

dx.doi.org/10.1016/j.chemgeo.2012.02.004

- **Feng, W.**, and Yapp, C.J. (2009)  $^{18}\text{O}/^{16}\text{O}$  and D/H ratios of pedogenic kaolinite in a North American Cenomanian laterite: paleoclimatic implications. *Geochimica et Cosmochimica Acta* Vol. 73, 6249-6263
- **Feng, W.**, and Yapp, C.J. (2009) Paleoenvironmental implications of concentration and  $^{13}\text{C}/^{12}\text{C}$  ratios of  $\text{Fe}(\text{CO}_3)\text{OH}$  in goethite from a mid-latitude Cenomanian laterite in southwestern Minnesota. *Geochimica et Cosmochimica Acta* Vol. 73, 2559-2580
- **Feng, W.**, and Yapp, C.J. (2008) Experimental tests of the effects of Al substitution on the goethite-water D/H fractionation factor. *Geochimica et Cosmochimica Acta*, Vol. 72, 1295-1311
- **Feng, W.**, Zheng, Y-F., Zhou, J.B. (2003) Carbon and oxygen isotope geochemistry of marbles from the Dabie-Sulu orogenic belt. *Acta Petrologica Sinica* (in Chinese), Vol.19 No. 3, 468-478
- Zheng, Y-F., Gong, B., Li, L., **Feng, W.** (2002) A large scale of meteoric-hydrothermal alteration at neoproterozoic in the Yangtze Craton of China. *Geochimica et Cosmochimica Acta* Vol. 66, A874

#### **PUBLICATIONS IN PREPARATION:**

- **Feng, W.**, Banner, J., Musgrove, M., and James, E. (in prep) Seasonal  $^{13}\text{C}/^{12}\text{C}$  variations of speleothem calcite and implications for paleoclimatic studies from a 10 year monitoring study from central Texas, USA.
- **Feng, W.**, and Banner, J. (in prep.) Past 20ky climate history of southwest US inferred from high resolution  $\delta^{18}\text{O}$  records of a central Texas stalagmite.
- **Feng, W.**, and Yapp, C.J. (in prep.) Concentration and  $\delta^{13}\text{C}$  values of occluded  $\text{CO}_2$  in coexisting pedogenic gibbsite and goethite of a Cenomanian paleosol.

#### **PUBLISHED ABSTRACTS:**

- Banner, J.L., James, E.W., Breecker, D., Casteel, R., Wong, C., Meyer, K., **Feng, W.**, and Cowan, B. (2012) Long-term cave monitoring on the Edwards Plateau of Texas (USA) to advance speleothem paleoclimate proxies *Geophys. Res. Abstr.*, **14**, EGU2012-13481-1, EGU General Assembly 2012
- Meyer, K., **Feng, W.**, Banner, J.L., James, E.W., and Musgrove, M. (2011) Southwest U.S. Paleoclimate Over the Past 30,000 Years: Insights from Speleothem  $\delta^{18}\text{O}$  and Growth Rate Time Series *Eos Trans. AGU*, **92**, Fall Meet. Suppl., Abstract PP31C-1872
- Heinze Fry, A.L., **Feng, W.**, Banner, J.L., Casteel, R. (2011) Oxygen isotope relationships between rainfall, dripwater and speleothem calcite from Westcave, central Texas, USA: Possible implications for paleoclimate study *Eos Trans. AGU*, **92**, Fall Meet. Suppl., Abstract PP31C-1877

- Wong, C., Banner, J., Casteel, R., **Feng, W.**, James, E. (2011) Potential and challenges for speleothems as paleoclimate archives. *Carbonate Geochemistry: Reactions and processes in aquifers and reservoirs, A conference by the Karst Waters Institute.*
- Casteel, R., Banner, J., Wong, C., **Feng, W.**, and James, E. (2011) Implications for speleothem paleoclimate records from twelve years of cave monitoring studies in Texas, USA, *6th International Conference: Climate Change - The Karst Record*
- **Feng, W.**, Banner, J., Musgrove, M., Guilfoyle, A., and James, E. (2010) Mechanisms of oxygen isotopic fractionation between drip water and speleothem calcite: Evidence from a 10 year monitoring study, central Texas, USA *Geological Society of America Abstracts with Programs*, Vol., p
- **Feng, W.**, and Yapp, C.J. (2009) Concentration and  $\delta^{13}\text{C}$  values of occluded  $\text{CO}_2$  in coexisting gibbsite and goethite of a Cenomanian paleosol *Eos Trans. AGU, 90(52), Fall Meet. Suppl.*, Abstract PP13B-1392
- **Feng, W.**, Banner, J., and Musgrove, M. (2009) U-series geochronology of speleothems across the Edwards Plateau and implications for regional paleoclimate during the late Pleistocene-Holocene in Texas. *Geological Society of America Abstracts with Programs*, Vol. 41, No. 7, p. 471
- **Feng, W.**, and Yapp, C.J. (2008) Paleoenvironmental implications of carbon and hydrogen isotopes in minerals from a mid-latitude Cenomanian laterite, *Eos Trans. AGU, 89(23), Jt. Assem. Suppl.*, Abstract PP21A-06
- **Feng, W.**, and Yapp, C.J. (2008) Possible implications of variations of carbon dioxide concentration and  $^{13}\text{C}/^{12}\text{C}$  in a mid-Cretaceous paleosol as estimated from the  $\text{Fe}(\text{CO}_3)\text{OH}$  component of goethite. *Geological Society of America Abstracts with Programs*, Vol. 40
- **Feng, W.**, and Yapp, C.J. (2007) Concentration and carbon isotope composition of  $\text{Fe}(\text{CO}_3)\text{OH}$  in pedogenic goethite of a mid-Cretaceous paleosol in southwestern Minnesota, *Geological Society of America Abstracts with Programs*, Vol. 39, No. 6, p. 14
- **Feng, W.**, and Yapp, C.J. (2006) Experimental tests of the effects of Al Substitution on the goethite-water D/H fractionation factor. *Geological Society of America Abstracts with Programs*, Vol. 38, No. 7, p. 532